Department for Environment, Food & Rural Affairs

Appraisal of Sustainability of the National Policy Statement for Water Resources

Final Scoping Report

March 2018

Amec Foster Wheeler Environment
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Report for

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Non-Technical Summary

Introduction

This Non-Technical Summary (NTS) provides an overview of the Final Scoping Report produced as part of the Appraisal of Sustainability (AoS) of the draft National Policy Statement for Water Resources (hereafter referred to as the 'draft NPS').

The production of a Final Scoping Report for the AoS of the draft NPS follows consultation on an initial Scoping Report[1] between the 13th November and the 22nd December 2017. The Final Scoping Report establishes the scope and the level of detail that will be included within the appraisal and subsequent AoS Report of the draft NPS. The AoS Report will then be placed alongside the draft NPS for full public and parliamentary consultation.

The following sections of this NTS:

- provide an overview of water resources infrastructure planning;
- describe the AoS process together with how it is to be applied to the draft NPS, including what will be appraised as part of the AoS Report;
- outline the approach to the AoS of the draft NPS, including the appraisal framework;
- set out the next steps in the AoS process.

Water Resources Infrastructure Planning

There is a statutory requirement for water companies in England and Wales to prepare, maintain and publish a water resources management plan (WRMP). These plans set out how the balance between water supply and demand, and security of supply will be maintained over at least a 25 year period. Once a WRMP is adopted, the preferred options to resolve any supply deficits are then implemented as schemes. Schemes that include the development of new water supply infrastructure usually require planning consent under the Town and Country Planning Act 1990. This planning framework has helped water companies understand future needs and maintain the balance of supply and demand within their boundaries.

The Environment Agency's 2011 'Case for Change'[2] considered the implications of climate change for water supplies regionally and nationally. It concluded that while demand management will have an important role, significant new water resources will be needed to meet the needs of people, businesses and the environment. The Government requested that the water industry develop a long term national approach to establish water needs and the strategic options that could meet these needs. The Water UK's 2016 'Water resources long term planning framework (2015-2065)'[3] noted the importance of demand management in conjunction with a combination of localised initiatives and strategic schemes to provide future resilience. Reflecting the recommendations of this report, the Government has confirmed[4] that a 'twin track' approach to improving the resilience of water supplies is required, with investment in new supplies complementing measures to reduce the demand for water.

[1] Amec Foster Wheeler (2017) *Appraisal of Sustainability of the National Policy Statement for Water Resources: Scoping Report.*
[2] Environment Agency (2011) *The case for change – current and future water availability*. Report No: GEHO1111BVEP-E-E
[3] Water UK (2016) *Water resources long term planning framework*. Available from https://dl.dropboxusercontent.com/u/299993612/Publications/Reports/Water%20resources/WaterUK%20WRLTPF_Final%20Report_FINAL%20PUBLISHED.pdf [Accessed August 2017].
[4] See Defra (2007) *The government's strategic priorities and objectives for Ofwat*. Available from https://consult.defra.gov.uk/water/consultation-on-a-new-sps/supporting_documents/Draft%20SPS%20for%20consultation%20%20FINAL.pdf [Accessed August 2017].

National Policy Statement for Water Resources

In order to meet water resilience and increasing demand challenges, the water industry may need to develop new water supply infrastructure that could be considered to be 'nationally significant'. For 'nationally significant infrastructure projects' (such as a major new reservoir), a separate planning regime was established under the Planning Act 2008[5]. In this, development consent is decided nationally based on policy criteria set out in the designated NPS. This has significantly accelerated the process of providing development consent for such projects in other sectors such as energy and transport.

In this context, the Government is developing an NPS for nationally significant water resources infrastructure with the aim of contributing to resilient water supplies. The NPS will provide planning policy guidance against which development consent order applications for any nationally significant water resources infrastructure project will be examined. The NPS is also intended to work alongside the statutory water resources planning process and will inform water company business plans by clearly describing the case for water infrastructure, in turn providing improved clarity and confidence to the delivery phase of any preferred large supply schemes.

The NPS is likely to be non-site specific, containing information concerning:

- the policy context for water resources infrastructure;
- the need for water resources infrastructure;
- development principles including criteria for good design;
- generic impacts and siting considerations, including generic mitigation measures.

Alongside the development of an NPS, the UK Government is also reviewing the Planning Act 2008 definitions of the types of water supply infrastructure that are classed as 'nationally significant'. This in order to ensure that the right type and scale of projects are included to address the water resilience challenge.

What is an Appraisal of Sustainability (AoS)?

The Planning Act 2008 requires that an AoS must be carried out before an NPS can be designated. The main purpose of an AoS is to examine the likely social, economic and environmental effects of designating the NPS. If potential significant adverse effects are identified, the AoS recommends options for avoiding or mitigating such effects. In this way, the AoS helps inform the preparation of the NPS and supports the NPS's contribution to the achievement of sustainable development. The AoS also incorporates an assessment in accordance with the requirements of the SEA Directive and relevant implementing regulations.

In this context, the purposes of the AoS of the draft NPS are:

- to support the Secretary of State in meeting their requirements under Section 10 of the Planning Act 2008 to ensure that the NPS contributes to the achievement of sustainable development and for due regard to be given to the desirability of mitigating and adapting to climate change and achieving good design;
- to identify and quantify the potentially significant environmental and socio-economic effects of the draft NPS including reasonable alternatives to the NPS;
- to inform the Government's decisions on the draft NPS;
- to help identify appropriate measures to avoid, reduce or manage adverse effects and to enhance beneficial effects associated with the implementation of the draft NPS wherever possible; and
- to give the statutory consultees, stakeholders and the wider public the ability to see and comment upon the environmental and socio-economic effects that the draft NPS may have on

[5] The Planning Act 2008. Available from at: http://www.opsi.gov.uk/acts/acts2008/ukpga_20080029_en_1 [Accessed August 2017].

them, their communities and their interests, and to encourage them to make responses and suggest improvements to the draft NPS.

The main stages of AoS mirror those of SEA and are iterative, building on evidence and consultation responses over time to inform the development of the NPS. They include:

- setting the context and objectives, establishing the baseline and deciding on the scope of the appraisal in consultation with consultees including the statutory SEA bodies (**Stage A**);
- developing and refining alternatives, assessing the likely direct, indirect and cumulative effects of proposed options and identifying mitigating and monitoring measures (**Stage B**);
- completing an AoS Report to present the predicted environmental and socio-economic effects of the draft NPS, including reasonable alternatives, in a form suitable for public consultation and use by decision-makers (**Stage C**);
- consulting on the draft NPS and the AoS Report (**Stage D**);
- assessing the environmental and socio-economic implications of any significant changes to the draft NPS (**Stage D**);
- providing information in a Post Adoption Statement on how the AoS Report and consultees' opinions were taken into account in deciding the final form of the NPS to be designated (**Stage D**); and
- undertaking suitable monitoring of the associated impacts of the selected options (**Stage E**).

The main outputs of the AoS are:

- the AoS Scoping Report (the main report to which this NTS relates), which sets out the context and establishes the baseline conditions for the assessment and outlines the approach to the AoS of the draft NPS including the appraisal objectives and guide questions;
- the AoS Report, which contains the findings of the appraisal of the environmental, social and economic effects of the draft NPS and will be issued for public consultation; and
- the AoS Post Adoption Statement, which will set out how environmental, social and economic factors, the AoS Report and consultees' opinions were taken into account in deciding the final form of the NPS.

What is Being Appraised?

The AoS will be undertaken by appraising the likely sustainability effects of implementing the draft NPS with a particular focus on:

- the proposed vision and objectives of the draft NPS;
- the proposed assessment principles (including criteria on good design); and
- guidance on impacts contained within the draft NPS.

In addition, the effects of reasonable alternatives to the draft NPS will be considered. **Section 2.4** of the main report sets out provisional thinking on some of the factors that will be considered in developing the reasonable alternatives to the NPS.

What is the Appraisal Framework?

The review of plans and programmes, analysis of the baseline evidence and the assessment of key issues for the draft NPS have been used to establish a number of AoS objectives and guide questions against which the draft NPS and reasonable alternatives will be appraised. The AoS objectives and guide questions,

which have also been informed by consultation responses to the initial Scoping Report, are shown in **Table NTS 1**.

Table NTS 1 Appraisal Objectives and Guide Questions

AoS Topic Area	AoS Objectives		Guide Questions	SEA Directive Topics
Biodiversity and Nature Conservation	1.	To protect and enhance biodiversity (habitats, species and ecosystems) working within environmental capacities and limits.	• Will the Water Resources NPS protect and/or enhance internationally designated nature conservation sites e.g. Special Areas of Conservation, Special Protection Areas, Ancient Woodlands, Marine Protected Areas and Ramsar Sites? • Will the Water Resources NPS protect and/or enhance nationally designated nature conservation sites e.g. Sites of Special Scientific Interest? • Will the Water Resources NPS have an impact on Marine Conservation Zones? • Will the Water Resources NPS protect and/or enhance priority species and habitats or species of conservation concern? • Will the Water Resources NPS affect non-designated habitats and species including protected species? • Will the Water Resources NPS have an impact on fisheries? • Will the Water Resources NPS lead to a change in the ecological quality of habitats due to changes in groundwater/river water quality and/or quantity? • Will the Water Resources NPS affect the structure, function and resilience of natural systems (ecosystems)? • Will the Water Resources NPS affect the ecological network of protected areas and the connectivity between sites? • Will the Water Resources NPS lead to a net gain in biodiversity? • Will the Water Resources NPS affect public access to areas of wildlife interest? • Will the Water Resources NPS affect the spread or transfer of invasive non-native species?	Biodiversity, Flora and Fauna
Population, Economics and Skills	2.	To support a strong, diverse and stable economy through the provision of nationally significant water resources infrastructure with opportunities to improve skills and employment, minimise disturbance to local communities and maximise positive social impacts.	• Will the Water Resources NPS help to ensure that sufficient water resources infrastructure is in place to meet increased demand associated with population growth and to support economic development? • Will the Water Resources NPS ensure that an affordable supply of water is maintained and that vulnerable customers are protected? • Will the Water Resources NPS promote economically efficient solutions that deliver best value for money? • Will the Water Resources NPS affect opportunities for investment in education and skills development? • Will the Water Resources NPS reduce the effects of drought restrictions on the economy? • Will the Water Resources NPS affect existing abstractors? • Will the Water Resources NPS affect the number or types of jobs available in local economies? • Will the Water Resources NPS help to improve the resilience of other national infrastructure?	Population

AoS Topic Area	AoS Objectives		Guide Questions	SEA Directive Topics
			• Will the Water Resources NPS affect the social infrastructure and amenities available to local communities?	
Human Health	3.	To ensure the protection and enhancement of human health and wellbeing.	• Will the Water Resources NPS adversely affect human health by resulting in increased nuisance and disruption (e.g. as a result of increased noise levels)? • Will the Water Resources NPS disproportionately affect communities already identified as vulnerable / at risk? • Will the Water Resources NPS ensure the continuity of a safe and secure drinking water supply to protect public health? • Will the Water Resources NPS affect opportunities for recreation and physical activity? • Will the Water Resources NPS maintain surface water and bathing water quality within statutory standards?	Population Human Health
Land Use, Geology and Soils	4.	To conserve and enhance soil and geology and contribute to the sustainable use of land.	• Will the Water Resources NPS have an effect on soil quality/function, variety, extent and/or compaction levels? • Will the Water Resources NPS increase the risk of significant land contamination? • Will the Water Resources NPS have an effect on any known and existing contamination? • Will the Water Resources NPS protect and/or enhance Geological Conservation Sites, important geological features and geophysical processes and functions? • Will the Water Resources NPS change patterns of land use or affect best and most versatile agricultural land?	Soils
Water Quality	5.	To protect and enhance water quality and help achieve the objectives of the Water Framework Directive.	• Will the Water Resources NPS protect and improve surface, ground, estuarine and coastal water quality? • Will the Water Resources NPS prevent the deterioration of Water Framework Directive waterbody status (or potential)? • Will the Water Resources NPS support the achievement of protected area objectives, such as groundwater source protection zones and nitrate vulnerable zones? • Will the Water Resources NPS support the achievement of environmental objectives set out in River Basin Management Plans? • Will the Water Resources NPS ensure a new activity or new physical modification does not prevent the future achievement of good status for a water body?	Water
Water Quantity	6.	To protect and enhance surface and ground water levels and flows and ensure sustainable water resource management.	• Will the Water Resources NPS affect river flows and groundwater levels? • Will the Water Resources NPS reduce the impact of drought measures on the environment? • Will the Water Resources NPS affect demand for water resources? • Will the Water Resources NPS ensure the sustainable and resilient supply of water resources? • Will the NPS affect hydrological functioning such as flow variation?	Water
Flood Risk and Coastal Change	7.	To minimise the risks from coastal change and flooding to people, property, communities and habitats and species, taking into	• Will the Water Resources NPS help to avoid development in areas of flood risk and, where possible, reduce flood risk? Where development in flood risk areas cannot be avoided, will the NPS ensure that appropriate mitigation measures are	Water Climatic Factors

AoS Topic Area	AoS Objectives		Guide Questions	SEA Directive Topics
		account the effects of climate change.	applied to avoid increasing flood risk and, where possible, reduce flood risk? • Will the Water Resources NPS affect the resilience of infrastructure, places, communities and habitats and species to future flooding? • Will the Water Resources NPS help to avoid development in areas affected by coastal erosion and not affect coastal processes and/or erosion rates?	
Air	8.	To minimise emissions of pollutant gases and particulates and enhance air quality, helping to achieve the objectives of the Air Quality and Ambient Air Quality and Cleaner Air for Europe Directives.	• Will the Water Resources NPS affect air quality? • Will the Water Resources NPS create a nuisance for people or wildlife (for example from dust or odours)?	Air Human Health Biodiversity, Flora and Fauna
Noise	9.	To minimise noise pollution and the effects of vibration.	• Will the Water Resources NPS help to minimise noise and vibration effects from construction and operational activities on residential amenity and on sensitive locations and receptors?	Human Health Biodiversity, Flora and Fauna
Climatic Factors	10.	To minimise greenhouse gas emissions as a contribution to climate change and ensure resilience to any consequences of climate change.	• Will the Water Resources NPS help to ensure a low carbon design solution to the construction and operation of water resources infrastructure? • Will the Water Resources NPS increase resilience to the effects of climate change? • Will the Water Resources NPS lead to an increase in energy use? • Will the Water Resources NPS affect the ability of species or habitats to adapt to a changing climate? • Will the Water Resources NPS promote climate change adaptation (including rising temperatures and more extreme weather events)?	Climatic Factors
Waste and Resources	11.	To minimise waste arisings, promote reuse, recovery and recycling, minimise the impact of wastes on the environment and communities and contribute to the sustainable use of natural and material assets.	• Will the Water Resources NPS maximise re-use and recycling of recovered components and materials? • Will the Water Resources NPS help achieve government and national targets for minimising, recovering and recycling waste? • Will the Water Resources NPS increase the burden on limited natural resources? • Will the Water Resources NPS make best use of existing infrastructure and resources?	Material Assets
Traffic and Transport	12.	To minimise the volume of traffic and promote more sustainable transport choices.	• Will the Water Resources NPS help to minimise traffic volumes? • Will the Water Resources NPS help to minimise the direct effects of transport such as noise and vibration, severance of communities and wildlife habitats and safety concerns? • Will the Water Resources NPS encourage alternative and sustainable means of transporting freight, waste and minerals, where possible?	Biodiversity, Flora and Fauna Population Human Health
Cultural Heritage	13.	To conserve and where appropriate enhance the historic environment including cultural heritage resources, historic buildings and archaeological features	• Will the Water Resources NPS affect the significance of internationally and nationally designated heritage assets and their settings? • Will the Water Resources NPS affect non-designated heritage assets, archaeological remains and their settings?	Cultural Heritage

AoS Topic Area	AoS Objectives	Guide Questions	SEA Directive Topics
	and their settings.	• Will the Water Resources NPS conserve or enhance heritage assets and the wider historic environment including landscapes, townscapes, buildings, structures and archaeological remains? • Will the Water Resources NPS avoid damage to important wetland areas with potential for paleoenvironmental deposits? • Will the Water Resources NPS affect the fabric and setting of historic buildings, places or spaces that contribute to local distinctiveness, character and appearances? • Will the Water Resources NPS improve access to, and interpretation, understanding and appreciation of, the significance of heritage assets? • Will the Water Resources NPS affect the heritage of communities?	
Landscape and Townscape	14. To protect and enhance landscape and townscape quality and visual amenity.	• Will the Water Resources NPS have detrimental visual impacts? • Will the Water Resources NPS affect the purposes and/or special qualities of protected/designated/culturally important landscapes and their setting? • Will the Water Resources NPS affect the intrinsic character or setting of local landscapes, townscapes and seascapes? • Will the Water Resources NPS help to minimise light pollution from construction and operational activities on residential amenity and on sensitive locations and receptors? • Will the Water Resources NPS affect public benefits and/or services provided by landscape? • Will the Water Resources NPS affect traditional land management activities that have created unique landscapes? • Will the Water Resources NPS provide opportunities to enhance nationally and locally designated landscapes, townscapes and seascapes and their settings? • Will the Water Resources NPS affect tranquillity? • Will the Water Resources NPS affect public access to open spaces or the countryside?	Landscape Human Health

How will the Appraisal be Undertaken?

The appraisal of the draft NPS and reasonable alternatives will be completed and recorded using an AoS matrix (see the example provided in **Table NTS 2**). Matrices will be used to record:

- the nature and scale of the potential effects on the AoS objectives (what is expected to happen), including cumulative, secondary and synergistic, direct and indirect effects;
- when the effect could occur (timing) and its degree of permanence;
- what mitigation measures might be appropriate for potentially significant negative effects on the AoS objectives;
- what options there are to enhance positive effects; and

- assumptions and uncertainties that underpin the assessment.

Symbols and colour coding will also be used to indicate significant (positive or negative) effects.

Table NTS 2 Illustrative Appraisal Matrix

NPS Section	Draft NPS	Option 1	Option 2	Appraisal
Generic Impacts	**+**	**+/?**	**+/?**	**Draft NPS** *A description of the effects of the Water Resources NPS sub-section on the topic under consideration will be provided here, with reasoning and justification included. Mitigation and enhancement measures will also be identified.*
				Alternative 1: *A description of the effects of the reasonable alternative to the NPS will be provided here, with reasoning and justification included.*
				Alternative 2: Etc…
Generic Mitigation Measures	**+**	**+**	**+/?**	**Draft NPS:**
				Alternative 1:
				Alternative 2:
Etc	**+/?**	**+/?**	**+/?**	**Draft NPS:**
				Alternative 1:
				Alternative 2:
Summary of Recommended Mitigation and Enhancement	*A summary of the mitigation and enhancement measures identified through the appraisal will be presented here.*			
Score Key:	**+ +** **Significant** positive effect	**+** **Minor** positive effect	**0** No overall effect	**-** **Minor** negative effect	**-- Significant** negative effect	**?** **Score uncertain**
NB: where more than one symbol is presented in a box it indicates that the AoS has found more than one score for the category. Where the scores are both positive and negative, the boxes are deliberately not coloured (i.e. 'no overall effect'). Where a box is coloured but also contains a ?, this indicates uncertainty over whether the effect could be a minor or significant effect although a professional judgement is expressed in the colour used. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.						

Note: This draft AoS matrix is for illustrative purposes only. The full matrix will be finalised after comments have been received on the AoS categories, objectives and appraisal criteria.

Cumulative effects of the draft NPS will also be assessed both in terms the collective implementation of the NPS and the effects of the draft NPS in-combination with other plans and programmes.

What are the Next Steps of the AoS Process?

The next stages of the AoS process involve the prediction and evaluation of the effects that the draft NPS and reasonable alternatives to it are likely to have. The appraisal will propose, where appropriate, mitigating measures for adverse effects as well as opportunities to enhance beneficial aspects. The appraisal will be presented in the AoS Report, which will be published for public consultation. The AoS Report has the following purposes:

- to ensure that the significant potential environmental and socio-economic effects associated with the draft NPS and reasonable alternatives are identified, characterised and assessed;
- to propose measures to mitigate the adverse effects identified and, where appropriate, to enhance potential positive effects;
- to provide a framework for monitoring the potential significant effects arising from the implementation of the draft NPS; and
- to provide sufficient information to those affected so that the development of the draft NPS is open and transparent.

The production of the AoS Report will support a full public consultation on the draft NPS.

Contents

1. Introduction

1.1 Overview

1.1.1 Public water supplies and future water availability will be affected by population and economic growth, changes in consumer behaviour and the impacts of climate change. The Government's '25 Year Environment Plan'[6] states that:

"W*ater companies must develop and implement robust long-term plans that develop new water resources where needed. New supplies will include large infrastructure, such as reservoirs and water transfers, which are needed to make sure the water industry can provide sufficient water for homes and businesses and reduce abstraction from some sources to protect the environment*".

1.1.2 The Government has set out how it will enhance its policy framework to ensure the long term resilience of the public water supply in 'Creating a great place for living: Enabling resilience in the water sector'[7]. It highlights that in order to meet this challenge, the water industry may need to develop new water supply infrastructure that could be considered to be 'nationally significant' and that the Government is minded to prepare a National Policy Statement (NPS) to support the delivery of this infrastructure. Subsequently, in her Written Statement[8] of 14th March 2017, the Parliamentary Under Secretary of State for the Environment and Rural Life Opportunities confirmed that the Government will prepare an NPS for nationally significance water resources infrastructure. The preparation of the NPS was identified in the actions contained in the '25 Year Environment Plan'. This work is being led by the Department for Environment, Food and Rural Affairs (Defra).

1.1.3 The NPS for Water Resources will guide the Secretary of State (SoS), Planning Inspectorate and developers in the consideration of any applications for development consent in relation to water resource-related nationally significant infrastructure projects in England. Its development will be informed by the 'Climate Change Risk Assessment 2017'[9], the 'Water resources long term planning framework (2015-2065)'[10], other evidence[11,12] and water resources management plans (WRMPs) prepared by water companies.

1.1.4 Once the NPS has been designated, the Secretary of State will be required to determine any applications for development consent in accordance with it, unless certain other criteria (set out in the Planning Act 2008) apply. The NPS will support the delivery of future large supply projects identified in water company WRMPs, helping the water companies to plan, fund and develop any new large infrastructure that will improve the resilience of future water supplies. The NPS is intended to be non-site specific, focussing on the high level assessment principles against which development consent order applications will be considered, rather than identifying specific sites.

1.1.5 Before designating an NPS, Section 5(3) of the Planning Act 2008 requires that the Secretary of State carry out an Appraisal of the Sustainability (AoS) of the policy set out in the statement. The

[6] HM Government (2018) *A Green Future: Our 25 Year Plan to Improve the Environment.* Available from https://www.gov.uk/government/publications/25-year-environment-plan [Accessed February 2018]
[7] Defra (2016) *Creating a great place for living: Enabling resilience in the water sector*. Available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/504681/resilience-water-sector.pdf [Accessed August 2017].
[8] UK Parliament (2017) *Affordable, Resilient Water Supplies: Consultation on the Government's Strategic Priorities for Ofwat: Written statement - HCWS530.* Available from: http://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2017-03-14/HCWS530/
[9] Committee on Climate Change (2017) *UK Climate Change Risk Assessment 2017*. Available from https://www.theccc.org.uk/tackling-climate-change/preparing-for-climate-change/uk-climate-change-risk-assessment-2017/ [Accessed August 2017].
[10] Water UK (2016) *Water resources long term planning framework*. Available from https://dl.dropboxusercontent.com/u/299993612/Publications/Reports/Water%20resources/WaterUK%20WRLTPF_Final%20Report_FINAL%20PUBLISHED.pdf [Accessed August 2017].
[11] Defra (2016) *Guiding Principles for Water Resources Planning*.
[12] Environment Agency and Natural Resources Wales (2016) *Final Water Resources Planning Guideline. Available from* https://naturalresources.wales/media/678739/ea-nrw-and-defra-wg-ofwat-technical-water-resources-planning-guidelines.pdf] [Accessed July 2017)].

AoS ensures that the likely environmental and socio-economic effects of the NPS are identified, described and evaluated. The AoS also satisfies the requirements of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (commonly referred to as the Strategic Environmental Assessment (SEA) Directive) and relevant implementing regulations[13] (the SEA Regulations).

1.1.6 In this context, the purposes of the AoS of the draft NPS are:

- to support the Secretary of State in meeting their requirements under Section 10 of the Planning Act 2008 to ensure that the NPS contributes to the achievement of sustainable development and for due regard to be given to the desirability of mitigating and adapting to climate change and achieving good design;
- to identify and quantify the potentially significant environmental and socio-economic effects of the draft NPS including reasonable alternatives to the NPS;
- to inform the Government's decisions on the draft NPS;
- to help identify appropriate measures to avoid, reduce or manage adverse effects and to enhance beneficial effects associated with the implementation of the draft NPS wherever possible; and
- to give the statutory consultees, stakeholders and the wider public the ability to see and comment upon the environmental and socio-economic effects that the draft NPS may have on them, their communities and their interests, and to encourage them to make responses and suggest improvements to the draft NPS.

1.2 Purpose of this Report

1.2.1 This document is the Final Scoping Report for the AoS of the draft NPS for Water Resources (hereafter referred to as the 'draft NPS') and follows consultation on an initial Scoping Report[14] between the 13th November and the 22nd December 2017. It provides:

- an overview of the relationship between AoS and SEA, and a demonstration of how, as far as is relevant at this scoping stage, the AoS approach meets the requirements of the SEA Directive (**Section 1**);
- a summary of the responses received during consultation on the initial AoS Scoping Report and how they have been taken into account in this Final Scoping Report (**Section 1**);
- an overview of the anticipated NPS content and provisional thinking on some of the factors that will be considered in developing the reasonable alternatives to the NPS (**Section 2**);
- a summary of the significant policy topics or objectives that may be appropriate to the AoS of the draft NPS, identified following a review of relevant international and national plans, policies and programmes (**Section 3**);
- baseline information for each of the AoS topics, with an indication of the source of the data and its relevance to the draft NPS (**Section 3**);
- key economic, social and environmental issues relevant to the appraisal of the draft NPS (**Section 3**);
- an appraisal framework (comprising AoS objectives, guide questions, assessment matrices, and threshold values used to determine the significance of an effect) (**Section 4**);
- the approach to the assessment of cumulative effects of the draft NPS (**Section 4**); and
- the proposed structure of the AoS Report (**Section 5**).

[13] The Environmental Assessment of Plans and Programmes Regulations 2004 S.I. 2004 No. 1633.
[14] Amec Foster Wheeler (2017) *Appraisal of Sustainability of the National Policy Statement for Water Resources: Scoping Report*.

1.3 Water Resources Infrastructure Planning – An Overview

Water Resources Planning

1.3.1 The Water Industry Act 1991, as amended by the Water Act 2003 and Water Act 2014, requires all water companies to prepare, maintain and publish statutory WRMPs. The plans set out how water companies intend to maintain the balance between water supply and demand and ensure security of supply over at least the next 25 years in a way that is economically, socially and environmentally sustainable.

1.3.2 Part III of the Water Industry Act 1991 states the following role for water companies in water supply:

"*37.—(1) It shall be the duty of every water undertaker to develop and maintain an efficient and economical system of water supply within its area and to ensure that all such arrangements have been made—*

(a) for providing supplies of water to premises in that area and for making such supplies available to persons who demand them; and

(b) for maintaining, improving and extending the water undertaker's water mains and other pipes, as are necessary for securing that the undertaker is and continues to be able to meet its obligations under this Part.

37A.—(2) A water resources management plan is a plan for how the water undertaker will manage and develop water resources so as to be able, and continue to be able, to meet its obligations under this Part."

1.3.3 The Government has set out its priorities for water companies in developing their WRMPs via the 'guiding principles'[15]. The Water Resources Planning Guideline[16] produced by the Environment Agency and Natural Resources Wales, meanwhile, provides a framework for the development and presentation of water company plans.

1.3.4 The process of developing a WRMP requires an estimation of baseline supply forecast to be prepared, along with an estimation of baseline demand forecast. The uncertainties and target headroom required are then estimated. The calculation of the baseline supply demand balance for each year of the plan's period are then used to determine if there are any years or critical periods where there is likely to be a supply-demand balance deficit. Once this information has been established, options which could be used to manage the supply demand balance deficit are considered with the final planning solution for managing supply and demand presented in the WRMP. Following public consultation on the draft WRMP, amendment, review and direction by the Secretary of State for Food, Environment and Rural Affairs, the water company will publish the final WRMP.

1.3.5 The process of option development that underpins WRMP preparation includes a review of as many potential solutions as possible (the 'unconstrained list' of options) to identify 'feasible' (constrained) options. These 'feasible' options are then reviewed to identify 'preferred options' to resolve any supply deficits. The types of options considered in preparing WRMPs can be broadly categorised as follows:

- supply side measures – increasing the water available for use in the local supply area through an increase in deployable output;
- water transfer – importing water from an area of surplus into an area of deficit;

[15] Further information available at https://www.gov.uk/government/publications/water-resources-planning-managing-supply-and-demand/water-resources-planning-how-water-companies-ensure-a-secure-supply-of-water-for-homes-and-businesses . A full copy of the guiding principles can be requested from water-company-plan@environment-agency.gov.uk

[16] Environment Agency and Natural Resources Wales (2016) *Final Water Resources Planning Guideline. Available from* https://naturalresources.wales/media/678739/ea-nrw-and-defra-wg-ofwat-technical-water-resources-planning-guidelines.pdf] [Accessed July 2017)].

- demand management – reducing the demand for water through a combination of leakage reduction and water efficiency measures.

1.3.6 Once the WRMP is adopted, the preferred options are then implemented as schemes. Schemes that include the development of new water supply infrastructure usually require planning consent under the Town and Country Planning Act 1990. This planning framework has helped water companies understand future needs and maintain the balance of supply and demand within their boundaries.

1.3.7 The Environment Agency's 2011 'Case for Change'[17] considered the implications of climate change for water supplies regionally and nationally and concluded that while demand management will have an important role, significant new water resources will be needed to meet the needs of people, businesses and the environment. The Government requested that the water industry develop a national water resources long term planning framework to establish water needs and the strategic options that could meet these needs. The Water UK's 2016 'Water resources long term planning framework (2015-2065)' noted the importance of demand management in conjunction with a combination of localised initiatives and strategic schemes to provide future resilience. Reflecting the recommendations of this report, the Government has confirmed[18] that a 'twin track' approach to improving the resilience of water supplies is required, with investment in new supplies complementing measures to reduce the demand for water.

National Policy Statement for Water Resources

1.3.8 In order to meet the water resilience and increasing demand challenges, the water industry may need to develop new water supply infrastructure that could be considered to be 'nationally significant'. For 'nationally significant infrastructure projects' (such as a major new reservoir), a separate planning regime was established under the Planning Act 2008. In this, development consent is decided nationally based on policy criteria set out in the designated NPS. This has significantly accelerated the process of providing development consent for such projects in other sectors such as energy and transport.

1.3.9 In this context, the Government is developing an NPS for nationally significant water resources infrastructure with the aim of contributing to resilient water supplies and providing planning policy guidance against which development consent order applications for any nationally significant water resources infrastructure project will be examined. Alongside the development of an NPS, the UK Government is also reviewing the Planning Act 2008 definitions of the types of water supply infrastructure that are classed as 'nationally significant'. This is in order to ensure that the right type and scale of projects are included to address the water resilience challenge.

1.4 Appraisal of Sustainability (AoS) and Strategic Environmental Assessment (SEA)

The Requirement for an AoS of the National Policy Statement for Water Resources

1.4.1 Section 5(3) of the Planning Act 2008 requires that an AoS must be carried out before an NPS can be designated. The main purpose of an AoS is to examine the likely social, economic and environmental effects of designating the NPS. If potential significant adverse effects are identified, the AoS recommends options for avoiding or mitigating such effects. In this way, the AoS helps inform the preparation of the NPS and supports the NPS's contribution to the achievement of sustainable development.

[17] Environment Agency (2011) *The case for change – current and future water availability*. Report No: GEHO1111BVEP-E-E
[18] See Defra (2007) *The government's strategic priorities and objectives for Ofwat*. Available from https://consult.defra.gov.uk/water/consultation-on-a-new-sps/supporting_documents/Draft%20SPS%20for%20consultation%20%20FINAL.pdf [Accessed August 2017].

Relationship between AoS and SEA

1.4.2 The Government has determined that the AoS of the NPS for Water Resources, required under the Planning Act 2008, should incorporate an assessment in accordance with the requirements of the SEA Directive and relevant implementing regulations to ensure that environmental considerations are taken into account. The Directive aims for a high level of environmental protection and to promote sustainable development and applies to certain plans that are likely to have significant effects on the environment. The draft NPS is being treated as a plan for the purpose of the SEA Directive.

1.4.3 The AoS considers socio-economic and environmental effects in the same way as environmental effects are required to be assessed by the SEA Directive.

Stages of the AoS Process

1.4.4 The main stages of AoS mirror those of SEA and are iterative, building on evidence and consultation responses over time to inform the development of the NPS. They include:

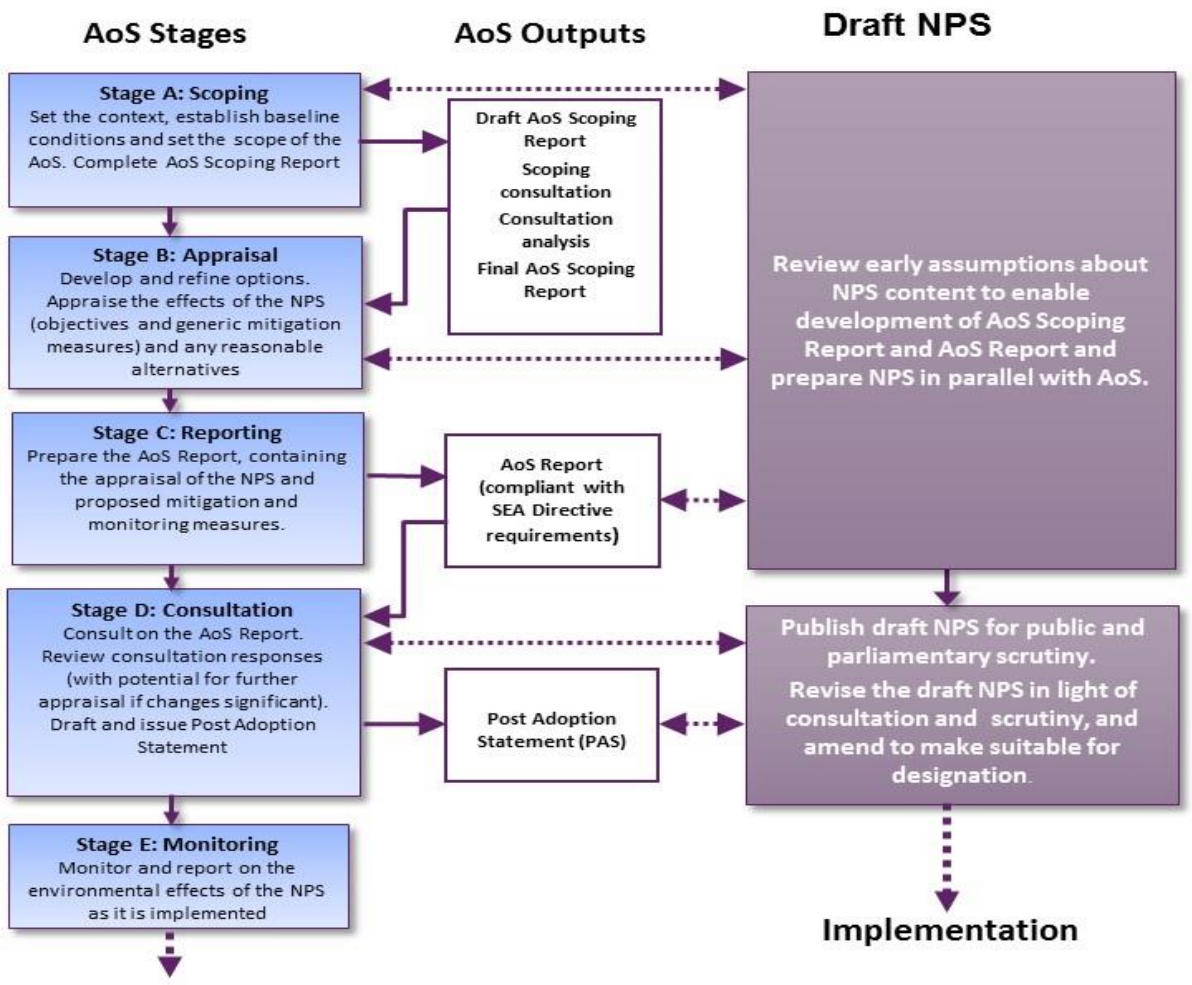
- setting the context and objectives, establishing the baseline and deciding on the scope of the appraisal in consultation with consultees including the statutory SEA bodies (**Stage A**);
- developing and refining alternatives, assessing the likely direct, indirect and cumulative effects of proposed options and identifying mitigating and monitoring measures (**Stage B**);
- completing an AoS Report to present the predicted environmental and socio-economic effects of the draft NPS, including reasonable alternatives, in a form suitable for public consultation and use by decision-makers (**Stage C**);
- consulting on the draft NPS and the AoS Report (**Stage D**);
- assessing the environmental and socio-economic implications of any significant changes to the draft NPS (**Stage D**);
- providing information in a Post Adoption Statement on how the AoS Report and consultees' opinions were taken into account in deciding the final form of the NPS to be designated (**Stage D**); and
- undertaking suitable monitoring of the associated impacts of the selected options (**Stage E**).

1.4.5 The main outputs of the AoS are:

- the AoS Scoping Report (this report), which sets out the context and establishes the baseline conditions for the assessment and outlines the approach to the AoS of the draft NPS including the appraisal objectives and guide questions;
- the AoS Report, which contains the findings of the appraisal of the environmental, social and economic effects of the draft NPS and which will be issued for public consultation; and
- the AoS Post Adoption Statement, which will set out how environmental, social and economic factors, the AoS Report and consultees' opinions were taken into account in deciding the final form of the NPS.

1.4.6 The key AoS stages are shown in **Figure 1.1** together with links to the draft NPS process.

Figure 1.1 Linking the AoS and Draft NPS



Note: These stages are based on guidance contained in Office of the Deputy Prime Minister (now Communities and Local Government) (2005) guidance.[19]

1.4.7 The following activities have been undertaken to complete Stage A (highlighted above) and as part of the preparation of this Scoping Report:

- **Identifying relevant plans and programmes**: A review has been undertaken of relevant international, European, UK and national (England, Scotland and Wales) plans and programmes in order to establish how the draft NPS could be affected by (and affect) their objectives and proposals, and to help identify any relevant environmental protection objectives which need to be taken into account during the NPS's preparation and the AoS. Scottish and Welsh plans and programmes have been considered due to the potential for the effects of water resources infrastructure to impact upon Scottish and Welsh territories, particularly given the transboundary nature of hydrological systems, such as rivers flowing across borders.
- **Collecting baseline information**: A review has been undertaken of current and predicted baseline environmental conditions following a 'business as usual' scenario, again conducted for the UK, England, Scotland and Wales, as appropriate. This includes the key environmental characteristics of each topic or area most likely to be significantly affected by the draft NPS. This baseline will provide an evidence base for current environmental and socio-economic problems, prediction of effects and proposals for monitoring. It also helps inform the development of the AoS objectives.

[19] Office of the Deputy Prime Minister (2005) *Practical Guide to the Strategic Environmental Assessment Directive*. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf [Accessed August 2017].

- **Identifying sustainability problems**: The baseline has been used to identify key sustainability issues relevant to the NPS to help highlight where the AoS should be focussed and to inform the AoS objectives.
- **Developing AoS objectives**: Objectives (and associated appraisal guide questions) have been developed alongside definitions of significance to provide a means by which the effects of the draft NPS and the reasonable alternatives to the NPS can be meaningfully appraised.
- **Consultation on an initial Scoping Report:** Consultation has been undertaken with appropriate bodies and the public to ensure that the AoS covers the likely significant sustainability effects of the draft NPS. This is also consistent with regulation 12 of the SEA Regulations which concerns the appropriateness, scope and level of detail of the information that must be included in the subsequent AoS Report (which will also meet the SEA requirements for the environmental report). An initial AoS Scoping Report was produced for this purpose and sets out the proposed scope and approach to the appraisal. A summary of the outcomes of the consultation is provided in **Section 1.5**.
- **Finalising the Scoping Report:** The responses received to consultation on the initial Scoping Report have been reviewed and the contents of the report revised as appropriate. This report represents the final output of the scoping stage and includes the amended appraisal framework.

1.5 Consultation and Stakeholder Engagement

Overview

1.5.1 Consultation lies at the heart of any meaningful assessment or appraisal process and is based on the key principle that the plan and programme making is better where it is transparent, inclusive and uses information that has been subject to public scrutiny. In this context, the intention is that those with an interest in, or are affected by, the draft NPS should have the opportunity to present their views.

Consultation on the Initial Scoping Report

1.5.2 The initial Scoping Report was issued for consultation to the UK statutory SEA and other bodies identified in **Box 1.1** for comment. Whilst this technical consultation was primarily aimed at a number of statutory and selected consultees, Defra also made the initial Scoping Report publicly available.

Box 1 AoS Scoping Consultees

UK SEA Statutory Consultation Bodies	Additional (Specialist) Consultees
• Environment Agency	• Water companies
• Historic England	• Ofwat
• Natural England	• Consumer Council for Water
• Scottish Natural Heritage	• Planning Inspectorate
• Historic Scotland	• National Infrastructure Commission
• Scottish Environment Protection Agency	• Committee on Climate Change
• Scottish Government	• Marine Management Organisation
• Natural Resources Wales	• National Parks Authority
• Cadw (Welsh Government historic environment service)	• Joint Nature Conservation Committee
• Welsh Government	
• Department of Agriculture, Environment and Rural Affairs (DAERA), Northern Ireland	
• Northern Ireland Environment Agency, Northern Ireland	

1.5.3 Comments on any aspect of the initial Scoping Report were welcomed although views were particularly sought in response to the following questions:

- Do you agree with the main issues identified in the topic areas (Section 3.3)? Specifically:
  - Are there issues included in the proposed scope of the appraisal that you think should be removed? If so why?
  - Are there relevant issues that have not been reflected in the proposed scope of the appraisal that you think should be included? If so, why?
- Does the AoS Scoping Report set out sufficient information to establish the context for the appraisal, both in terms of the scope of the baseline analysis presented, and the plans and programmes reviewed (Appendix B)? If not, which areas do you think have been missed from the baseline analysis and/or what additional plans or programmes should be included?
- Do the AoS objectives and guide questions (Section 4.3) cover the breadth of issues appropriate for appraising the effects of the draft NPS? If not, which objectives should be amended and how? Or which guide questions should be amended and how? Are there other objectives or guide questions that you believe should be included?
- Do you have any comments on the discussion on potential reasonable alternatives to the NPS (Section 2.4)? Should any further alternative scenarios be considered? Please support your suggestion with your reasoning.

1.5.4 A total of 41 responses to the initial Scoping Report were received from a range of bodies and individuals including: statutory consultees; the energy sector; water companies and other water sector representatives; local planning authorities; environmental groups; and individuals. Responses related to all aspects of the Scoping Report but particularly concerned:

- possible alternatives to the NPS in the context of a twin track approach and a focus on demand management;
- requests for additional baseline information and inclusion of further plans and programmes in Appendix B to the initial Scoping Report;

- the identification of additional key issues relevant to the NPS for inclusion in Table 3.3 of the initial Scoping Report;
- the scope of the AoS in terms of its geographic scope (with reference to the marine environment specifically) and the timescales for the appraisal;
- proposed amendments to the AoS objectives, guidance questions and illustrative guidance including in respect of: biodiversity and nature conservation (AoS Objective 1); human health (AoS Objective 3); water quantity (AoS Objective 6); flood risk and coastal change (AoS Objective 7); climatic factors (AoS Objective 10); cultural heritage (AoS Objective 13); and landscape and townscape (AoS Objective 14).

1.5.5 **Appendix D** contains a schedule of the consultation responses received on the initial AoS Scoping Report, Defra's response and the subsequent action taken and reflected in this Final Scoping Report.

1.5.6 It is intended that the draft NPS, and accompanying AoS Report, will be made available in 2018 in a full public and parliamentary consultation. Should trans-boundary effects be identified in the AoS of the draft NPS, comment will be sought from the EU member states that may be affected in a separate trans-boundary consultation.

1.6 Habitats Regulations Assessment

1.6.1 In accordance with Regulation 110 of The Conservation of Habitats and Species Regulations 2017 ('the Habitats Regulations') which applies Regulations 105[20], there is a need for Defra to consider whether the NPS is likely to have a significant effect on any specified European sites. Such sites include Special Areas of Conservation (SACs), designated under Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, and Special Protection Areas (SPAs), designated under Council Directive 2009/147/EC on the Conservation of Wild Birds. Ramsar Sites (designated under the 1976 Ramsar Convention) are not European sites but under UK planning policy are given the same level of protection[21]. If this screening were to show that such effects were likely, Defra would then undertake an appropriate assessment of the implications for these sites.

1.6.2 A HRA Methodology Report[22] detailing the approach to the HRA of the NPS was prepared and issued for consultation concurrent with the initial Scoping Report. Following a review of responses, this has been revised and a finalised methodology produced.

1.6.3 The HRA will be reported separately from the AoS. However, the conclusions of the HRA will help to inform the appraisal process, particularly in respect of the potential effects of the draft NPS on biodiversity.

1.7 How Information in this AoS Scoping Report Meets the Requirements of the SEA Directive

1.7.1 To meet the requirements of the SEA Directive and its transposing regulations, information on the following is required in this AoS Scoping Report:

[20] Regulation 105(1) states: "*Where a land use plan—*
(a)is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and
(b)is not directly connected with or necessary to the management of the site,
the plan-making authority for that plan must, before the plan is given effect, make an appropriate assessment of the implications for the site in view of that site's conservation objectives".
[21] Paragraph 118 of the National Planning Policy Framework (DCLG, 2012) states that listed or proposed Ramsar sites should be given the same protection as European sites
[22] Amec Foster Wheeler (2017) *Habitats Regulations Assessment of the National Policy Statement for Water Resources: Methodology Report*.

- the current state of the environment and its likely evolution without the implementation of the plan or programme;
- the environmental characteristics of areas likely to be significantly affected;
- any relevant existing environmental problems, especially in terms of nature conservation; and
- the relationship of proposals with other relevant plans and programmes.

1.7.2 **Table 1.1** details how these requirements have been addressed in this Scoping Report. A quality assurance checklist is contained at **Appendix A**.

Table 1.1 SEA Information Requirements Addressed within this AoS Scoping Report

SEA Information Requirements	AoS Scoping Report Reference
Schedule 2 of the SEA Regulations (SI 2004 No. 1633) sets out the following information requirements:	*The following sections of this Scoping Report address the requirements of the SEA Regulations:*
1. An outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes.	This requirement is addressed in Section 2 (The Draft NPS for Water Resources), Section 3 (Context and Baseline) and Appendix B. It will be further reported on in the AoS Report.
2. The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.	This requirement is addressed in Appendix B. It will be further reported on in the AoS Report.
3. The environmental characteristics of areas likely to be significantly affected.	This requirement is addressed in Appendix B. It will be further reported on in the AoS Report.
4. Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Council Directive 79/409/EEC on the conservation of wild birds[23] and Council Directive 92/43/EEC (the Habitats Directive[24]).	This requirement is addressed in Section 3 (Context and Baseline) and Appendix B. It will be further reported on in the AoS Report and in a separate HRA Screening Report.
5. 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.	This requirement is addressed in Section 3 (Context and Baseline) and Appendix B. It will be further reported on in the AoS Report.
6. The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, on issues such as: biodiversity; population; human health; fauna; flora; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; and the inter-relationship between the issues referred to in sub-paragraphs (a) to (l).	A provisional indication of the likely effects of the draft NPS has been provided in Section 2 (The Draft NPS for Water Resources) to provide direction about which environmental (and socio-economic) issues need to be considered. However, it is the purpose of Stage B of the AoS process to assess the potential effects of the draft NPS and reasonable alternatives. In consequence, more specific detail on the likely significant effects of the draft NPS will be provided in the AoS Report.
7. 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.	It is not appropriate to consider this requirement at this stage in the appraisal process. However, in broad terms the 'mitigation hierarchy' will be applied where practicable and results reported in the AoS Report. Examples of these types of measure are included in Section 4 (Draft Appraisal Framework).
8. 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.	This requirement is addressed in Section 2 (The Draft NPS for Water Resources) and Section 3 (Context and Baseline) and will be further reported on in the AoS Report.
9. A description of the measures envisaged concerning monitoring of environmental conditions	As detailed at point 7 above, it is not appropriate to consider this requirement at this stage. However, where practicable, monitoring regimes will be identified through the AoS Report.
10. A non-technical summary of the information provided under paragraphs 1 to 9.	A Non-Technical Summary is provided with this Scoping Report. A Non-Technical Summary will also accompany the AoS Report.

[23] Council Directive 79/409/EEC on the conservation of wild birds. The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. In the UK, the provisions of the Birds Directive are implemented through the Wildlife & Countryside Act 1981, 1989 c.69 (as amended) and The Conservation (Natural Habitats, &c.) Regulations 1994, S.I 2716, (as amended).

[24] Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive). In the UK the Directive has been transposed into national laws by means of the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended) (see footnote 22) (Habitats Regulations). The 'Habitats Regulations' apply to the UK land area and its territorial sea (to 12 nautical miles from the coast), and are supported by government policy guidance.

1.8 Scoping Report Structure

1.8.1 This Scoping Report is structured as follows:

- **Non-Technical Summary** - Provides a summary of the Scoping Report, including information on both the draft NPS and the proposed approach to the appraisal.
- **Section 1: Introduction** - Includes a summary of the draft NPS, an overview of the scope, report contents and a summary of consultation on the initial Scoping Report.
- **Section 2: The Draft NPS for Water Resources** - Describes the background to the draft NPS, its objectives and regulatory context together with an overview of the potential structure and contents. This section also sets out the approach to identifying alternatives that will be considered and assessed as part of the AoS.
- **Section 3: Context and Baseline** - Provides details of the review of international, European, UK and national (England, Scotland and Wales) plans and programmes and baseline conditions for the environmental categories required by the SEA Directive and additional socio-economic topics. It summarises the key sustainability issues relevant to water resources. Further detailed information is contained at **Appendix B.**
- **Section 4: Appraisal Framework** - Outlines the scope of the appraisal before identifying the AoS objectives and guide questions. Details are also provided with respect to how the appraisal will be undertaken including in relation to the consideration of indirect, synergistic and cumulative effects.
- **Section 5: Summary and Next Steps** - Details the next steps in the assessment process including a draft AoS Report structure.
- **Appendix A**: **Quality Assurance Checklist.**
- **Appendix B: Baseline and Contextual Information** - Sets out the collated contextual and baseline information, on a topic-by-topic basis, for each of the appraisal topics. For each topic, this Appendix presents the following information (consistent with the SEA Directive reporting requirements):
  - Introduction - provides an overview of the topic;
  - Summary of Plans and Programmes - provides an overview of the policy context in which the NPS sits;
  - Overview of the Baseline - provides an overview of the baseline and the key topic specific baseline factors which will need to be considered as part of the appraisal. This includes the key environmental characteristics of each topic or area most likely to be significantly affected;
  - Existing Problems - highlights some of the existing pressures on the topic area, particularly in relation to the NPS;
  - Likely Evolution of the Baseline - provides an overview of how the baseline is likely to change in the absence of the NPS, an understanding of this is key to understanding the effects of the NPS on the topic area;
  - Assessing Significance - outlines the objectives and guide questions related to the topic area which have been identified for use in the appraisal of the effects of the draft NPS alongside guidance that will be utilised during the appraisal to help determine the relative significance of potential effects on the objectives.
- **Appendix C: Definitions of Significance** – Details the thresholds that will be used to steer judgements made in the appraisal process.
- **Appendix D: Schedule of Consultation Responses** – Details the consultation responses received on the initial Scoping Report.

2. The Draft National Policy Statement for Water Resources

2.1 Introduction

2.1.1 As detailed in **Section 1**, the Government will prepare an NPS for nationally significance water resources infrastructure and this work is being led by Defra.

2.1.2 This section provides further detail in respect of the planning context for nationally significant infrastructure projects (**Section 2.2**) and the scope and likely contents of the draft NPS (**Section 2.3**). It also sets out the approach to the identification of reasonable alternatives to the NPS that could be considered during the appraisal process (**Section 2.4**).

2.2 Nationally Significant Infrastructure Projects

Legislative and Consenting Background

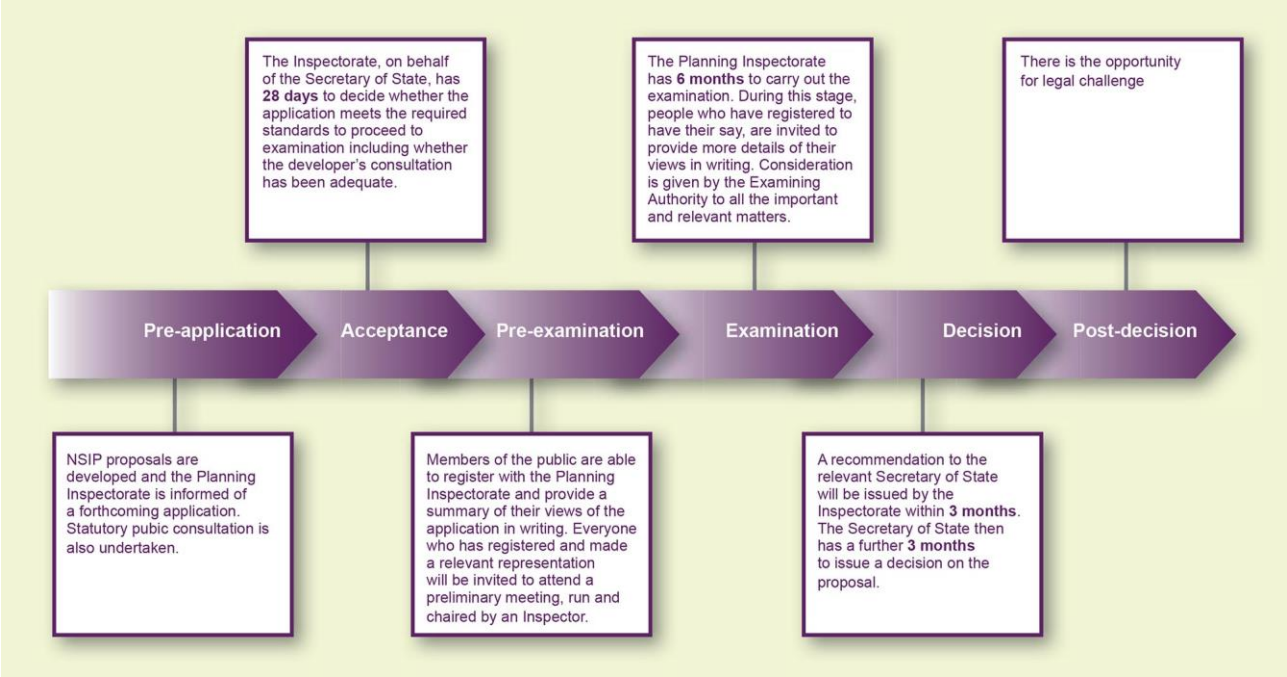
2.2.1 The Planning Act 2008 introduced a procedure to streamline the decision-making process for nationally significant infrastructure projects. Under the Act, a developer wishing to construct a nationally significant infrastructure project must first apply for development consent. All development consent order applications which may be made pursuant to the NPS, once designated, will be subject to the requirements of the planning system under the Planning Act 2008. As part of this process, the developer should consider whether the proposed nationally significant infrastructure project is considered to be an Environmental Impact Assessment[25] development under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the Environmental Impact Assessment Regulations). Similarly, the applicant should consider the potential effects of the proposed development on protected habitats through consideration of requirements of the Conservation of Habitats and Species Regulations 2017[26].

2.2.2 For such projects, the relevant Secretary of State will appoint an 'Examining Authority' to examine the application. The Examining Authority will be from the Planning Inspectorate, and will be either a single Inspector or a panel of three or more Inspectors. Once the examination has been concluded, the Examining Authority will make a recommendation to the Secretary of State, who will make the decision on whether to grant or to refuse consent.

2.2.3 There are six key stages in the development consent application process for nationally significant infrastructure projects and these are shown in **Figure 2.1**.

[25] Planning Inspectorate (2015) *Preliminary Environmental Information, Screening and Scoping: Advice note Seven: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping*.
[26] Planning Inspectorate (2015) *Habitats Regulations Assessment: Advice note ten: Habitats Regulations Assessment relevant to nationally significant infrastructure projects*.

Figure 2.1 The Development Consent Process for Nationally Significant Infrastructure Projects



2.2.4 Part 3 of the Planning Act 2008 lists the projects that are to be determined as nationally significant infrastructure projects.

2.2.5 In addition to development consent under the Planning Act 2008, a developer will also need permits from the environmental regulator before constructing a nationally significant infrastructure project. In England, the Environment Agency is responsible for environmental protection under the Environmental Permitting (England and Wales) Regulations 2016. There are separate environmental regulators in other parts of the UK. The Environment Agency will therefore be responsible for regulating the environmental aspects of developing water resources infrastructure (for example, regulating the impacts of any changes to local hydrological regimes as a result of the proposed infrastructure).

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2.2.6 NPSs set out the criteria by which applications for nationally significant infrastructure projects within their scope are determined. They include the Government's objectives for the development of nationally significant infrastructure in a particular sector and set out:

- how this will contribute to sustainable development;
- how these objectives have been integrated with other Government policies;
- how actual and projected capacity and demand have been taken into account;
- relevant issues in relation to safety or technology;
- circumstances where it would be particularly important to address the adverse impacts of development; and
- specific locations, where appropriate, in order to provide a clear framework for investment and planning decisions.

2.2.7 They also include any other policies or circumstances that Ministers consider should be taken into account in decisions on infrastructure development.

2.2.8 NPSs undergo a process of public consultation and parliamentary scrutiny before being designated (i.e. published). They provide the framework within which Inspectors make their recommendations to the Secretary of State.

2.3 Possible Purpose, Scope and Contents of the National Policy Statement for Water Resources

Purpose of the National Policy Statement for Water Resources

2.3.1 As detailed in **Section 1.3**, the NPS for Water Resources will set out the need for nationally significant infrastructure projects related to water resources, and the Government's policies to deliver them. It will be used as the primary basis for the examination by the Examining Authority, and decisions by the Secretary of State, on development consent order applications for water resources infrastructure in England that falls within the definition of a nationally significant infrastructure project as defined in the Planning Act 2008 (subject to any future amendments). If circumstances were to arise requiring planning consideration of nationally significant water resources infrastructure elsewhere in the UK, planning decisions and environmental assessments would be pursued through the relevant, devolved planning system.

2.3.2 The NPS is also intended to work alongside the statutory water resources planning process and will inform water company business plans by clearly describing the case for water infrastructure, in turn providing improved clarity and confidence to the delivery phase of any preferred large supply schemes.

2.3.3 Defra has identified the following vision and objectives for the NPS:

"*The Government's vision is for a water industry that works for everyone; one that provides resilient services now and in the future at a price that business and household customers can afford.*

As part of this, the Government will support the delivery of nationally significant water resource supply infrastructure that:

1. *secures long-term resilience to the impacts of drought and climate change;*
2. *supports both population growth and economic growth across the country;*
3. *supports the achievement of sustainability goals and enhancing the environment; and*
4. *offers best value for customers so that water needs can be met in an affordable way both now and in the future."*

2.3.4 Development of the draft NPS is being guided by the following three high level principles:

- Principle 1: The NPS will set out the need for water infrastructure as part of a 'twin track' approach to managing water resources.
- Principle 2: The NPS will reinforce and make clear the role of water companies' WRMPs in identifying the most appropriate water resources schemes, including new water resources infrastructure.
- Principle 3: The NPS will reiterate the importance of developing and designing water resources schemes that meet the government's objective to enhance the environment.

Infrastructure to be Covered by the National Policy Statement

2.3.5 The infrastructure to be covered by the NPS will reflect the definitions for nationally significant infrastructure that are related to water as currently set out in Sections of 27 and 28 of the Planning Act 2008. These include:

- the development of dams or reservoirs where they are constructed in England by one or more water undertakers and have a capacity in excess of 10 million cubic metres of water;

- the alteration of dams or reservoirs where they are located in England, altered by one or more water undertakers and result in an increase in capacity in excess of 10 million cubic metres of water;
- the transfer of water resources, where the development is carried out in England by one or more water undertakers, is in excess of 100 million cubic metres of water per year, does not relate to the transfer of drinking water and will enable the transfer of water resources:
  - between river basins in England,
  - between water undertakers' areas in England, or
  - between a river basin in England and a water undertaker's area in England.

2.3.6 As set out in **Section 1.3**, alongside the development of the NPS, the Government is reviewing the Planning Act 2008 definitions of the types of water supply infrastructure that are classed as 'nationally significant' in order to ensure that the right type and scale of projects are included to address the water scarcity challenge. Consultation on proposals to amend these thresholds took place between 13th November and 22nd December 2017 and the responses received are currently being considered by Defra.

Scope of the National Policy Statement

2.3.7 The NPS, once designated, will provide the framework for decision making on development consent order applications for the construction of nationally significant infrastructure related to water resources in England. The NPS is likely to be non-site specific and will present the evidence base and identify how new strategic infrastructure contributes towards meeting Government objectives. It will also provide planning policy guidance against which development consent order applications will be examined.

Indicative Contents of the National Policy Statement

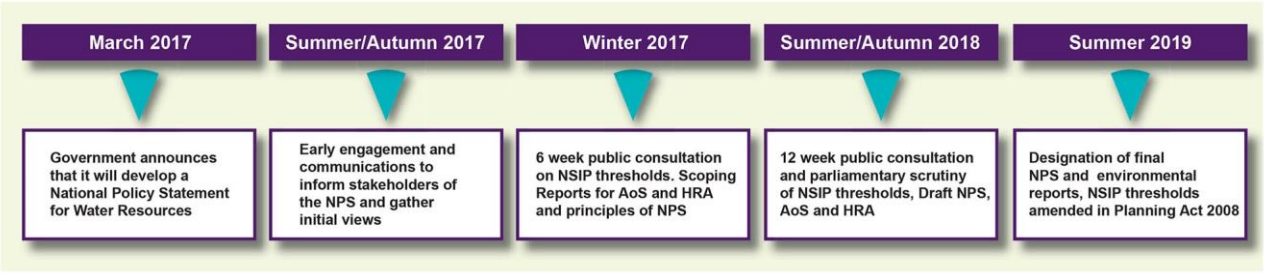
2.3.8 The NPS is likely to contain information concerning:

- the policy context for water resources infrastructure;
- the need for water resources infrastructure;
- development principles including criteria for good design; and
- generic impacts and siting considerations, including generic mitigation measures.

Preparation of the National Policy Statement

2.3.9 The key stages and indicative timetable for preparation of the NPS are set out in **Figure 2.2**. Public consultation on the principles for the NPS (and nationally significant infrastructure project thresholds) took place concurrently with consultation on the initial Scoping Report. The responses to this consultation have been considered by Defra and will help guide the development of the draft NPS; it is anticipated that the draft NPS will be subject to public consultation later in 2018. Taking into account the responses received to this consultation, any new evidence and assessment, Defra will then finalise the NPS. It is currently expected that designation of the NPS will take place by summer 2019.

Figure 2.2 Indicative Timetable for the Preparation of the National Policy Statement



AOS=Assessment of sustainability, **HRA**=Habitats regulation assessment, **NSIP**=Nationally significant infrastructure project, **NPS**=National policy statement

2.4 Reasonable Alternatives to the Draft National Policy Statement for Water Resources

Overview

2.4.1 Article 5(1) of the SEA Directive requires the identification, description and evaluation of "*the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives [our emphasis] taking into account the objectives and the geographical scope of the plan or programme*". Information to be provided includes "*an outline of the reasons for selecting the alternatives dealt with*" (Annex I (h)).

2.4.2 The European Commission guidance[27] on the SEA Directive discusses possible interpretations of handling 'reasonable alternatives' as required by article 5(1). It states that "*The alternatives chosen should be realistic. Part of the reason for studying alternatives is to find ways of reducing or avoiding the significant adverse effects of the proposed plan or programme*".

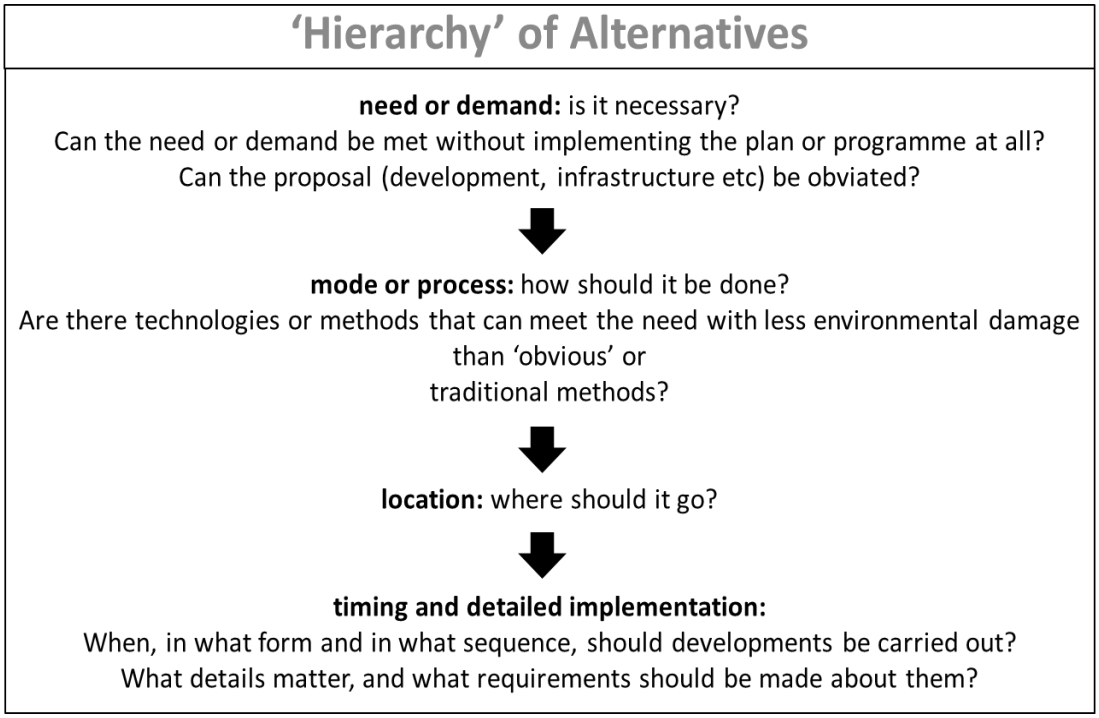
2.4.3 Department for Communities and Local Government's (DCLG) guidance[28] on the issue of alternatives within an emerging NPS is that:

"*The accompanying Appraisal of Sustainability should support this by considering the implications of the alternatives to building new infrastructure. If some of the possible alternatives go against established Government policy, then consider the scope for considering policy alternatives within the AoS without reopening settled policy*".

2.4.4 The Office of the Deputy Prime Minister's SEA guidance[29] includes a 'hierarchy' of alternatives (see **Figure 2.3**).

[27] European Commission (2001*) Implementation Of Directive 2001/42 On The Assessment Of The Effects Of Certain Plans And Programmes On The Environment.* Available from http://ec.europa.eu/environment/archives/eia/pdf/030923_sea_guidance.pdf [Accessed August 2017]
[28] DCLG (2013) *How to prepare a National Policy Statement – A High Level Advice Note for Departments' Department for Communities and Local Government Aug 2013*.
[29] ODMP (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*. Available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf [Accessed August 2017].

Figure 2.3 Hierarchy of Alternatives



2.4.5 Consideration of the reasonable alternatives for the NPS should take into account the hierarchy of alternatives. The following sets out provisional thinking on the application of the questions to the NPS for Water Resources and explores some of the factors that will be considered in developing the reasonable alternatives.

2.4.6 **With regard to the first question of is it necessary** (whether nationally significant water resources infrastructure is necessary), the Government has concluded that a 'twin track' approach to meeting future water resource needs is required, that utilises both demand management and regionally and nationally significant new water resources infrastructure. The NPS will establish the need for new nationally significant infrastructure in line with the Government's stated objectives (see **Section 2.3**) and will detail the evidence base for this conclusion. Ofwat and water companies have also identified a need for strategic water resources infrastructure in conjunction with optimising demand management and improved local schemes. As it is the Government's view that there is a need for nationally significant water resources infrastructure, the question of whether this infrastructure is necessary is not considered likely to be a relevant or feasible alternative.

2.4.7 **A second aspect of the first question of whether it is necessary** is whether the NPS is required. Whilst it is the view of Government that an NPS would reduce uncertainty in the planning process and facilitate the timely delivery of nationally significant water resources infrastructure, it is still considered likely to be useful (in order to provide a comparator) to assess the socio-economic and environmental effects of proceeding with no NPS. In such circumstances, for nationally significant water resources infrastructure projects, a development consent order would still be required under the Planning Act 2008; however, its development and subsequent examination would be undertaken without the explicit guidance of an NPS.

2.4.8 **With regard to the second question of how it should be done**, this assumes that the NPS will be developed and that there are a number of alternatives that could be considered concerning its scope. These could include (but should not be viewed as being limited to):

- amending infrastructure types in the Planning Act 2008 and further specifying criteria for these infrastructure types in the NPS (the least flexible alternative);
- specifying criteria for types of infrastructure in the Planning Act 2008 which the NPS will refer to; and

- setting out generic nationally significant water resources infrastructure criteria in the Planning Act 2008 which are not specific to any type of infrastructure but which consider the volume thresholds a scheme would need to meet to be nationally significant (the most flexible alternative).

2.4.9 These alternatives are currently being explored as part of the review of thresholds for nationally significant water resources infrastructure.

2.4.10 **The third question within the hierarchy, 'where should it go?**' requires consideration specifically of the alternatives to the proposed non-site specific NPS, which could include:

- an NPS that is non-site specific but applies location criteria (for example, criteria based on excluding areas of specific environmental concern such as nationally/internationally designated nature conservation sites, national landscape designations or World Heritage Sites);
- a location-specific NPS that identifies candidate sites for nationally significant water resources infrastructure. There are examples of other NPSs taking a site specific approach; for example, the nuclear generation NPS (EN-6) identifies potentially suitable sites for the deployment of new nuclear power stations whilst the draft Airports NPS identifies Heathrow as the preferred location for new runway capacity and infrastructure in south east England; and
- a location-specific NPS that sets thresholds for nationally significant water resources infrastructure based on the scale of the supply demand deficit forecast by a water company and for which demand management and local supply options would be insufficient.

2.4.11 In all of the above instances, the approach would need to relate to the projects identified in the WRMPs for companies operating wholly or mainly in England.

2.4.12 **With regard to the fourth question, the timing and detailed form of implementation**, as these are issues that would be addressed by a developer in an application for development consent, they are considered outside the scope of a national, long-term assessment.

2.4.13 The application of the hierarchy of alternatives to the NPS for Water Resources above outlines preliminary views of the alternatives that could be considered as the NPS is developed. They are not definitive or intended to prevent other options coming forward. In this regard, consultation responses received to the initial Scoping Report provided some suggestions for additional reasonable alternatives and these will be considered in the AoS.

3. Context and Baseline

3.1 Introduction

3.1.1 This section, alongside **Appendix B**, provides an overview of the context and baseline information that has informed the development of the appraisal framework (see **Section 4**). It includes details of the review of other relevant plans and programmes (**Section 3.2**) and baseline information (**Section 3.3**) and culminates in the identification of key issues to be considered by the draft NPS and AoS (**Section 3.4**).

3.1.2 Baseline information and relevant plans and programmes have been considered for England, Wales and Scotland. The proposed geographical scope of the context and baseline has been arrived at through consideration of the fact that the hydrological systems of each country cross national borders.

3.1.3 Annex I of the SEA Directive requires that the subsequent appraisal (to be contained in the AoS Report) should include information on 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 inter-relationship between the issues referred to*".

3.1.4 These topics have formed the basis for the collection and analysis of contextual and baseline information alongside additional socio-economic topics. **Table 3.1** presents how the topics in this report are consistent with the SEA Directive requirements. Whilst information is presented by topic, the appraisal of the draft NPS will consider linkages between the topics as appropriate.

Table 3.1 Topics Considered in this Scoping Report

Annex I SEA Directive Effects	**Topics Considered in this AoS Scoping Report**
Biodiversity, Flora and Fauna	Biodiversity and Nature Conservation
Population	Population, Economics and Skills
Human Health	Human Health
Soil	Land Use, Geology and Soils
Water	Water Quality
	Water Quantity
Air	Air Quality
	Noise
Climatic Factors	Climatic Factors (including climate change mitigation and adaptation and energy)
	Flood Risk and Coastal Change
Material Assets	Waste and Resources
	Traffic and Transport

Annex I SEA Directive Effects	Topics Considered in this AoS Scoping Report
Cultural Heritage, including architectural and archaeological heritage	Cultural Heritage (including architectural and archaeological heritage)
Landscape	Landscape and Townscape

3.1.5 Consistent with the requirements of Annex 1 (b), (c) and (d) of the SEA Directive, **Appendix B** sets out the collated contextual and baseline information, on a topic-by-topic basis, for each of the 14 AoS topics above, structured as follows:

- I**ntroduction**: provides an overview and definition of the topic.
- **Review of Plans and Programmes**: provides an overview of the international/European, UK and national (England, Scotland and Wales) policy context in which the draft NPS sits.
- **Overview of the Baseline**: summarises the baseline for each of the topic areas at the UK and national (England, Scotland and Wales) level. This includes the key environmental characteristics of each topic or area most likely to be significantly affected.
- **Summary of Existing Problems Relevant to Water Resources**: identifies the key topic specific issues that will need to be considered as part of the appraisal.
- **Likely Evolution of the Baseline**: describes the likely evolution of baseline conditions without the implementation of the draft NPS, an understanding of this is key to determining the effects of the NPS on the topic area.
- **Assessing Significance**: outlines the objectives and guide questions related to the topic area which have been identified for use in the appraisal of the effects of the draft NPS alongside guidance that will be utilised during the appraisal to help determine the relative significance of potential effects on the objectives.

3.2 Review of Plans and Programmes

3.2.1 One of the first steps in undertaking the AoS (and to meet the requirements of the SEA Directive) is to identify and review other relevant plans, programmes, policies and strategies (hereafter referred to as 'plans and programmes') that could have an effect on the draft NPS. These may be plans and programmes at an international/European, UK or national level, as relevant to the scope of the NPS. For the purposes of this AoS, it is assumed that the broad objectives of extant European Union (EU) legislation will be maintained once the UK has withdrawn from the EU and that similar or equivalent environmental protections will remain in place.

3.2.2 The initial AoS Scoping Report included a review of plans and programmes, consistent with the requirements of the SEA Directive, and which informed the development of the appraisal framework. This review has been updated as part of the preparation of this Final Scoping Report to take into account consultation responses to the initial Scoping Report.

3.2.3 The summary within each topic section in **Appendix B** identifies the relationships between the draft NPS and these other documents; i.e. how the NPS could be affected by the other plans' and programmes' aims, objectives and/or targets, or how it could contribute to the achievement of any environmental and sustainability objectives and targets set out in these plans and programmes.

3.2.4 The review of plans and programmes has also informed the environmental and socio-economic baseline and helped determine the key sustainability issues for the NPS and AoS. It will also provide the policy context for the appraisal of the draft NPS.

3.2.5 From the review of these plans and programmes, a number of key environmental protection and socio-economic objectives have been identified. These are summarised in **Table 3.2**, along with

an indication of where the policy objectives are reflected in the AoS objectives (discussed further in **Section 4**). The key objectives have been structured around the AoS topics set out in **Table 3.1**.

Table 3.2 Summary of Key Objectives Identified from the Review of Plans and Programmes Relevant to the AoS

Topic	Summary Objectives from Other Plans and Programmes	AoS Objectives Link (see Section 4)
1. Biodiversity and Nature Conservation	**International:** • to protect international/European protected wildlife areas (including Special Areas of Conservation, Special Protection Areas and Ramsar sites); • to contribute to the conservation of global biodiversity; • to ensure the conservation and enhancement of natural heritage including wetland conservation; • to ensure the conservation of biodiversity in order to contribute to the health and wellbeing of the population; • to identify where operators are financially liable for threats of or actual damage to the environment under the "polluter pays" principle; and • to anticipate, prevent and act on causes of significant reduction or loss of biodiversity. **UK, England, Scotland and Wales:** • to conserve and enhance biological diversity within the UK; • to ensure that the quality of habitats and biodiversity is enhanced or at least conserved and take account of key priority habitats and species in decision making; • to protect the network of nationally protected wildlife areas (including Sites of Special Scientific Interest); • to create an ecological network which is resilient to changing pressures; • to ensure new developments contribute to a net gain in the value of nature; and • to safeguard vulnerable non-renewable resources for future generations.	Objective 1: Biodiversity and Nature Conservation Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity Objective 7: Flood Risk and Coastal Change Objective 10: Climatic Factors
2. Population, Economics and Skills	**International:** • to achieve economic development and reduction of inequalities whilst adhering to the principles of social and environmental justice and sustainable development; • to promote full employment, quality and productivity at work and promote inclusion by addressing disparities in access to labour markets; • to promote the economic development of disadvantaged areas within the European Union; • to grant public rights to information, public participation and access to justice; and • to undertake appropriate consultation with consultation bodies and the public. **UK, England, Scotland and Wales:** • to promote economy and efficiency in water infrastructure investment decisions and value to consumers; • to create strong, prosperous and sustainable communities; • to narrow the gap between deprived neighbourhoods and the rest of the UK; • to remove barriers to growth; • to develop and support successful, thriving, safer and inclusive urban and rural communities; • to support the transition to a low carbon economy; • to develop a culture of innovation and research and development; and	Objective 2: Population, Economics and Skills Objective 3: Human Health

Topic	Summary Objectives from Other Plans and Programmes	AoS Objectives Link (see Section 4)
	• to enhance educational attainment and skills.	
3. Human Health	**International:** • to ensure children have safe water and clean air; • to ensure that measures to improve the health and wellbeing of the population are appropriately supported; • to preserve, protect and improve the quality of the environment and to protect human health; • to promote good health throughout the lifespan of the population; • to reduce inequities in health; • to prevent critical health effects as a result of high levels of noise in and around dwellings; and • to avoid, prevent or reduce harmful effects including annoyance due to exposure to environmental noise. **UK, England, Scotland and Wales:** • to ensure a supply of wholesome water; • to reduce and where possible avoid the effects and causes of statutory nuisance and to comply with all relevant UK environmental legislation; • to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business; • to ensure noise reduction occurs where there may be adverse impacts of noise on human health; • to protect and enhance the quality of the environment, including the availability of green space; • to promote good health and good quality of life through the effective management of noise in the context of Government policy on sustainable development; and • to maintain and enhance public and worker safety.	Objective 2: Population, Economics and Skills Objective 3: Human Health
4. Land Use, Geology and Soils	**International:** • to protect soil on the basis of the principles of: preservation of soil functions; prevention of soil degradation (and mitigation of its effects); and restoration of degraded soils; • to take precautionary measures where soil function may be affected; • to identify areas at risk of erosion, organic matter decline, salinisation, compaction and landslides; and • to limit the introduction of dangerous substances into soils and to avoid accumulation in soil that would hamper soil functions and create a risk to human health and the environment. **UK, England, Scotland and Wales:** • to ensure contaminated land is identified and remediated where appropriate; • to protect and preserve the environment and guard against pollution to land; • to preserve, where possible, the best and most versatile agricultural land; • to promote more sustainable patterns of development; • to adopt a sustainable approach to land use though consideration of: economic development, social inclusion, environmental protection and prudent use of resources; • to promote development of previously developed land; • to protect and enhance geological conservation interests and soils; • to safeguard workable resources and ensure that an adequate and steady supply is available to meet the needs of the construction, energy and other sectors; and • to secure the sustainable restoration of sites to a relevant use after operation has ceased.	Objective 1: Biodiversity and Nature Conservation Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity
5. Water Quality	**International**:	Objective 1: Biodiversity and Nature Conservation

Topic	Summary Objectives from Other Plans and Programmes	AoS Objectives Link (see Section 4)
	• to ensure that there is no deterioration to the quality of freshwater and marine environments; • to ensure that the water and ecological quality of freshwater and marine environments is conserved and enhanced; • to ensure sustainable use of water resources and reduced pollution and physical impacts; • to protect the environment from the adverse effects of urban waste water discharges and discharges from industrial processes; • to prevent the pollution of groundwater; and • to protect the health of European water consumers. **UK, England, Scotland and Wales:** • to protect and enhance the water environment in a way that allows it to adjust flexibly to a changing climate; • to manage water resources sustainably without causing environmental damage; • to maintain and enhance water quality; • to maintain and enhance the quality of water sources; • to understand and manage diffuse pollution sources; and • to improve the quality of the UK water environment and the ecology which it supports.	Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity
6. Water Quantity	**International:** • to encourage the sustainable use of water resources and protect aquatic ecology, drinking water and bathing waters; • to facilitate the integrated management of both the coastal zone and river basin districts to ensure sustainable use and protection of resources; and • to encourage the uptake of sustainable drainage systems (SuDS). **UK, England, Scotland and Wales:** • to reduce pressure on the environment caused by water taken for human use; • to promote water use efficiency; • to protect vital water supply infrastructure; • to protect and enhance the water environment in a way that allows it to adjust flexibly to a changing climate; • to secure long term resilience of water supplies to the impacts of drought and climate change; and • to increase water efficiency throughout the cycle of abstraction, treatment, supply and use.	Objective 1: Biodiversity and Nature Conservation Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity
7. Flood Risk and Coastal Change	**International:** • to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity; and • to provide a consistent approach to managing flood risk across Europe. **UK, England, Scotland and Wales:** • to reduce the threat of flooding to people and their property; • to avoid inappropriate development in areas at risk of flooding; • to sustainably manage risks from flooding and coastal erosion; • to ensure that policies and decisions in coastal areas are based on an understanding of coastal change over time; • to enable an appropriate and consistent approach to marine planning across UK waters, and to ensure the sustainable use of marine resources and the strategic management of marine activities from renewable energy to nature conservation, fishing, recreation and tourism; and • to prevent new development from being put at risk from coastal change.	Objective 2: Population, Economics and Skills Objective 3: Human Health Objective 5: Water Quality Objective 6: Water Quantity Objective 7: Flood Risk and Coastal Change Objective 10: Climatic Factors

Topic	Summary Objectives from Other Plans and Programmes	AoS Objectives Link (see Section 4)
8. Air Quality	**International:** • to promote cleaner transport technologies and manage the demand for transport to prevent detrimental effects to human health from air pollution; • to ensure that air quality is enhanced or at least maintained and ensure that measures are adopted to support continued air quality standards; • to monitor and reduce trans-boundary atmospheric pollution; • to maintain air quality where it is good and improving; • to attain levels of air quality that do not give rise to significant negative impacts on, and risks to, human health and the environment; and • to reduce emissions from industrial processes. **UK, England, Scotland and Wales:** • to improve air quality and reduce the impact of air pollution on human health; • to improve air quality and reduce the impact of air pollution on biodiversity; and • to ensure new development is appropriate for its location and takes into account the effects of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution.	Objective 1: Biodiversity and Nature Conservation Objective 3:Human Health Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity Objective 8: Air Quality
9. Noise	**International:** • to ensure that measures to improve the health and wellbeing of the population are appropriately supported; • to preserve, protect and improve the quality of the environment and to protect human health; • to prevent critical health effects as a result of high levels of noise in and around dwellings; and • to avoid, prevent or reduce harmful effects including annoyance due to exposure to environmental noise. **UK, England, Scotland and Wales:** • to reduce, and where possible avoid, the effects and causes of statutory nuisance and to comply with all relevant UK environmental legislation; • to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business; and • to ensure noise reduction occurs where there may be adverse impacts of noise on human health.	Objective 1: Biodiversity and Nature Conservation Objective 2: Population, Economics and Skills Objective 3: Human Health Objective 9: Noise
10. Climatic Factors (including climate change and adaptation)	**International:** • to prevent “dangerous” human interference with the climate system, namely through reductions in the emissions of greenhouse gases; • to promote renewable energy sources; • to promote sustainable development with regards to energy development, efficiency and consumption, transportation, industrial development, terrestrial and marine resource development and land use; • to reduce emissions of carbon dioxide and combat the serious threat of climate change; • to enable Europe’s transition to a low-carbon economy and increase its energy security; and • to ensure that energy efficiency measures are put in place and, where possible, renewables are employed to contribute to appropriate climate change targets. **UK, England, Scotland and Wales:** • to improve carbon management and help the transition towards a low carbon economy;	Objective 1: Biodiversity and Nature Conservation Objective 2: Population, Economics and Skills Objective 3: Human Health Objective 5: Water Quality Objective 6: Water Quantity Objective 7: Flood Risk and Coastal Change Objective 8: Air Quality Objective 10: Climatic Factors Objective 12: Traffic and Transport

Topic	Summary Objectives from Other Plans and Programmes	AoS Objectives Link (see Section 4)
	• to promote climate change risk management and adaptation in all aspects of business to ensure future resilience for communities, businesses and the environment; • to pursue new development in places that are resilient to climate change and in ways that are consistent with social cohesion and inclusion; • to conserve and enhance biodiversity, recognising that the distribution of habitats and species will be affected by climate change; • to deliver flexibility through different climate change adaptation pathways; • to reduce energy consumption; and • to minimise detrimental effects on the climate from greenhouse gases and maximise resilience to climate change.	
11. Waste and Resources	**International:** • to adopt waste management principles such as the "polluter pays principle", the "waste hierarchy" and "circular economy"; • to protect human health and the environment against harmful effects caused by the collection, transport, treatment, storage and tipping of waste; • to help Europe become a recycling society that seeks to avoid waste and uses waste as a resource; • to ensure the prudent use of resources; and • to ensure there are effective defences against potential hazards so that individuals, society and the environment are protected now and in the future. **UK, England, Scotland and Wales:** • to decouple waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use; • to increase diversion from landfill of municipal and non-municipal waste and secure better integration of treatment for all waste; • to ensure waste is disposed of as near as possible to the place of production; • to ensure the layout and design of new development supports sustainable waste management; • to make the best use of resources currently in use, reducing as far as practicable the quantity of material used and waste generated, and using as much recycled and secondary material as possible, before securing the remainder of material needed through new primary extraction; • to safeguard workable resources and ensure that an adequate and steady supply is available to meet the needs of the construction, energy and other sectors; • to minimise the impacts of aggregate extraction on local communities, built and natural heritage, and the water environment; and • to place higher activity waste out of reach and therefore improve security.	Objective 1: Biodiversity and Nature Conservation Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity Objective 10: Climatic Factors Objective 11: Waste and Resources
12. Traffic and Transport	**International:** • to achieve a 60% cut in transport emissions by 2050 through: no more conventionally-fuelled cars in cities; 40% use of sustainable low carbon fuels in aviation; and a 50% shift of medium distance intercity passenger and freight journeys from road to rail and waterborne transport. **UK, England, Scotland and Wales:** • to encourage sustainable local travel and economic growth by making public transport and cycling and walking more attractive and effective, promoting lower carbon transport and tackling local road congestion; • to integrate planning and transport to promote more sustainable transport choices, promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling and to reduce the need to travel, especially by car;	Objective 1: Biodiversity and Nature Conservation Objective 2: Population, Economics and Skills Objective 3: Human Health Objective 8: Air Quality Objective 12: Traffic and Transport

Topic	Summary Objectives from Other Plans and Programmes	AoS Objectives Link (see Section 4)
	• to promote patterns of development which optimise the use of existing infrastructure, reduce the need to travel, provide safe and convenient opportunities for walking and cycling for both active travel and recreation, enable the integration of transport modes and facilitate freight movement by rail or water; and • to deliver national networks that meet long term needs, supporting a prosperous and competitive economy and improving overall quality of life, as part of a wider transport system.	
13. Cultural Heritage	**International:** • to identify, protect and preserve World Heritage Sites; • to protect and sustain the historic environment for the benefit of current and future generations; • to identify and protect important heritage features; and • to collect and disseminate scientific information on cultural and archaeological heritage to aid conservation and public awareness. **UK, England, Scotland and Wales:** • to protect listed buildings, scheduled monuments and buildings within conservation areas; • to protect and promote stewardship of the historic environment; • to promote positive planning and management to bring about sensible solutions to the treatment of sites with archaeological remains and to reduce the areas of potential conflict between development and preservation; • to protect heritage assets and their wider settings; and • to safeguard internationally and nationally-designated historically or culturally significant sites.	Objective 2: Population, Economics and Skills Objective 4: Land Use, Geology and Soils Objective 13: Cultural Heritage Objective 14: Landscape and Townscape
14. Landscape and Townscape	**International:** • to ensure that development is 'appropriate' particularly in relation to protected landscapes; and • to protect, manage and plan for landscape change throughout Europe. **UK, England, Scotland and Wales:** • to conserve and enhance nationally designated landscapes (Areas of Outstanding Natural Beauty and National Parks); • to maintain the character of the undeveloped coast, protecting and enhancing its distinctive landscapes, particularly in areas defined as Heritage Coast; • to provide public access to the countryside and promote sustainable farming and protection of wildlife; • to retain attractive landscapes, and enhance landscapes near to where people live; • to improve damaged and derelict land around towns; • to work within the framework of landscape to help shape future places and manage change everywhere; and • to retain land in agricultural, forestry and related uses.	Objective 1: Biodiversity and Nature Conservation Objective 2: Population, Economics and Skills Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 13: Cultural Heritage Objective 14: Landscape and Townscape

3.3 Analysis of the Baseline

3.3.1 An essential part of the SEA compliant AoS process is to identify the current state of the environment and its likely evolution under a 'business as usual' scenario. Only with sufficient knowledge of the existing baseline conditions can the likely significant effects of the draft NPS be identified and appraised. Compliance with the SEA Directive also requires that the actual effects of implementing the NPS on baseline conditions are monitored.

3.3.2 To inform the baseline analysis contained in **Appendix B**, information has been used from a variety of sources including, amongst others: Defra; the Department for Business, Energy and Industrial Strategy (BEIS); the Environment Agency; Natural England; Historic England; the Office

for National Statistics (ONS); Welsh Government; Natural Resources Wales (NRW); and the Scottish Environment Protection Agency (SEPA). Consultation responses received on the initial AoS Scoping Report have also been taken into account and **Appendix B** updated as appropriate in order to ensure that the baseline evidence is sufficiently robust to support the AoS the draft NPS.

3.3.3 As set out above, the analysis of the baseline and its likely evolution represents a 'business as usual' scenario in which an NPS for Water Resources is not designated. This is in order to provide the basis for the assessment of the draft NPS. The baseline contained in **Appendix B** is separate and distinct from the possible 'no NPS' reasonable alternative outlined in **Section 2** in which it is assumed that nationally significant water resource infrastructure would still come forward for development consent and implementation but without the explicit guidance of an NPS.

3.4 Key Issues Relevant to the Draft National Policy Statement for Water Resources

3.4.1 From the analysis of current and projected baseline conditions, a number of issues have been identified as being relevant to the draft NPS. These are summarised in **Table 3.3**. Against each topic, the reference to the AoS objectives indicates how these issues have been reflected within the appraisal framework (see **Section 4**).

Table 3.3 Key Issues Relevant to the NPS for Water Resources

Topic	Summary of Key Issues	AoS Objectives link (see Section 4)
1. Biodiversity and Nature Conservation	<u>Relevance to Water Resources Infrastructure</u> • The construction of water resources infrastructure can affect biodiversity and ecosystem resilience. Impacts may be direct (for example, the loss of, or damage to, habitats and species) or indirect (for example, disturbance due to noise and emissions to air associated with construction works). • The operation of water resources infrastructure can have a range of positive and negative impacts on habitats and species and wider ecosystem resilience due to, for example, changes in hydrology, changes in water chemistry and the spread of invasive non-native species. Water infrastructure can contribute positively to biodiversity, introducing new features that can provide opportunities for nature and wildlife in the medium to long term. • Discharges associated with the construction and operation of water resources infrastructure e.g desalination can adversely affect marine habitats. <u>Key Trends</u> • Special Areas of Conservation (SACs), Sites of Community Importance (SCIs), Special Protection Areas (SPAs) and Ramsar sites are important for biodiversity at the international level. The total extent of land and sea in the UK protected by national and international designations has increased from 10.8 million hectares in December 2010 to 17 million hectares at the end of July 2015, comprising 2.6 million hectares on land and 14.4 million hectares at sea. • Since 2005, the percentage of features or area of Areas/Sites of Special Scientific Interest (A/SSSIs) in favourable or recovering condition has increased from 67% to 84% in 2010 and to 94.3% in 2017. This change reflects improved management of sites, but may also be affected by a greater number of sites/features having been assessed over time. The majority of protected areas on land are A/SSSIs, so the condition indicator is not representative of marine sites. • The annual review of UK Biodiversity Indicators comprises 51 measures, of which 5 are not assessed in the long term and 8 are not assessed in the short term. Of the 46 long-term measures, 22 show an improvement, compared to 13 of the measures that were deteriorating. Of the 43 short term measures, 17 show an improvement, as compared to 10 in decline. Measures that improved or deteriorated in the short term have not	Objective 1: Biodiversity and Nature Conservation Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity Objective 7: Flood Risk and Coastal Change Objective 10: Climatic Factors

Topic	Summary of Key Issues	AoS Objectives link (see Section 4)
	necessarily continued to improve or deteriorate respectively in the long term. • The Joint Nature Conservation Committee's third review of the UK's SPA network has identified that whilst total numbers of breeding seabirds / waterbirds, and of non-breeding waterbirds, have increased, total numbers of breeding birds of prey have declined. • Birds in the UK are showing changes in abundance and distribution, predominantly moving northwards, in a way that is consistent with a changing climate. • Key pressures and risks in respect of biodiversity and nature conservation that are relevant include, inter-alia: o population growth; o habitat loss and fragmentation by development; o agricultural intensification and changes in agricultural management practices; o water abstraction, drainage or inappropriate river management; o lack of appropriate habitat management; o atmospheric pollution (acid precipitation, nitrogen deposition); o water pollution from both point and wider (diffuse) agricultural sources; o climate change and sea level rise; o recreational pressure and human disturbance; and o invasive and non-native species.	
2. Population, Economics and Skills	<u>Relevance to Water Resources Infrastructure</u> • The growing population within the UK will increase population densities and, in-turn, would be expected increase the pressure on water resources. • Long-term growth of the economy would be expected to lead to an increase in demand for water for commercial and industrial purposes. In turn, the risk of drought or interruptions to accessing water may pose a risk to economic productivity. • The construction of large scale water resources infrastructure in particular can represent a significant capital investment with the potential to create employment opportunities, deliver supply chain benefits and contribute to skills development in the working population. • The operation of water resources infrastructure can support long term socio-economic growth by ensuring sufficient supplies of water are made available to meet demand. • The affordability of water, protection of vulnerable customers and delivering best value for money is a key consideration in water company investment decisions. • The construction and operation of water resources infrastructure can adversely affect businesses and communities, principally due to disruption. • Consumer preference and consumer behaviour can have a strong influence on the demand for water resources. <u>Key Trends</u> • The current UK population is generally increasing and is projected to reach 74.3 million by 2039, a rise of 9.7 million people. Assumed net migration accounts for 51% of the projected increase, with natural increase (more births than deaths) accounting for the remaining 49% of growth. • The increase in population is anticipated to increase demand for water resources, particularly in London and the south east where not only is the population expected to increase most rapidly, these areas also experience the highest levels of water stress.	Objective 2: Population, Economics and Skills Objective 3: Human Health

Topic	Summary of Key Issues	AoS Objectives link (see Section 4)
	• The respective indicators and areas of multiple deprivation in England, Scotland and Wales are similar in that there continues to be deprivation in specific areas. This suggests that the affordability of water bills will remain an issue for certain communities in the UK. Research by the Consumer Council for Water in 2015 revealed that 12% of customers said they were struggling to pay their water bills and which disproportionately affects those on low incomes. This trend could be exacerbated by increasing living costs. • There are current uncertainties over future market conditions, following the UK's vote to leave the EU; however, as the Bank of England highlights, whilst financial conditions are currently stable, there are a number of possible exit scenarios from the EU that could test the resilience of the financial system.	
3. Human Health	<u>Relevance to Water Resources Infrastructure</u> • A reliable source of clean water is required for basic sanitation and to ensure human health. • The increase in the severity of drought, particularly in the south and east of England, poses a risk to health. • The detection and removal of chemicals in the drinking water supply, or in treated waste water returned to the environment, is an important aspect of maintaining a wholesome water supply. • Certain aspects of water resources infrastructure, such as reservoirs, can provide valuable recreational opportunities, both for water sports and for users of the associated land such as walkers and cyclists. • The construction and operation of water resources infrastructure can have adverse effects on human health for example, due to noise disturbance or loss open space. <u>Key Trends</u> • Health inequalities exist in many communities. This is due to a number of factors (and the interplay between them) including housing quality, economic wellbeing, employment, lifestyle, heredity factors, cultural and environmental factors. • Sustained exposure to elevated air pollution levels (including exposure to elevated concentrations of particulate matter, oxides of nitrogen and sulphur) contributes to respiratory illness. • Whilst relatively uncommon, the freshwater environment poses a number of health risks that can be easily exacerbated if the environment is poorly managed.	Objective 2: Population, Economics and Skills Objective 3: Human Health
4. Land Use, Geology and Soils	<u>Relevance to Water Resources Infrastructure</u> • Soils are a non-renewable resource vulnerable to changes in both hydrology and land use. • Hydrogeology will affect the distribution and movement of groundwater and surface water and is a key consideration for water resources planning. • The construction of water resources infrastructure can affect land use and soil. Impacts may be direct (for example, the loss of, or damage to, land and soil from new development) or indirect (for example, the location of new infrastructure affecting adjacent land uses). The appropriate management and control of soils and sediments that are excavated, moved and/or stored during construction is key to their long-term sustainability. <u>Key Trends</u> • The principal land uses in the UK are grassland, arable/horticulture and forestry. The 2011 UK National Ecosystem Assessment classifies 6.8% of the UK's land area as urban. • Approximately 1.6% of the land in the UK has been affected by contamination from industrial activity, although this is progressively being addressed as sites are redeveloped.	Objective 1: Biodiversity and Nature Conservation Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity

Topic	Summary of Key Issues	AoS Objectives link (see Section 4)
	• Disturbance of contaminated sites carries the risk of pollution pathways being created or re-opened for any existing ground contamination. • There is currently increasing pressure on rural and agricultural land from developers as urban areas expand. Future population growth leading to an increase in the need for housing and related urban development infrastructure will put more pressure on protected land including important geological sites. • Soils in England continue to be affected by human actions including intensive agriculture, historic levels of industrial pollution and urban development, making them vulnerable to erosion (by wind and water), compaction and loss of organic matter. • As the climate (including temperature and rainfall patterns) changes in the future, it is likely that soils have the potential to be further degraded, as a result of both the direct and indirect impacts of climate change.	
5. Water Quality (including surface and ground water quality and availability)	<u>Relevance to Water Resources Infrastructure</u> • Reliable access to water of good quality is an essential aspect of water resources planning. • The construction of water resources infrastructure would be expected to help ensure a robust future supply of good quality water in a changing climate. • The construction and operation of water resources infrastructure can have adverse impacts on water quality due to, for example, pollution. • The operation of water resources infrastructure can have both positive and negative impacts on water quality associated with, in particular, changes to water levels as a result of abstraction or discharge. This in-turn can affect the resilience of ecosystems. • The historic pollution of groundwater and nitrate concentrations present an issue for water resources infrastructure and ensuring drinking water standards are met. <u>Key Trends</u> • Coastal, estuarine and river water quality has improved since 1990. • Many waterbodies are subject to pressure from multiple sources including rural diffuse pollution, waste water discharges, acidification and urban diffuse pollution, that pose a risk to water quality. • The percentage of surface water bodies classified under the Water Framework Directive as having 'high' or 'good' surface water status between 2011 and 2016 decreased from 37% to 35%. There is a need to prevent the deterioration of Water Framework Directive waterbodies, achieve protected area objectives and achieve water body status objectives. • There is a legacy of groundwater pollution in the UK from historical mining and other industrial activities, although this is progressively being addressed as sites are remediated as part of site redevelopment. • The area of England at potential risk from agricultural nitrate pollution designated as Nitrate Vulnerable Zones (NVZs) remains largely unchanged from 2013 at about 58%. • Long term population and housing growth will increase pressure on surface water and groundwater quality. • Climate change is expected to have significant impacts on the water environment. Changes in the level of rainfall, the potential for increased droughts and the more intense storms are expected to pose long term challenges to the maintenance of water quality standards.	Objective 1: Biodiversity and Nature Conservation Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity
6. Water Quantity	<u>Relevance to Water Resources Infrastructure</u> • There is growing pressure on water resources in parts of the UK, particularly the south east and east of England.	Objective 1: Biodiversity and Nature Conservation Objective 3: Human Health

Topic	Summary of Key Issues	AoS Objectives link (see Section 4)
	• The construction of water resources infrastructure would be expected to increase the volume and resilience of the water supply. • The volume and flow of water significantly affects ecological functioning and the broader environment and can be affected (potentially positively or negatively) by water resources infrastructure through, for example, changes in supply and abstraction. <u>Key Trends</u> • There has been a downward trend in the amount of water that households are using each day (decreasing from 145.8 litres per person per day (lpd) in 2011/12 to 139.6 lpd in 2015/16). However, many water companies have forecast an increase in per capita consumption in their WRMPs. As such, there is an ongoing need to promote water efficiency measures (including metering). • Average actual leakage levels (mega litres per day) have remained broadly level for the last five years and further opportunities exist to reduce leakage rates including using a variety of innovative measures. • Demand for water is expected to increase from a growing population alongside industrial, agricultural and commercial pressures. Water resources in parts of the UK, particularly the south east and east of England are under growing pressure. • The risk of prolonged and more severe droughts is increasing, which in turn risks the increasing use of drought restrictions measures and consequent effects on the environment, people and the economy. • Climate change is expected to have significant impacts on the water environment. Areas where the underlying geology is generally impermeable are expected to be particularly affected as river flows would be likely to fall to low levels in drier periods and quickly react to rainfall episodes.	Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity
7. Flood Risk and Coastal Change	<u>Relevance to Water Resources Infrastructure</u> • Flood risk presents a significant planning issue in the development of major infrastructure projects, both in terms of the infrastructure itself being flooded during its construction and operational phases and the changes to flood risk resulting from the infrastructure, such as increased run-off raising the flood risk in downstream areas. • The operation of water resources infrastructure (e.g. reservoirs) may provide an opportunity to address flood risk issues (for example, by providing extra space for flood water storage). <u>Key Trends</u> • Some 15% of UK properties are at risk from flooding (surface water, river or coastal), although the degree of risk varies. • The UK Climate Change Risk Assessment 2017: Projections of future flood risk projected that the number of residential properties exposed to flooding more frequently than 1:75 years (on average) increases from 860,000 today to between 1.2 million and 1.7 million properties in 2080, depending on the scenario considered. • Sea levels are rising, with worst case scenarios of a 1.9m increase in sea level by 2100 (with up to 0.76m more likely). The south and east of England will experience the greatest effective increases, due to the effects of post-glacial rebalancing. • Many coastal sites (especially in the south and east of the England) are already prone to erosion, due to their underlying geology, coupled with rising sea levels and increased storm intensity. Shoreline Management Plans (in England and Wales) are taking a long term view of coastal change by identifying sustainable management approaches for up to the next 100 years.	Objective 2: Population, Economics and Skills Objective 3: Human Health Objective 5: Water Quality Objective 6: Water Quantity Objective 7: Flood Risk and Coastal Change Objective 10: Climatic Factors
8. Air Quality	<u>Relevance to Water Resources Infrastructure</u> • Air quality is sensitive to changes in traffic volume and emissions from other sources such as construction plant and machinery. Increases in transport movements and works associated with the construction and	Objective 1: Biodiversity and Nature Conservation Objective 3: Human Health

Topic	Summary of Key Issues	AoS Objectives link (see Section 4)
	operation of nationally significant water resources infrastructure could affect air quality, particularly in areas with existing air quality issues. For example, construction traffic can lead to increased nitrate deposition in sensitive habitats. Key Trends • Air quality has improved in the UK over the last sixty years as a result of the switch from coal to gas and electricity for heating of domestic and industrial premises, stricter controls on industrial emissions, higher standards for the composition of fuel and tighter regulations on emissions from motor vehicles. However, poor air quality, particularly due to vehicle emissions, remains an issue for community health and for biodiversity, especially in/downwind of urban areas and major transport networks. • A relatively large number of Air Quality Management Areas are located in urban areas, many of which have been designated due to high NO_2 and PM_{10} levels. • Historical emissions from the combustion of fossil fuels, particularly coal, have resulted in high levels of sulphur and nitrogen deposits in wetter parts of the UK such as northern England and the Welsh uplands. This has resulted in acidification and nitrogen eutrophication in some areas. Around a third of the UK land area is sensitive to acid deposition and a third to eutrophication[30].	Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity Objective 8: Air Quality
9. Noise	Relevance to Water Resources Infrastructure • The construction and operation of water resources infrastructure is likely to have noise impacts associated with vehicle movements and the operation of plant and machinery. Key Trends • Ambient noise levels are gradually rising in the UK as a result of an increasing, and increasingly mobile, population. This, in turn, increases the value of tranquil places. The cumulative impacts of noise on sensitive groups in local communities may create or exacerbate existing health issues. • There is a need to address noise issues in the UK's most affected communities.	Objective 1: Biodiversity and Nature Conservation Objective 2: Population, Economics and Skills Objective 3: Human Health Objective 9: Noise
10. Climatic Factors (including climate change and adaptation and flood risk)	Relevance to Water Resources Infrastructure • The availability of additional water supplies can increase the resilience of the existing water network and broader environment and support adaptation to the effects of climate change such as drought. • The construction and operation of large scale water resources infrastructure is likely to result in a net increase in energy use and greenhouse gas emissions, noting however that new infrastructure may replace older, less energy efficient infrastructure with higher emissions. • The energy requirements associated with different types of water resources infrastructure will vary with the scope for the use of renewable energy greater for certain infrastructure types than for others. • Water resources infrastructure may be vulnerable to the effects of climate change such as flood risk and coastal change. Key Trends • The input of greenhouse gasses (e.g. CO_2, CH_4, N_2O, O_3) resulting from fossil fuel usage, agriculture and other land uses have been linked with atmospheric warming and climate change. • Fossil fuel dependency remains high and is likely to remain so for some time.	Objective 1: Biodiversity and Nature Conservation Objective 2: Population, Economics and Skills Objective 3: Human Health Objective 5: Water Quality Objective 6: Water Quantity Objective 7: Flood Risk and Coastal Change Objective 8: Air Quality Objective 10: Climatic Factors Objective 12: Traffic and Transport

[30] Eutrophication is the enrichment of an ecosystem with chemical nutrients, typically compounds containing nitrogen and phosphorus, and whilst it can be natural, can also be man-made. Man-made eutrophication is commonly associated with elevated levels of nutrient enrichment arising from waste water treatment works discharges into rivers which can lead to algal blooms, decomposition or organic matter and deoxygenation of waters.

Topic	Summary of Key Issues	AoS Objectives link (see Section 4)
	• Legally binding EU and Government targets (the Climate Change Act 2008 and subsequent revisions, The Carbon Budgets Order 2009) seek to reduce emissions (based on a carbon budget of $MtCO_2$ equivalent) by 80% on 1990 levels by 2050. The Government has confirmed its intention within the Fifth Carbon Budget to reduce UK greenhouse gas emissions by 57% by 2030 relative to 1990 levels. • Changes in temperature and rainfall patterns, along with more frequent extreme weather events, create the situation where a greater degree of resilience will have to be incorporated into plans and proposals. • The UK's Climate Projections (UKCP09) show that the UK as a whole is likely to experience hotter, drier summers, warmer, wetter winters and rising sea levels, particularly in the south east of England. This is likely to have a significant effect on a range of environmental conditions, including the water environment. • Sensitive ecosystems and UK water resources are likely to come under increasing pressure as a result of climate change.	
11. Waste and Resources	<u>Relevance to Water Resources Infrastructure</u> • Large scale infrastructure projects have the potential to generate very high volumes of waste during both construction and operation. This waste should be managed in accordance with the waste hierarchy. • Large scale water resources infrastructure may require both short-term (i.e. during construction) and long-term (i.e. during operation) use of materials that are non-renewable or are imported. In doing, so schemes may have an environmental impact that extends outside the water company operational area. <u>Key Trends</u> • The total amount of municipal and commercial and industrial waste produced each year is likely to decrease in coming years. • The consumption of non-renewable sources will deplete overall stocks and result in a scarcity of resources for future generations.	Objective 1: Biodiversity and Nature Conservation Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 5: Water Quality Objective 6: Water Quantity Objective 10: Climatic Factors Objective 11: Waste and Resources
12. Traffic and Transport	<u>Relevance to Water Resources Infrastructure</u> • The construction and operation of large scale water resources infrastructure projects can result in increased traffic volumes and may involve pipeline works within/across roads which in-turn can lead to an increase in congestion on road networks and driver delay in addition to wide environmental impacts. <u>Key Trends</u> • There are areas of the UK's transport network which are stretched beyond their capacity at peak times. • Increasing levels of congestion are being experienced on the UK's road network. • There is a need for investment in transportation infrastructure to meet future demand and support economic growth. • There is a need to reduce the need to travel and facilitate a shift towards more sustainable modes of transport.	Objective 1: Biodiversity and Nature Conservation Objective 2: Population, Economics and Skills Objective 3: Human Health Objective 8: Air Quality Objective 12: Traffic and Transport Objective 14: Landscape and Townscape
13. Cultural Heritage	<u>Relevance to Water Resources Infrastructure</u> • Wetlands are fragile and vulnerable to subtle changes arising form development that can affect paleoenvironmental deposits and archaeological assets. Other aspects of the wider historic environment that could be affected include disruption to historically important water sources, the flooding or drying of deep archaeological sites and assets such as mills and bridges which can be affected by local water levels. • The construction and operation of large scale water resources infrastructure can have adverse impacts on the significance of heritage assets and archaeological remains both directly (through the loss of, or damage to, assets) or indirectly (through effects on setting).	Objective 2: Population, Economics and Skills Objective 4: Land Use, Geology and Soils Objective 13: Cultural Heritage Objective 14: Landscape and Townscape

Topic	Summary of Key Issues	AoS Objectives link (see Section 4)
	• Cultural landscape is a function of the interaction between human traditions, landscape and the environment and is a highly valued feature of some areas such as National Parks. • Existing water resources infrastructure including, for example, pumping stations and reservoirs can be historically important in their own right. <u>Key Trends</u> • The impact of climate change on wetland heritage is currently poorly understood. Measures introduced to protect and enhance natural environmental qualities (water quality or biodiversity) may also inadvertently threaten wetland heritage if not handled sensitively. • The UK has over 459,000 listed buildings, approximately 33,720 scheduled monuments, 2,416 historic parks and gardens, in excess of 10,259 conservation areas, 58 Protected Wrecks and 86 historic battlefields in England and Scotland (the Welsh inventory is not yet complete) and 28 World Heritage Sites. • The settings of some heritage assets are at risk from new development. • Scheduled monuments in rural areas are at risk from agricultural practices, land disturbance and unrestricted plant, scrub or tree growth.	
14. Landscape and Townscape	<u>Relevance to Water Resources Infrastructure</u> • The construction and operation of large scale water resources infrastructure can have adverse impacts on landscape character, visual amenity and tranquillity. Where works are located in areas of high landscape value (for example, National Parks), these effects could be significant. • Water infrastructure can also contribute positively to landscapes, introducing new features that can provide opportunities for nature and wildlife in the medium to long term. <u>Key Trends</u> • Some 10% of the UK is covered by National Parks, with other designations extending the area of landscape covered by a further 15%. • Key issues that could affect landscape could include the effects of climate change (and effects arising from the increased frequency and intensity of storm and flood events, increased likelihood of droughts and the anticipated increased in wildfires), changes to agricultural practices, new energy infrastructure and development pressures. • Noise and light pollution appears to have increased considerably over the last 30-40 years over much of the UK. The growth of urban areas, road networks and industrial areas are all major contributors to increased light levels.	Objective 1: Biodiversity and Nature Conservation Objective 2: Population, Economics and Skills Objective 3: Human Health Objective 4: Land Use, Geology and Soils Objective 13: Cultural Heritage Objective 14: Landscape and Townscape

3.5 Limitations of the Data

3.5.1 Data have generally been sourced from national bodies to enable comparison between baseline information for England, Scotland and Wales. However, in some cases baseline information collected by national bodies differs meaning that data are not directly comparable.

3.5.2 The information used has been sourced, so far as is possible, from the most recent datasets available utilising a wide range of authoritative and official sources. It is important to acknowledge that there are variable time lags between raw data collection and its publication. Consequently, at the time of this Scoping Report's publication, the baseline or predicted future trends may have varied from those described above and in **Appendix B**.

4. Appraisal Methodology

4.1 Introduction

4.1.1 This section describes the approach to undertaking the AoS of the draft NPS. It draws on the information presented in **Section 2**, **Section 3** and **Appendix B**, as well as the responses received to consultation on the initial AoS Scoping Report, to define the scope of the appraisal (in terms of what is to be appraised and the environmental and socio-economic issues to be considered) and develop the appraisal framework. The appraisal framework includes AoS objectives and guide questions supported by definitions of significance that will help the reader understand how the appraiser will determine the effects of the draft NPS against the objectives.

4.2 Scope of the Appraisal

Topics

4.2.1 The range of potential environmental and socio-economic effects under consideration has been informed primarily by the SEA Directive and through giving due consideration to the nature and scope of the potential significant environmental effects resulting from the draft NPS. As discussed in **Section 3.1**, Annex I of the SEA Directive and Schedule 2 of the SEA Regulations require that the assessment includes information on 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 inter-relationship between the issues referred to*". The scope of the draft NPS presented in **Section 2** and the outputs from the review of other relevant plans and programmes and baseline information have also been used to define the scope of the appraisal.

4.2.2 In **Table 4.1**, each of the 12 SEA topic areas listed above are considered in turn. All of these topic areas will be addressed in the AoS.

4.2.3 It should be noted that, whilst the appraisal of the draft NPS will be presented on a topic-by-topic basis, where there are linkages between the impacts and effects identified (for example, the potential impact of water resource extraction on water dependent habitats), these will be highlighted in the appraisal commentary as appropriate.

Table 4.1 Basis for Scoping out Topic Areas from the AoS

SEA Topic Area	Include in Draft Water Resources NPS AoS?	AoS Topic Area
Biodiversity	Yes	Biodiversity and Nature Conservation
Population	Yes	Population, Economics and Skills Traffic and Transport
Human Health	Yes	Human Health Air Quality Noise
Fauna	Yes	Biodiversity and Nature Conservation
Flora	Yes	Biodiversity and Nature Conservation
Soils	Yes	Land use, Geology and Soils

SEA Topic Area	Include in Draft Water Resources NPS AoS?	AoS Topic Area
Water	Yes	Water Quality Water Quantity
Air	Yes	Air Quality Traffic and Transport
Climatic Factors	Yes	Climatic Factors Flood Risk and Coastal Change
Material Assets	Yes	Waste and Resource Management
Cultural Heritage	Yes	Cultural Heritage
Landscape	Yes	Landscape and Townscape

Geographic Scope

4.2.4 The AoS will consider the potential effects of the draft NPS in England in addition to Scotland and Wales (including in the marine environment where relevant). This reflects the potential for water resource management schemes in England to impact upon adjacent areas in Scotland and Wales due to the transboundary nature of hydrological systems, such as rivers flowing across borders.

4.2.5 In order to comply with the transboundary consultation requirements of the SEA Directive (article 7) and SEA regulation 14 (1), consideration will also be given to whether any likely significant negative effect would arise and whether there would be an effect on other areas and states.

Timescales

4.2.6 When considering the timing of potential effects of the draft NPS, the appraisal will classify effects as 'short,' 'medium' or 'long-term.' This reflects an intention to capture the differences that could arise at different timescales, consistent with the requirements of Annex II (2) of the SEA Directive where the assessment of the effects should have regard to "*the probability, duration, frequency and reversibility of the effects*".

4.2.7 **Table 4.2** below summarises the timescales to be applied in the AoS. Water resources infrastructure of the scale to qualify as a nationally significant infrastructure project, such as reservoirs and dams, are typically built with the intention of lasting for significant periods (as long as correct maintenance procedures are followed). Long term effects are considered to be those over 30 years in duration. Beyond this, for example using a 50 year time horizon, effects are difficult to predict due to the level of uncertainty with regards to potential future technology.

Table 4.2 Duration of Short, Medium and Long Term

Estimated Length (years)	Duration
0-5 years	Short
6-30 years	Medium
Over 30 years	Long

4.3 Appraisal Framework

4.3.1 Establishing appropriate AoS objectives and guide questions is central to appraising the effects of the draft NPS. The AoS objectives and guide questions to be used in the appraisal of the draft NPS reflect the topics contained in Annex I of the SEA Directive and have been informed by:

- the review of plans and programmes and the associated environmental protection objectives identified (see **Section 3** and **Appendix B**);
- the baseline information and key sustainability issues (see **Section 3** and **Appendix B**);
- a broad understanding of the likely generic effects arising from the construction and operation of water resources infrastructure; and
- responses received to consultation on the initial AoS Scoping Report.

4.3.2 Broadly, the AoS objectives present the preferred environmental and socio-economic outcome, which typically involves minimising detrimental effects and enhancing positive effects. Associated guide questions have been developed for each AoS objective to provide a detailed framework against which the draft NPS can be appraised. The appraisal objectives and guide questions are presented in **Table 4.3**. For the avoidance of doubt, the AoS objectives are not the same as the proposed NPS objectives.

Table 4.3 Appraisal Objectives and Guide Questions

AoS Topic Area	AoS Objectives	Guide Questions	SEA Directive Topics
Biodiversity and Nature Conservation	1. To protect and enhance biodiversity (habitats, species and ecosystems) working within environmental capacities and limits.	• Will the Water Resources NPS protect and/or enhance internationally designated nature conservation sites e.g. Special Areas of Conservation, Special Protection Areas, Ancient Woodlands, Marine Protected Areas and Ramsar Sites? • Will the Water Resources NPS protect and/or enhance nationally designated nature conservation sites e.g. Sites of Special Scientific Interest? • Will the Water Resources NPS have an impact on Marine Conservation Zones? • Will the Water Resources NPS protect and/or enhance priority species and habitats or species of conservation concern? • Will the Water Resources NPS affect non-designated habitats and species including protected species? • Will the Water Resources NPS have an impact on fisheries? • Will the Water Resources NPS lead to a change in the ecological quality of habitats due to changes in groundwater/river water quality and/or quantity? • Will the Water Resources NPS affect the structure, function and resilience of natural systems (ecosystems)? • Will the Water Resources NPS affect the ecological network of protected areas and the connectivity between sites? • Will the Water Resources NPS lead to a net gain in biodiversity? • Will the Water Resources NPS affect public access to areas of wildlife interest? • Will the Water Resources NPS affect the spread or transfer of invasive non-native species?	Biodiversity, Flora and Fauna

AoS Topic Area	AoS Objectives	Guide Questions	SEA Directive Topics
Population, Economics and Skills	2. To support a strong, diverse and stable economy through the provision of nationally significant water resources infrastructure with opportunities to improve skills and employment, minimise disturbance to local communities and maximise positive social impacts.	• Will the Water Resources NPS help to ensure that sufficient water resources infrastructure is in place to meet increased demand associated with population growth and to support economic development? • Will the Water Resources NPS ensure that an affordable supply of water is maintained and that vulnerable customers are protected? • Will the Water Resources NPS promote economically efficient solutions that deliver best value for money? • Will the Water Resources NPS affect opportunities for investment in education and skills development? • Will the Water Resources NPS reduce the effects of drought restrictions on the economy? • Will the Water Resources NPS affect existing abstractors? • Will the Water Resources NPS affect the number or types of jobs available in local economies? • Will the Water Resources NPS help to improve the resilience of other national infrastructure? • Will the Water Resources NPS affect the social infrastructure and amenities available to local communities?	Population
Human Health	3. To ensure the protection and enhancement of human health and wellbeing.	• Will the Water Resources NPS adversely affect human health by resulting in increased nuisance and disruption (e.g. as a result of increased noise levels)? • Will the Water Resources NPS disproportionately affect communities already identified as vulnerable / at risk? • Will the Water Resources NPS ensure the continuity of a safe and secure drinking water supply to protect public health? • Will the Water Resources NPS affect opportunities for recreation and physical activity? • Will the Water Resources NPS maintain surface water and bathing water quality within statutory standards?	Population Human Health
Land Use, Geology and Soils	4. To conserve and enhance soil and geology and contribute to the sustainable use of land.	• Will the Water Resources NPS have an effect on soil quality/function, variety, extent and/or compaction levels? • Will the Water Resources NPS increase the risk of significant land contamination? • Will the Water Resources NPS have an effect on any known and existing contamination? • Will the Water Resources NPS protect and/or enhance Geological Conservation Sites, important geological features and geophysical processes and functions? • Will the Water Resources NPS change patterns of land use or affect best and most versatile agricultural land?	Soils
Water Quality	5. To protect and enhance water quality and help achieve the objectives of the Water Framework Directive.	• Will the Water Resources NPS protect and improve surface, ground, estuarine and coastal water quality? • Will the Water Resources NPS prevent the deterioration of Water Framework Directive waterbody status (or potential)? • Will the Water Resources NPS support the achievement of protected area objectives, such as groundwater source protection zones and nitrate	Water

AoS Topic Area	AoS Objectives		Guide Questions	SEA Directive Topics
			vulnerable zones? • Will the Water Resources NPS support the achievement of environmental objectives set out in River Basin Management Plans? • Will the Water Resources NPS ensure a new activity or new physical modification does not prevent the future achievement of good status for a water body?	
Water Quantity	6.	To protect and enhance surface and ground water levels and flows and ensure sustainable water resource management.	• Will the Water Resources NPS affect river flows and groundwater levels? • Will the Water Resources NPS reduce the impact of drought measures on the environment? • Will the Water Resources NPS affect demand for water resources? • Will the Water Resources NPS ensure the sustainable and resilient supply of water resources? • Will the NPS affect hydrological functioning such as flow variation?	Water
Flood Risk and Coastal Change	7.	To minimise the risks from coastal change and flooding to people, property, communities and habitats and species, taking into account the effects of climate change.	• Will the Water Resources NPS help to avoid development in areas of flood risk and, where possible, reduce flood risk? Where development in flood risk areas cannot be avoided, will the NPS ensure that appropriate mitigation measures are applied to avoid increasing flood risk and, where possible, reduce flood risk? • Will the Water Resources NPS affect the resilience of infrastructure, places, communities and habitats and species to future flooding? • Will the Water Resources NPS help to avoid development in areas affected by coastal erosion and not affect coastal processes and/or erosion rates?	Water Climatic Factors
Air	8.	To minimise emissions of pollutant gases and particulates and enhance air quality, helping to achieve the objectives of the Air Quality and Ambient Air Quality and Cleaner Air for Europe Directives.	• Will the Water Resources NPS affect air quality? • Will the Water Resources NPS create a nuisance for people or wildlife (for example from dust or odours)?	Air Human Health Biodiversity, Flora and Fauna
Noise	9.	To minimise noise pollution and the effects of vibration.	• Will the Water Resources NPS help to minimise noise and vibration effects from construction and operational activities on residential amenity and on sensitive locations and receptors?	Human Health Biodiversity, Flora and Fauna
Climatic Factors	10.	To minimise greenhouse gas emissions as a contribution to climate change and ensure resilience to any consequences of climate change.	• Will the Water Resources NPS help to ensure a low carbon design solution to the construction and operation of water resources infrastructure? • Will the Water Resources NPS increase resilience to the effects of climate change? • Will the Water Resources NPS lead to an increase in energy use? • Will the Water Resources NPS affect the ability of species or habitats to adapt to a changing climate? • Will the Water Resources NPS promote climate change adaptation (including rising temperatures and more extreme weather events)?	Climatic Factors
Waste and Resources	11.	To minimise waste arisings, promote reuse, recovery and recycling, minimise the impact of wastes on the	• Will the Water Resources NPS maximise re-use and recycling of recovered components and materials?	Material Assets

AoS Topic Area	AoS Objectives	Guide Questions	SEA Directive Topics
	environment and communities and contribute to the sustainable use of natural and material assets.	• Will the Water Resources NPS help achieve government and national targets for minimising, recovering and recycling waste? • Will the Water Resources NPS increase the burden on limited natural resources? • Will the Water Resources NPS make best use of existing infrastructure and resources?	
Traffic and Transport	12. To minimise the volume of traffic and promote more sustainable transport choices.	• Will the Water Resources NPS help to minimise traffic volumes? • Will the Water Resources NPS help to minimise the direct effects of transport such as noise and vibration, severance of communities and wildlife habitats and safety concerns? • Will the Water Resources NPS encourage alternative and sustainable means of transporting freight, waste and minerals, where possible?	Biodiversity, Flora and Fauna Population Human Health
Cultural Heritage	13. To conserve and where appropriate enhance the historic environment including cultural heritage resources, historic buildings and archaeological features and their settings.	• Will the Water Resources NPS affect the significance of internationally and nationally designated heritage assets and their settings? • Will the Water Resources NPS affect non-designated heritage assets, archaeological remains and their settings? • Will the Water Resources NPS conserve or enhance heritage assets and the wider historic environment including landscapes, townscapes, buildings, structures and archaeological remains? • Will the Water Resources NPS avoid damage to important wetland areas with potential for paleoenvironmental deposits? • Will the Water Resources NPS affect the fabric and setting of historic buildings, places or spaces that contribute to local distinctiveness, character and appearances? • Will the Water Resources NPS improve access to, and interpretation, understanding and appreciation of, the significance of heritage assets? • Will the Water Resources NPS affect the heritage of communities?	Cultural Heritage
Landscape and Townscape	14. To protect and enhance landscape and townscape quality and visual amenity.	• Will the Water Resources NPS have detrimental visual impacts? • Will the Water Resources NPS affect the purposes and/or special qualities of protected/designated/culturally important landscapes and their setting? • Will the Water Resources NPS affect the intrinsic character or setting of local landscapes, townscapes and seascapes? • Will the Water Resources NPS help to minimise light pollution from construction and operational activities on residential amenity and on sensitive locations and receptors? • Will the Water Resources NPS affect public benefits and/or services provided by landscape? • Will the Water Resources NPS affect traditional land management activities that have created unique landscapes? • Will the Water Resources NPS provide opportunities to enhance nationally and locally designated landscapes, townscapes and seascapes and their	Landscape Human Health

AoS Topic Area	AoS Objectives	Guide Questions	SEA Directive Topics
		settings? • Will the Water Resources NPS affect tranquillity? • Will the Water Resources NPS affect public access to open spaces or the countryside?	

4.4 Completing and Recording the Appraisal

Appraising the Effects of the Draft NPS

4.4.1 In accordance with the ODPM (now CLG) Practical Guide to the SEA Directive[31], the appraisal process will seek to predict the significant effects of the draft NPS. This will be done by identifying the likely changes to the baseline conditions as a result of implementing the draft NPS (or reasonable alternatives). These changes will be described (where possible) in terms of their geographic scale, the timescale over which they could occur, whether the effects would be temporary or permanent, positive or negative, likely or unlikely, frequent or rare. Where numerical information is not available, the appraisal will be based on professional judgement and with reference to relevant legislation, regulations and policy. More specifically, in undertaking the appraisal, consideration will be given to:

- baseline information including existing socio-economic and environmental problems and their evolution;
- the likely activities and potential sources of effects associated with the construction and operation of water resources infrastructure;
- the regulatory framework;
- consultation with statutory consultees and other stakeholders;
- the AoS objectives and guide questions; and
- definitions of significance (see below).

4.4.2 The elements of the draft NPS that, based on the current understanding of the likely content of the document, would be subject to appraisal are likely to include:

- the proposed objectives of the draft NPS;
- the proposed assessment principles (including criteria on good design) and guidance on impacts contained within the draft NPS;
- the reasonable alternatives to the draft NPS.

4.4.3 The proposed NPS objectives will be assessed by testing their compatibility with the AoS objectives. This assessment will be undertaken using a compatibility matrix. The scoring system that will be used to determine their compatibility is shown in **Table 4.4**.

[31] ODPM (CLG) (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*.

Table 4.4 Scoring System to be used in the Compatibility Assessment of Draft NPS Objectives

Score	Compatibility
+	Objectives are potentially compatible.
?	Uncertain if objectives are related.
~	No clear relationship between objectives.
-	Objectives are potentially incompatible.

4.4.4 The proposed assessment principles and guidance on impacts, as well as reasonable alternatives, will be assessed against the AoS objectives on a topic-by-topic basis to identify likely significant environmental and socio-economic effects using an appraisal matrix (see **Table 4.5**). The resulting appraisal and identification of effects will be used to determine the extent to which any principles and generic impacts identified in the draft NPS are sufficient and appropriate to cover the likely effects of water resources infrastructure, along with any proposed mitigation and enhancement measures.

Table 4.5 Appraisal Matrix

NPS Section	Draft NPS	Option 1	Option 2	Appraisal
Generic Impacts	**+**	**+/?**	**+/?**	**Draft NPS** *A description of the effects of the Water Resources NPS sub-section on the topic under consideration will be provided here, with reasoning and justification included. Mitigation and enhancement measures will also be identified.*
				Alternative 1: *A description of the effects of the reasonable alternative to the NPS will be provided here, with reasoning and justification included.*
				Alternative 2: Etc…
Generic Mitigation Measures	**+**	**+**	**+/?**	**Draft NPS:**
				Alternative 1:
				Alternative 2:
Etc	**+/?**	**+/?**	**+/?**	**Draft NPS:**
				Alternative 1:
				Alternative 2:

NPS Section	Draft NPS	Option 1	Option 2	Appraisal
Summary of Recommended Mitigation and Enhancement	*A summary of the mitigation and enhancement measures identified through the appraisal will be presented here.*			

Score Key:	+ + **Significant** positive effect	+ **Minor** positive effect	**0** No overall effect	- **Minor** negative effect	-- **Significant** negative effect	**Score uncertain**

NB: where more than one symbol is presented in a box it indicates that the AoS has found more than one score for the category. Where the scores are both positive and negative, the boxes are deliberately not coloured (i.e. 'no overall effect'). Where a box is coloured but also contains a ?, this indicates uncertainty over whether the effect could be a minor or significant effect although a professional judgement is expressed in the colour used. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.

Note: This draft AoS matrix is for illustrative purposes only. The full matrix will be finalised after comments have been received on the AoS categories, objectives and appraisal criteria.

Guidance on Determining Significance

4.4.5 Topic-specific guidance has been developed for what constitutes a significant effect, a minor effect or a neutral effect for each of the AoS objectives. These definitions of significance will help to ensure a consistent approach to interpreting the significance of effects and will assist the reader in understanding the decisions made by the appraiser. The guidance on significance can be found in the relevant topic chapters in **Appendix B** and are summarised in **Appendix C**. **Table 4.6** shows an example of this guidance along with the symbols used to record the effects within the appraisal.

Table 4.6 Illustrative Guidance for the Appraisal of Significance for Biodiversity and Nature Conservation

Effect	Description	Illustrative Guidance
++	Significant positive	• Option would have a significant and sustained positive effect on European or national designated sites and/or protected species. (e.g. – fully supports all conservation objectives on site, long-term increase in population of designated species); • Option would create new areas of wildlife interest with improved public access in areas where there is a high demand for access to these sites. • Option would lead to a site of importance for nature conservation gaining a favourable status.
+	Positive	• Option would have a minor positive effect on European or national designated sites and/or protected species (e.g. – supports one of the conservation objectives on site, short-term increase in population of designated species); • Option would have a positive effect on local biodiversity (e.g. – through removal of all existing disturbance/pollutant emissions, or creation of new habitats leading to long-term improvement to ecosystem structure and function); • Option would enhance existing public access to areas of wildlife interest in areas where there is some demand for these sites. • Option would have a minor positive effect on the status of a site of importance for nature conservation.
0	Neutral	• Option would not have any effects on European or national designated sites and/or any species (including both designated and non-designated species); • Option would not affect public rights of way or access to areas of wildlife interest.

Effect	Description	Illustrative Guidance
-	Negative	• Option would have negative effects on local biodiversity (e.g. – through an increase in disturbance/pollutant emissions, or some loss of habitat leading to temporary loss of ecosystem structure and function); • Option would decrease public access to areas of wildlife interest in areas where there is some demand for access to these sites. • Option would have a minor negative effect on the status of a site of importance for nature conservation.
--	Significant negative	• Option would have a negative effect on European or national designated sites and/or protected species (i.e. on the interest features and integrity of the site, by preventing any of the conservation objectives from being achieved or resulting in a long-term decrease in the population of a priority species). These effects could not be reasonably mitigated. • Option would lead to a site of importance for nature conservation losing a favourable status.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Mitigation

4.4.6 Identifying effective mitigation measures will also be a fundamental part of the AoS. **Box 2** provides information on types and examples of mitigation measures that might be proposed and includes an overview of the mitigation hierarchy. The mitigation hierarchy is based on the principle that it is preferable to prevent the generation of an impact rather than counteract its effects. It thus suggests that mitigation measures higher up the hierarchy should be considered in preference to those further down the list.

Box 2 Mitigation Hierarchy and Example Measures

Mitigation measures should be consistent with the mitigation hierarchy (after DETR 1997[32] and CLG 2006[33]):

- Avoidance – making changes to a design (or potential location) to avoid adverse effects on an environmental feature. This is considered to be the most acceptable form of mitigation.
- Reduction – where avoidance is not possible, adverse effects can be reduced through sensitive environmental treatments/design.
- Compensation – where avoidance or reduction measures are not available, it may be appropriate to provide compensatory measures (e.g. an area of habitat that is unavoidably damaged may be compensated for by recreating similar habitat elsewhere). It should be noted that compensatory measures do not eliminate the original adverse effect, they merely seek to offset it with a comparable positive one.
- Remediation – where adverse effects are unavoidable, management measures can be introduced to limit their influence.
- Enhancement – where there are no negative impacts, but measures are adopted to achieve a positive move towards the sustainability objectives e.g. through innovative design.

Examples of how mitigation measures could be incorporated into the NPS for Water Resources

- Promoting high quality, sustainable design in liaison with local communities.
- Avoiding adverse impacts associated with the construction and operation of water resources infrastructure on ecology.
- Maximising positive impacts such as job creation, multiple use of water resources infrastructure and ecological enhancements.
- Seeking to deliver net gains through water resources infrastructure development and operation.

Appraisal of Secondary, Cumulative and Synergistic Effects

4.4.7 The AoS, in complying with the SEA Directive and its implementing regulations in the UK, will need to demonstrate that secondary, cumulative and synergistic effects have been considered as part of the appraisal (see definitions presented in **Table 4.7**).

[32] Department of the Environment, Transport and the Regions (1997) *Mitigation Measures in Environmental Statements*. London: DETR
[33] Department for Communities and Local Government (2006) *Consultation Document - EIA: A guide to good practice and procedures.* London: CLG

Table 4.7 Definitions of Secondary, Cumulative and Synergistic Effects

Type of Effect	Definition*
Secondary (or indirect)	Effects that do not occur as a direct result of the draft NPS's implementation, but occur at distance from the direct impacts or as a result of a complex pathway. Examples of a secondary effect of the draft NPS could include the materials (and embodied carbon) used in the construction of the water resources infrastructure (such as a reservoir), or health effects of changes to air quality associated with HGV emissions from the transportation of construction materials.
Cumulative	Effects that occur where several individual activities which each may have an insignificant effect, combine to have a significant effect. Examples of a cumulative effect resulting from the implementation of the draft NPS could include potential effects on a European designated site where a habitat or species is vulnerable and the cumulative effects of disturbance and pollutant emissions arising from development and operation causes a significant impact. Cumulative effects will also include the potential effects (if any) of a proposed activity and any other proposed and consented developments.
Synergistic	Effects that interact to produce a total effect that is greater than the sum of the individual effects. For example, this can occur where the toxicity of two chemicals is greatly increased when they are combined.

*Adapted from SEA guidance, ODPM (2005)[19]

4.4.8 Through the AoS of the constitute elements of the draft NPS, the appraisal of the cumulative effects of the collective implementation of the draft NPS will be completed. Additionally, the effects of the draft NPS in-combination with other plans and programmes will also be considered. A matrix similar to that shown in **Table 4.8** could be used to summarise the cumulative effects of the draft NPS with other plans and programmes.

Table 4.8 Example of a Cumulative Assessment Matrix

AoS Objective	**Plan/ Programme 1**	**Plan/ Programme 1**	**Plan/ Programme 3**	**Plan/ Programme 4**	**Commentary**
1.Biodiversity and Nature Conservation *To protect and enhance biodiversity (habitats, species and ecosystems) working within environmental capacities and limits.*	--	-	-	+	*A description of the biodiversity and nature conservation effects of the draft NPS and other plans and programmes in-turn will be provided here, with reasoning and justification included…*

Score Key:	**+ +** **Significant** positive effect	**+** **Minor** positive effect	**0** No overall effect	**-** **Minor** negative effect	**- -** **Significant** negative effect	**?** **Score uncertain**

NB: where more than one symbol is presented in a box it indicates that the AoS has found more than one score for the category. Where the scores are both positive and negative, the boxes are deliberately not coloured (i.e. 'no overall effect'). Where a box is coloured but also contains a '?', this indicates uncertainty over whether the effect could be a minor or significant effect although a professional judgement is expressed in the colour used. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.

Note: This draft AoS matrix is for illustrative purposes only. The full matrix will be finalised after comments have been received on the AoS categories, objectives and appraisal criteria.

5. Next Steps

5.1 Summary

5.1.1 This Final AoS Scoping Report presents the approach that will be followed in undertaking the AoS of the draft NPS and which has been revised to take into account consultation responses on the initial Scoping Report. It has been prepared to meet the requirements of the SEA Directive and associated Regulations. It fulfils the requirements of Stage A, as outlined within the Quality Assurance Checklist presented in **Appendix A**.

5.2 Next Steps and Structure of the AoS Report

5.2.1 Using the approach set out in this Final AoS Scoping Report the potential effects of the draft NPS will then be appraised.

5.2.2 The next stages of the AoS process (Stages B and C) involve the prediction and evaluation of the effects that the draft NPS and reasonable alternatives to the NPS are likely to have. The appraisal will propose, where appropriate, mitigating measures for adverse effects as well as opportunities to enhance beneficial aspects. The appraisal will be presented in the AoS Report, which will be published for public consultation. The AoS Report has the following purposes:

- to ensure that the significant potential environmental and socio-economic effects associated with the draft NPS and alternatives are identified, characterised and appraised;
- to propose measures to mitigate the adverse effects identified and, where appropriate, to enhance potential positive effects;
- to provide a framework for monitoring the potential significant effects arising from the implementation of the draft NPS; and
- to provide sufficient information to those affected so that the development of the draft NPS is open and transparent.

5.2.3 In accordance with the requirements of Schedule 2 of the SEA Regulations (which reproduce the SEA Directive Annex I issues), the AoS Report will consist of:

- a Non-Technical Summary;
- a chapter setting out the scope and purpose of the appraisal;
- a chapter providing an overview of the draft NPS and its main objectives;
- a chapter summarising the key objectives of other plans and programmes and sustainability issues relevant to the draft NPS;
- a chapter setting out the proposed approach to appraisal;
- a chapter outlining the likely significant environmental and socio-economic effects of the implementation of the draft NPS and the reasonable alternatives to it, including cumulative effects, mitigating measures, uncertainties and risks. The reasons for selecting the draft NPS as proposed and for the rejection of alternatives, together with any difficulties encountered in completing the appraisal, will be explained;
- a chapter presenting views on implementation and monitoring;
- an appendix outlining statutory and selected consultee responses to scoping (and any additional views provided by interested members of the public or other organisations);

- an appendix, structured by each draft NPS AoS topic, setting out the review of plans and programmes, baseline analysis (including evolution of the baseline) and key sustainability issues alongside the detailed appraisal. It is anticipated that each topic section will contain:
  - **Introduction**: providing an overview and definition of the topic;
  - **Review of Plans and Programmes**: providing an overview of the international/European, UK and national policy context in which the draft NPS sits;
  - **Overview of the Baseline**: summarising the baseline for each of the topic areas at the UK and national (England, Scotland and Wales) level. This includes the key environmental characteristics of each topic or area most likely to be significantly affected;
  - **Summary of Existing Problems Relevant to Water Resources**: identifying the key topic specific issues considered as part of the appraisal;
  - **Likely Evolution of the Baseline**: describing the likely evolution of baseline conditions without the implementation of the draft NPS;
  - **Assessing Significance**: identifying the AoS objectives, guide questions and associated definitions of significance related to the topic area and used in the appraisal of the effects of draft NPS; and
  - **Appraisal**: including completed appraisal matrices providing information on the potential nature and scale of effects, proposed mitigation measures (where appropriate) and measures for enhancement, assumptions and uncertainties and additional information that may be required.
- an appendix detailing monitoring requirements; and
- an appendix outlining how the quality assurance checklist identified in the ODPM SEA Guidance has been met.

Appendix A
Quality Assurance Checklist

The Government's Guidance on SEA contains a quality assurance checklist to help ensure that the requirements of the SEA Directive are met. Those requirements relevant to the scoping stage have been highlighted below and a signpost provided to where the requirements are met in this Final AoS Scoping Report.

Objectives and Context	
The plan's purpose and objectives are made clear.	Presented in Section 2.
Environmental issues, including international and EC objectives, are considered in developing objectives and targets.	Section 3 and Appendix B identify the sustainability baseline issues and set out the environmental protection objectives and targets and how these are linked to the AoS objectives. Section 4 presents the AoS objectives and guide questions. AoS objectives are clearly set out and linked to indicators and targets where appropriate. Section 3 and Appendix B identify relevant plans and programmes. Links to other related plans, programmes and policies are identified and explained.
Scoping	
The environmental consultation bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Scoping Report.	Consultation on the initial AoS Scoping Report took place between 13th November and 22nd December 2017. Section 1.5 presents a summary of this consultation. Appendix D contains a schedule of consultation responses.
The SEA focuses on significant issues.	Key sustainability issues that could arise from the implementation of the draft NPS have been identified in this Scoping Report (see Section 3) and Appendix B.
Technical, procedural and other difficulties encountered are discussed; assumptions and uncertainties are made explicit.	Section 3 describes the key difficulties encountered during the preparation of this Scoping Report.
Alternatives	
Realistic alternatives are considered for key issues, and the reasons for choosing them are documented.	Potential alternatives are identified in Section 2.
The environmental effects (both adverse and beneficial) of each alternative are identified and compared.	To be presented in the AoS Report.
Inconsistencies between the alternatives and other relevant plans, programmes or policies are identified and explained.	To be presented in the AoS Report.
Reasons are given for selection or elimination of alternatives.	To be presented in the AoS Report.
Baseline Information	

Relevant aspects of the current state of the environment and their likely evolution without the plan are described.	Refer to Section 3 and Appendix B.
Characteristics of areas likely to be significantly affected are described, including areas wider than the physical boundary of the plan area where it is likely to be affected by the plan where practical.	Refer to Appendix B.
Difficulties such as deficiencies in information or methods are explained.	These are stated throughout the Scoping Report where appropriate and in Section 3.
Prediction and Evaluation of Significant Environmental Effects	
Effects identified include the types listed in the Directive (biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage and landscape) as relevant; other likely environmental effects are also covered as appropriate.	Set out as part of the appraisal methodology in Section 4.
Both positive and negative effects are considered, and the duration of effects (short, medium, or long term) is addressed.	Set out as part of the appraisal methodology in Section 4.
Likely secondary, cumulative and synergistic effects are identified where practicable.	Set out as part of the appraisal methodology in Section 4.
Inter-relationships between effects are considered where practicable.	Set out as part of the appraisal methodology in Section 4.
The prediction and evaluation of effects makes use of relevant accepted standards, regulations and thresholds.	Set out as part of the appraisal methodology in Section 4.
Methods used to evaluate the effects are described.	Set out as part of the appraisal methodology in Section 4.
Mitigation Measures	
Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan or programme are indicated.	To be presented in the AoS Report.
Issues to be taken into account in project consents are identified.	To be presented in the AoS Report.
Environmental Report	
Is clear and concise in its layout and presentation.	The proposed structure of the AoS Report is set out in Section 5.
Uses simple, clear language and avoids or explains technical terms.	To be presented in the AoS Report.

Uses maps and other illustrations where appropriate.	To be presented in the AoS Report.
Explains the methodology used.	To be presented in the AoS Report.
Explains who was consulted and what methods of consultation were used.	To be presented in the AoS Report.
Identifies sources of information, including expert judgement and matters of opinion.	To be presented in the AoS Report.
Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main options considered, and any changes to the plan resulting from the SEA.	To be presented in the AoS Report.
Consultation	
The SEA is consulted on as an integral part of the plan-making process.	Consultation on the initial AoS Scoping Report took place between 13th November and 22nd December 2017. Section 1.5 presents a summary of this consultation. Appendix D contains a schedule of consultation responses. A summary of the consultation on the AoS Report will be included in the Post Adoption Statement.
Consultation Bodies and the public likely to be affected by, or having an interest in, the plan or programme are consulted in ways and at times which give them an early and effective opportunity within appropriate timeframes to express their opinions on the draft plan and Environmental Report.	Consultation on the initial AoS Scoping Report took place between 13th November and 22nd December 2017. Section 1.5 presents a summary of this consultation. Appendix D contains a schedule of consultation responses.
Decision-making and Information on the Decision	
The Environmental Report and the opinions of those consulted are taken into account in finalising and adopting the plan or programme.	This will be included in the Post Adoption Statement (to be issued following consultation on the AoS Report).
An explanation is given of how they have been taken into account.	This will be included in the Post Adoption Statement (to be issued following consultation on the AoS Report).
Reasons are given for choosing the plan or programme as adopted, in the light of other reasonable alternatives considered.	This will be included in the Post Adoption Statement (to be issued following consultation on the AoS Report).
Monitoring Measures	
Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA.	To be presented in the AoS Report.
Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA.	To be presented in the AoS Report.

Monitoring enables unforeseen adverse effects to be identified at an early stage (these effects may include predictions which prove to be incorrect).	To be presented in the AoS Report.
Proposals are made for action in response to significant adverse effects.	To be presented in the AoS Report.

Appendix B
Baseline and Contextual Information

[Presented Separately]

Appendix C
Definitions of Significance

Illustrative Guidance for the Assessment of Significance for Biodiversity and Nature Conservation

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would have a significant and sustained positive effect on European or national designated sites and/or protected species. (e.g. fully supports all conservation objectives on site, long-term increase in population of designated species); • Option would create new areas of wildlife interest with improved public access in areas where there is a high demand for access to these sites. • Option would lead to a site of importance for nature conservation gaining a favourable status. • Option would significantly increase ecosystem resilience.
+	Positive	• Option would have a minor positive effect on European or national designated sites and/or protected species (e.g. – supports one of the conservation objectives on site, short-term increase in population of designated species); • Option would have a positive effect on local biodiversity (e.g. through removal of all existing disturbance/pollutant emissions, or creation of new habitats leading to long-term improvement to ecosystem structure and function); • Option would enhance existing public access to areas of wildlife interest in areas where there is some demand for these sites. • Option would have a minor positive effect on the status of a site of importance for nature conservation. • Option would have a minor positive effect on ecosystem resilience.
0	Neutral	• Option would not have any effects on European or national designated sites and/or any species (including both designated and non-designated species); • Option would not affect public rights of way or access to areas of wildlife interest.
-	Negative	• Option would have negative effects on local biodiversity (e.g. through an increase in disturbance/pollutant emissions, or some loss of habitat leading to temporary loss of ecosystem structure and function); • Option would decrease public access to areas of wildlife interest in areas where there is some demand for access to these sites. • Option would have a minor negative effect on the status of a site of importance for nature conservation. • Option would have a minor negative ecosystem resilience.
--	Significant Negative	• Option would have a negative effect on European or national designated sites and/or protected species (i.e. on the interest features and integrity of the site, by preventing any of the conservation objectives from being achieved or resulting in a long-term decrease in the population of a priority species). These effects could not be reasonably mitigated. • Option would lead to a site of importance for nature conservation losing a

Effect	Description	Illustrative Guidance
		favourable status. • Option would significantly decrease ecosystem resilience.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Population, Economics and Skills

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would help ensure sufficient water resources infrastructure is in place to meet increased future long term regional demand for water and to support economic development; • Option would ensure a significant additional regional affordable supply of water is maintained and vulnerable customers protected; • Option would incorporate the provision of social infrastructure and amenities; • Option would provide educational services/facilities and offer long-term opportunities for skills development including, for example, apprenticeship schemes; • Option would generate in the order of 800 or more direct full time equivalent (FTE) employment opportunities per annum[1], a large proportion of which would benefit the local community; • Option would generate significant investment in local supply chains fostering economic growth, generating indirect employment opportunities and enhancing the robustness of the local economy (e.g. through the procurement of local contractors to undertake construction activities); • Option would significantly enhance the attractiveness of an area to existing and prospective residents and businesses (e.g. through the generation of employment opportunities).
+	Positive	• Option would help ensure water resources infrastructure is in place to contribute towards meeting increased future long term sub-regional demand for water and to support economic development; • Option would ensure an additional affordable supply of water is maintained and vulnerable customers protected; • Option would stimulate some limited investment in existing services and amenities (e.g. associated with any increase in the work place population); • Option would provide some educational opportunities and skills development including, for example, apprenticeship schemes; • Option would generate some direct full time equivalent (FTE) employment opportunities per annum (below 800) which may benefit the local community; • Option would generate some limited investment in local supply chains (e.g. through the procurement of local contractors to undertake construction activities); • Option would enhance the attractiveness of an area to existing and prospective residents and businesses (e.g. through the generation of employment opportunities and provision of infrastructure).
0	Neutral	• Option would not affect the provision of water resources infrastructure. • Option would not affect affordable supplies of water. • Option would not affect social infrastructure and amenities available to local communities; • Option would not affect the provision of educational services/facilities or offer opportunities for skills development; • Option would not affect any local employment opportunities/increase local unemployment rates; • Option would have no effect on wider economic benefits/undermine the

Effect	Description	Illustrative Guidance
		growth and diversity of the local economy; • Option would not affect the attractiveness of an area to existing and prospective residents and businesses.
-	Negative	• Option would reduce/restrict the provision of water resources infrastructure. • Option would adversely affect affordable supplies of water. • Option would cause some disruption to existing services and amenities available to local communities which is likely to be felt in the short term; • Option would lead to a loss of some direct FTE jobs (below 800 per annum) (e.g. due to the cessation of some activities or rationalisation of activities on sites); • Option would reduce the resilience and diversity of the local economy (e.g. through loss of local supply chain opportunities); • Option would reduce local investment in an area and affect growth of local economy; • Option would undermine the attractiveness of an area to existing and prospective residents and businesses (e.g. due to impacts arising from construction activities or concerns regarding operational impacts); • Option would undermine the quality of life of the local population (e.g. due to noise and vibration associated with HGV movements during construction or operation) such that some complaints could be expected.
--	Significant Negative	• Option would reduce/restrict the provision of nationally significant water resources infrastructure. • Option would adversely affect affordable regional supplies of water. • Option would result in the loss of existing services and amenities available to local communities (e.g. where development is proposed on a site in community use); • Option would lead to a significant loss of direct FTE jobs (a minimum of 800 per annum) (e.g. due to the closure of local employment sites); • Option would significantly reduce the resilience and diversity of the local economy (e.g. through significant loss of local contracts and supply chain opportunities); • Option would lead to a significant reduction in investment in an area that would affect the growth of local economy; • Option would significantly undermine the attractiveness of an area to existing and prospective residents and businesses (e.g. due to impacts arising from construction activities or concerns regarding operational impacts); • Option would seriously undermine the quality of life of the local population (e.g. due to noise and vibration associated with HGV movements during the construction or operation of facilities) such that the project and local authority would be likely to experience a considerable number of complaints.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

[1] The proposed threshold of significance represents around 0.5% of the estimated 166,500 jobs supported by the water sector in the UK (https://www2.warwick.ac.uk/fac/soc/ier/ngrf/lmifuturetrends/sectorscovered/energy/sectorinfo/subsectors/).

Illustrative Guidance for the Assessment of Significance for Human Health

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would have a significant positive effect on the likely determinants of good health (including employment opportunities, level of deprivation, physical activity, access to open space and recreational activities, environmental quality and community safety); • Option would have a strong and sustained positive effect on health and well-being and acknowledges the health needs of specific groups in society (e.g. children, mums to be and the elderly); • Option would support the provision of healthcare facilities (i.e. as a result of an increase in the local population linked with employment provision).
+	Positive	• Option would have a positive effect on the likely determinants of good health (including employment opportunities, level of deprivation, physical activity, access to open space and recreational activities, environmental quality and community safety); • Option would have a positive effect on health and well-being and acknowledges the health needs of specific groups in society (e.g. children, mums to be and the elderly).
0	Neutral	• Option would have no observable effects (short, medium and long-term) on the health and well-being of individuals, specific groups in society (e.g. children, mums to be and the elderly) and communities.
-	Negative	• Option would have a negative effect on the likely determinants of good health (including employment opportunities, level of deprivation, physical activity, access to open space and recreational activities, environmental quality and community safety); • Option would have a negative effect on the health and well-being of individuals, specific groups in society (e.g. children, mums to be and the elderly) and communities; • Option would result in some nuisance and/or disruption to communities, such that some complaints could be expected.
--	Significant Negative	• Option would have a significant negative effect on the likely determinants of good health (including employment opportunities, level of deprivation, physical activity, access to open space and recreational activities, environmental quality and community safety); • Option would have a significant negative effect on the health and well-being of individuals, specific groups in society (e.g. children, mums to be and the elderly) and communities; • Option would cause statutory nuisance or a sustained and significant nuisance and/or disruption to communities.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Land Use, Geology and Soils

Effect	Description	Illustrative Guidance
++	Significant positive	• Option would restore and significantly improve soil quality and land stability to conditions beyond current levels and remove all soil contamination so that soil functions and processes would be significantly improved in the long term; • Option would minimise the use of, and protect from irreversible damage, high quality agricultural land; • Option would have a significant and sustained positive impact on national designated geological sites; • Option would seek to minimise the use of any undeveloped land, and look to preferentially reclaim and redevelop significant areas of previously developed or derelict land.
+	Positive	• Option would generate minor improvements in soil quality and land stability and would remove some soil contamination so that soil functions and processes would be improved in the long term; • Option would reduce any potential damage to high quality agricultural land; • Option would reduce any potential hazard associated with existing soil contamination; • Option would have a minor and temporary positive impact on a national designated geological site; • Option would seek to preferentially make use of previously developed land.
0	Neutral	• Option would not significantly affect potential hazards associated with any existing contamination; • Option would not cause damage or loss to soil such that soil function and processes would not be affected; • Option would not affect land stability; • Option would not involve significant loss of any undeveloped or developed land.
-	Negative	• Option would lead to an increase in pollutant discharges to soil; however, these would be less than permitted limits, such that there would be minor short-term increases in land contamination; • Option would cause minor increases in potential hazards associated with existing soil contamination; • Option would cause minor increases in potential hazards associated with land stability; • Option would cause a temporary loss of soil so that soil function and processes would be negatively affected in the short/medium term; • Option would cause minor short-term negative effects on geological conservation sites/important geological features or soils of high importance; • Option would lead to the majority of development using undeveloped land or land that has reverted to a ‘wild’ state.

Effect	Description	Illustrative Guidance
--	Significant negative	• Option would lead to a statutory limit being reached or exceeded in relation to land contamination, such that there would be a major and sustained increase in land contamination; • Option would cause major and sustained increases in potential hazards associated with existing soil contamination; • Option would cause major increases in potential hazards associated with land stability; • Option would cause considerable loss of soil quality, such that soil function and processes would be irreversibly and significantly affected; • Option would cause a substantial and permanent loss of, or damage to, soil of high importance (such as best and most versatile agricultural land) and/or designated geological conservation sites/important geological features; • Option would not develop derelict or previously developed land, but would lead to development of significant areas of undeveloped land/ land that has reverted to a 'wild' state.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Water Quality

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would significantly decrease the amount of waste water, surface run-off and pollutant discharges so that the quality of water receptors (including groundwater, surface water, sea water or drinking water receptors) would be significantly improved and sustained and water targets (including those relevant to chemical and ecological condition) reached and exceeded; • Option would significantly improve surface, ground, estuarine and coastal water quality; • Option would improve Water Framework Directive waterbody status (or potential).
+	Positive	• Option would lead to minor decreases in the amount of waste water, surface run-off and/or pollutant discharges so that the quality of water receptors (including groundwater, surface water, sea water or drinking water receptors) may be improved to some level temporarily and some water targets (including those relevant to chemical and ecological condition) would be reached/exceeded; • Option would improve surface, ground, estuarine and coastal water quality.
0	Neutral	• Option would not change the amount of waste water, surface run-off and/or pollutant discharges such that the quality of water receptors would not be affected; • Option would not affect Water Framework Directive waterbody status (or potential).
-	Negative	• Option would lead to minor increases in the amount of waste water, surface run-off and/or pollutant discharges so that the quality of water receptors (including groundwater, surface water, sea water or drinking water receptors) may be decreased to some level temporarily and it may prevent some water targets (including those relevant to chemical and ecological condition) from being achieved; • Option would decrease (directly or indirectly) surface, ground, estuarine and coastal water quality.
--	Significant Negative	• Option would lead to major increases in the amount of waste water, surface run-off and/or pollutant discharges so that the quality of water receptors (including groundwater, surface water, sea water or drinking water receptors) would be considerably increased and some or all water targets (including those relevant to chemical and ecological condition) would not be achieved. • Option would significantly decrease (directly or indirectly) surface, ground, estuarine and coastal water quality • Option would significantly decrease Water Framework Directive waterbody status (or potential) where there is a requirement to justify permitting of the option under the provisions of Article 4.7 of the Water Framework Directive.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Water Quantity

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would lead to a major increase in water supply/availablity such that the risk of water shortages in an area is significantly decreased and abstraction is at a sustainable level in the long term; • Option would lead to a major reduction in water use compared to prior to development such that the risk of water shortages in an area is significantly decreased and abstraction is at a sustainable level in the long term; • Option would lead to a major reduction in the risk and/or severity of droughts.
+	Positive	• Option would lead to a minor increase in water supply/availablity such that the risk of water shortages in an area is decreased and abstraction is at a sustainable level in the long term; • Option would lead to a minor reduction in water use compared to prior to development such that the risk of water shortages in an area is decreased in the short term and abstraction is closer to sustainable levels than prior to development; • Option would lead to a minor reduction in the risk and/or severity of droughts.
0	Neutral	• Option would not significantly affect water demand and abstraction levels would not be altered.
-	Negative	• Option would lead to a minor reduction in water supply/availablity such that the risk of water shortages in an area is increased; • Option would lead to a minor increase in water use compared to prior to development such that the risk of water shortages in an area is increased to some level in the short term, particularly in periods of low flow, and abstraction is considered beyond sustainable levels; • Option would lead to a minor increase in the risk and/or severity of droughts.
--	Significant Negative	• Option would lead to a major reduction in water supply/availablity such that the risk of water shortages in an area is significantly increased and abstraction is not at a sustainable level in the long term; • Option would lead to major increases in water use compared to prior to development such that the risk of water shortages in an area is significantly increased and abstraction is significantly beyond sustainable levels; • Option would lead to an exceedance of an abstraction license limits. • Option would lead to a major increase in the risk and/or severity of droughts.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Flood Risk and Coastal Change

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would result in a significant decrease in people or property at risk of, or affected , flooding, coastal inundation or sea level rise.
+	Positive	• Option would result in a decrease in people or property at risk of, or affected by, flooding, coastal inundation or sea level rise.
0	Neutral	• Option would not lead to an overall change in the number of people or property at risk of, or affected by, flooding, coastal inundation or sea level rise; • Option would result in development being sited in Flood Zone 1 (or equivalent) areas.
-	Negative	• Option would result in an increase in people or property at risk of, or affected by, flooding, coastal inundation or sea level rise; • Option would result in development being sited in Flood Zone 2 (or equivalent) areas.
--	Negative	• Option would result in a significant number of people or property affected by flooding, coastal inundation or sea level rise; • Option would result in development being sited in Flood Zone 3 (or equivalent) areas.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Air Quality

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would significantly improve local air quality through a sustained reduction in concentrations of pollutants identified in national air quality objectives.
+	Positive	• Option would lead to a minor improvement in local air quality from a reduction in concentrations of pollutants identified in national air quality objectives.
0	Neutral	• Option would not affect local air quality.
-	Negative	• Option would result in a minor decrease in local air quality; • Option would have a negative effect on local communities and biodiversity due to an increase in air and odour pollution and particulate deposition.
--	Significant Negative	• Option would cause a significant decrease in local air quality (e.g. leading to an exceedance of Air Quality Objectives for designated pollutants and the designation of a new Air Quality Management Area); • Option would have a strong and sustained negative effect on local communities and biodiversity due to significant increases in air and odour pollution and particulate deposition.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Noise

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would significantly improve the ambient noise environment in the vicinity of potential or actual sites.
+	Positive	• Option would lead to an improvement in the ambient noise environment in the vicinity of potential or actual sites.
0	Neutral	• Option would not affect the noise environment of potential or actual sites.
-	Negative	• Option would result in a minor negative effect on the ambient noise environment in the vicinity of potential or actual sites; • Option would cause minor disturbance associated with vibration on potential or actual sites.
--	Significant Negative	• Option would result in a major negative effect on the ambient noise environment in the vicinity of potential or actual sites over the short or longer term; • Option would cause major disturbance associated with vibration on potential or actual sites over the short or longer term.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Climate Change

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would help to significantly reduce carbon and other greenhouse gas emissions; • Option would significantly increase resilience/decrease vulnerability to climate change in the water supply and wider environment.
+	Positive	• Option would help to reduce carbon and other greenhouse gas emissions; • Option would increase resilience/decrease vulnerability to climate change in the water supply and wider environment.
0	Neutral	• Option would not lead to an overall change in carbon and other greenhouse gas emissions and would not contribute to climate change or resilience to climate change within the wider environment.
-	Negative	• Option would increase carbon and other greenhouse gas emissions; • Option would decrease resilience/increase vulnerability to climate change in the water supply and wider environment.
--	Significant Negative	• Option would significantly increase carbon and other greenhouse gas emissions; • Option would significantly decrease resilience/increase vulnerability to climate change in the water supply and wider environment.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Waste and Resource Use

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would increase the capacity of waste management infrastructure; • Option would create no additional hazardous or non-recyclable waste, whilst maximising the proportion of materials that are re-useable or recyclable; • Option would ensure the safe handling of hazardous wastes; • Option would make best use of existing infrastructure and resources (e.g. buildings and other facilities on sites) and help conserve natural resources.
+	Positive	• Option would not create an increase in the volume of hazardous and non-recyclable wastes that require disposal; • Option would increase the volume of materials reused and recycled; • Option would make best use of existing infrastructure and resources (e.g. buildings and other facilities on sites).
0	Neutral	• Option would not create an increase in the volume of hazardous and non-recyclable wastes that require disposal; • Option would have no effect on the capacity of waste management infrastructure; • Option would not have any impact on existing natural resources.
-	Negative	• Option would increase volumes of hazardous and non-recyclable waste that would require disposal; • Option would have a limited adverse impact on the capacity of existing waste management systems; • Option would require the limited use of natural resources during construction and operational stages.
--	Significant Negative	• Option would generate a high volume of hazardous and non-recyclable waste that would require disposal; • Option would impede the achievement of Government and national targets for minimising, recovering and recycling waste; • Option would have a significant adverse impact on the capacity of existing waste management systems (e.g. leading to the permitting of additional landfill capacity to accommodate waste); • Option would increase risks associated with the handling of hazardous wastes; • Option would require a significant volume of natural resources and result in the direct loss of resources.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Traffic and Transport

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would make a significant positive and long-term contribution to minimising the direct and indirect effects of traffic and transport associated with nationally significant water resources infrastucture.
+	Positive	• Option would make a positive contribution to minimising the direct and indirect effects of traffic and transport associated with nationally significant water resources infrastucture.
0	Neutral	• Option would not have any effects on traffic and transport.
-	Negative	• Option would have minor, short-term adverse effects associated with the direct and indirect impacts of traffic and transport realted to nationally significant water resources infrastucture.
--	Significant Negative	• Option would cause significant long-term effects associated with the direct and indirect impacts of traffic and transport related to nationally significant water resources infrastucture.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Cultural Heritage

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would make a significant positive and long-term contribution to the setting and conservation of designated and locally important cultural heritage features (e.g. through enhancement of setting, permanent removal of a structure creating a negative visual impact or large scale enhancement of designated features).
+	Positive	• Option would bring minor short-term improvements to the setting and conservation of designated and locally important cultural heritage features (e.g. temporary removal of a structure creating a negative visual impact).
0	Neutral	• Option would not have any significant effects on any cultural heritage sites or assets or their setting.
-	Negative	• Option would result in minor short-term degradation to the setting and conservation of designated and locally important cultural heritage features (e.g. temporary use of equipment/structures creating a negative visual impact).
--	Significant Negative	• Option would cause long-term degradation to the setting and conservation of designated and locally important cultural heritage features (e.g. through direct and permanent loss or damage to designated assets or the introduction of a structure that will have a considerable and permanent negative visual impact).
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Illustrative Guidance for the Assessment of Significance for Landscape and Townscape

Effect	Description	Illustrative Guidance
++	Significant Positive	• Option would make a significant positive contribution to the purposes and/or special qualities of protected/designated landscapes and their setting; • Option would have a significant positive effect on local landscapes and townscapes and/or their setting (e.g. through the replacement of poorly designed/derelict buildings with high quality development); • Option would enhance public access to the countryside and increase open space provision.
+	Positive	• Option would serve to enhance the purposes and/or special qualities of protected/designated landscapes and their setting; • statutorily-designated landscapes and/or their setting; • Option would have a positive effect on local landscapes and townscapes and/or their setting; • Option would enhance public access to open spaces and the countryside.
0	Neutral	• Option would not have any effect on statutorily-designated landscapes or their setting; • Option would not have any effects on local landscapes and townscapes or their setting • Option would not affect visual amenity; • Option would not enhance or restrict public access to open spaces and the countryside.
-	Negative	• Option would have short-term negative effects on the purposes and/or special qualities of protected/designated landscapes and their setting; • Option would have a negative effect on the intrinsic character of local landscapes and townscapes and/or their setting; • Option would affect the visual amenity of local communities; • Option would temporally restrict public access to open spaces and the countryside.
--	Significant Negative	• Option would have long-term negative effects on the purposes and/or special qualities of protected/designated landscapes and their setting; • Option would severely affect the intrinsic character of local landscapes and townscapes and/or their setting; • Option would severely affect the visual amenity of local communities; • Option would result in the loss of open spaces and restrict public access to the countryside.
?	Uncertain	• From the level of information available, the effect that the option would have on this objective is uncertain.

Appendix D
Schedule of Consultation Responses

Appraisal of Sustainability Scoping Report

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
Energy UK				
EUK1	3	There should be a principle which more clearly requires the NPS development and, in turn, developers and authorisers of water resource NSIPs to have regard to the reasonable needs of other sectors dependent on surface and ground water. These are potentially in competition with those providing water for public water supply and with the environment at times of water scarcity. For sectors such as energy and agriculture, there is no national plan or regional set of plans analogous to WRMPs. Although 'effects on other abstractors' is a welcome heading deep within the Appraisal of Sustainability (AoS), we do not consider that this is afforded sufficient prominence, particularly in the context of Defra's expected programme of abstraction reform being downgraded.	Comment noted. Effects on other abstractors is currently identified explicitly within the AoS Framework as a proposed guide question to AoS Objective 2. The purpose of the AoS Framework is to enable the identification and assessment of effects across all the topics identified in the AoS (including those of the Strategic Environmental Assessment (SEA) Directive 2001/42/EC). As such, the guide questions are primarily aimed at identifying where there is the potential for a significant environmental effect. Due to the importance of providing a comprehensive assessment, no one topic is considered more important than another. In discussing the effects identified, the AoS Report will identify the potential for effects on other water abstractors as appropriate. No change to the Scoping Report is considered necessary.	N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
EUK2	1	We agree with the topics but we consider that the economics topic could be generalised to include potential adverse effects (or benefits) for those potentially competing for scarce water resource. Alternatively, this area could be further developed under the headings of water quality and water quantity. The 'scoring system' (e.g. AoS App B Table 2.2, Table 6.6 *et al*) should include benchmarking of adverse impacts due to effects on other abstractors, but does not.	Comment noted. Effects on other abstractors is included as a proposed guide question to AoS Objective 2 and in this context, the AoS Report will identify the potential for effects on other water abstractors as appropriate. The effects on abstractors is one of eight guide questions set within the wider context of the AoS population, economy and skills objective 'To support a strong, diverse and stable economy through the provision of nationally significant water resources infrastructure with opportunities to improve skills and employment, minimise disturbance to local communities and maximise positive social impacts'. It is considered that amending the objective to one generalised to include effects on those competing for water resources would reduce its scope and limit its ability to consider matters such as whether the NPS will: • ensure that there is sufficient water resources infrastructure in place to meet increased demand associated with population growth and to support economic development;	N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
			• ensure that an affordable supply of water is maintained and that vulnerable customers are protected; • promote economically efficient solutions that deliver best value for money; • promote opportunities for investment in education and skills development; and • affect employment opportunities. Due to the importance of providing a comprehensive assessment which considers the full range of likely significant effects on the environment, it is not proposed to accept the suggested amendment. No change to the Scoping Report is considered necessary.	
EUK3	2	Ideally, we would like to see some recognition of the water resource needs of other sectors and how these might develop, although we recognise that these are not easily characterised. Inclusion of reference to the overarching NPS for energy and the daughter NPSs for nuclear, fossil-fired power stations and renewables would be welcome, although these do not have the necessary spatial resolution, nor can they, to automatically feed into a Water Resources NPS or individual WRMPs.	Comment noted. NPS EN-1 sets out the overarching national policy statement for energy. This and the five associated NPS (EN-2 to EN-6) have been considered in Appendix B of the AoS Scoping Report. As acknowledged in the response, no other suitable baseline information has been identified. No change to the Scoping Report is considered necessary.	N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
EUK4	3	We welcome inclusion within the 'economics' section of the question 'Will the Water Resources NPS affect existing abstractors?'. This is a crucial issue which we consider goes far beyond '… the risk of drought or interruptions to accessing water may pose a risk to economic productivity' suggested on page 28. Clearly, this question cannot be answered within the NPS itself but should prompt consideration and evidence gathering in the development of individual NSIPs. The NPS should not provide a steer or presumption that a water resource NSIP scheme has first call on scarce water for which there may be competition from other users or developers from other sectors.	Agreed. The NPS will provide planning policy guidance against which development consent order applications for any nationally significant water resources infrastructure project will be examined. This will include generic impacts and siting considerations, including generic mitigation measures. Requested detailed requirements for inclusion in the NPS do not fall within the scope of the AoS Scoping Report but will be considered by Defra in preparing the draft NPS.	N/A
		AoS Appendix B in places misrepresents the Water Framework Directive as requiring all waters to reach 'good' status as opposed to requiring the setting of targets through the planning process aiming to achieve 'good' status and taking into account disproportionate costs and feasibility, etc. This is a material misrepresentation in the 'context' area.	Comment noted. Appendix B has been amended to more clearly reflect the requirements of the Water Framework Directive.	Appendix B (Table 1.11 Table 3.1 Table 5.4)
EUK5	4	We would reiterate that decisions on the allocation of scarce water resources should not be made within WRMPs. Alternative scenarios should consider the relative availability of water and the impact each scenario could have on other water abstractors.	Comment noted. The Water Industry Act 1991, as amended by the Water Act 2003 and the Water Act 2014, requires all water companies to prepare, maintain and publish statutory Water Resources Management Plans (WRMPs). The plans set out how water companies intend to maintain the balance between water supply and demand and ensure security of supply over the next 25 years and beyond in a way	N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
			that is economically, socially and environmentally sustainable. Any changes to the scope and requirements of WRMPs would be outside the role of the NPS for water resource infrastructure.	
National Infrastructure Planning Association (NIPA)				
NIPA1	4	NIPA's view is that the AoS should consider alternative means of meeting water demand to large-scale infrastructure. Whilst the NPS will establish need for this infrastructure as part of a 'twin track' approach, NIPA suggests that, for example, demand management methods should be considered in the AoS in terms of being a sole solution, even if just by way of a brief acknowledgement and dismissal. NIPA also queries whether there is a need to consider properly alternative policy approaches. Whilst the AoS Scoping Report does reference a 'non-NPS' scenario (presumably with WRMPs), there are no alternatives mentioned in terms of other potential policy frameworks. Obviously assessment of reasonable alternatives is essential under SEA law to establish a legally robust NPS. The approach to alternatives should therefore be very carefully considered, to avoid legal challenge and delay in the delivery of these important schemes.	Comment noted. The AoS is being undertaken in a manner to meet the requirements of the SEA Directive 2001/42/EC. The SEA Directive requires the identification, description and evaluation of "*the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme*". The NPS will provide planning policy guidance against which development consent order applications for any nationally significant water resources infrastructure project will be examined. It will also set out why nationally significant water resources infrastructure is needed, within the context of the twin track approach. Whilst it is valid to consider whether the need case for water resources infrastructure is	N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
			appropriate, within the context and requirements of the SEA Directive, unless demand management infrastructure could be envisaged to be of such scale as to be within the scope of the NPS, it is unlikely that it could be considered a reasonable alternative. However, for completeness, it will be referenced in a section in the AoS Report that describes in detail the consideration of the alternatives to the NPS, and identifies which of those alternatives are considered reasonable. These reasonable alternatives will be taken forward and included within the subsequent appraisal.	
EDF Energy				
EDF1	3	EDF Energy strongly believes that a principle should be included that clearly requires both the developer and authorisers of the Water Resource NSIPs to have regard to the impacts of the scheme on other abstractors in the vicinity of the proposed project. This is because they are potentially in competition with those providing water for public water supply and with the environment at times of water scarcity. For sectors such as energy and agriculture, there is no national plan or regional set of plans analogous to WRMP. Although “Effects on other abstractors” is a welcome heading deep within the AoS, we do not believe this is sufficient prominence given the importance of this issue.	Comment noted. Effects on other abstractors is currently identified explicitly within the AoS Framework as a proposed guide question to AoS Objective 2. The purpose of the AoS Framework is to enable the identification and assessment of effects across all the topics identified in the AoS (including those of the SEA Directive 2001/42/EC). As such, the guide questions are primarily aimed at identifying where there is the potential for a significant environmental effect. Due to the	N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
			importance of providing a comprehensive assessment, no one topic is considered more important than another. In discussing the effects identified, the AoS Report will describe the potential for effects on other water abstractors as appropriate. Requested detailed requirements for inclusion in the NPS do not fall within the scope of the AoS Scoping Report but will be considered by Defra in preparing the draft NPS. No change to the Scoping Report is considered necessary.	
EDF2	2	EDF Energy would welcome a requirement within the NPS for any applicant for a development for the transfer or impoundment of water to demonstrate how they have considered the potential impacts on abstractions that are downstream of the new proposals. Power stations require abstracted water to operate, so any potential reduction in water availability would be a serious concern for operators. For example, if a power station could not operate during an electricity system stress event due to lack of water, then this could lead directly to the failure of electricity supply to customers and the power station operator could be subject to financial penalties, for failing to fulfil its obligations.	Comment noted. Requested detailed requirements for inclusion in the NPS do not fall within the scope of the AoS Scoping Report but will be considered by Defra in preparing the draft NPS. No change to the Scoping Report is considered necessary.	N/A
EDF3	3	EDF Energy welcomes the inclusion within the 'economics' section of the objectives and guide questions asking, 'Will the Water Resources NPS affect existing abstractors?' This is because the risk of drought or interruptions to access of water may pose a significant risk to economic productivity within other sectors. This question cannot be answered within the NPS itself but should prompt consideration and evidence in development of individual NSIPs. The NPS should not provide a steer or	Comment noted. The NPS will provide planning policy guidance against which development consent order applications for any nationally significant water resources infrastructure project will be examined. This will include	N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		presumption that a water resources NSIP scheme has first call on scarce water for which there may be competition with other users or developers from other sectors.	generic impacts and siting considerations, including generic mitigation measures. Requested detailed requirements for inclusion in the NPS do not fall within the scope of the AoS Scoping Report but will be considered by Defra in preparing the draft NPS. No change to the Scoping Report is considered necessary.	
Chartered Institute of Water and Environmental Management (CIWEM)				
CWM1	3	CIWEM welcomes the use of an Appraisal of Sustainability (AoS). This will allow communities to comment on the ability of the NPS to drive multiple benefits.	Comment noted.	N/A
National Farmers Union (NFU)				
NFU1		No comment.	Noted.	N/A
Blueprint for Water				
BFW1	1	While we broadly agree with the main issues identified in section 3.3, in addition to the information described in Appendix B, we would consider it important to acknowledge as an over-arching point that the framework around the management of the natural environment is liable to change with Britain's exit from the EU. In particular, any post-CAP agri-environment scheme, developed within the context of Government's 25 Year Environment Plan, will have significant relevance to the water environment. This is due to the causal links between the management of land and habitats within a catchment, and the water quality and quantity regimes of the catchment's freshwaters. The development of future land management policy is therefore highly relevant to water resources as those freshwaters that are affected by it underpin the industry's water supplies. As such the AoS must build in the uncertainty associated with Brexit and take the 25 Year Plan for the Environment into account.	Comment noted. As identified in the introduction to Appendix B, the Scoping Report assumes that the broad objectives of extant European Union (EU) legislation will be maintained once the UK has withdrawn from the EU and that similar or equivalent environmental protections will remain in place. Nonetheless, uncertainties within the Scoping Report are highlighted on a topic-by-topic basis. The effect of the UK's withdrawal from the EU is identified within Appendix B Section 1.5 and the uncertain	N/A

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			effect on the economy is identified in Section 2.5.	
		As a general point, whilst Section 3.3 and Annex B are very comprehensive, the trends and issues identified need to be better related to the issues likely to arise from the Water Resources NPS. This includes full consideration of likely evolution of issues without the plan (NPS) which is not covered in much detail in the AoS Scoping Report.	Comment noted. It is considered that the key issues identified from the baseline analysis and analysis of the likely evolution of the baseline are broadly appropriate for the purposes of the AoS of the NPS.	N/A
		Table 3.3 sets out Key Issues Relevant to the NPS for Water Resources. We believe the following points should also be incorporated / considered here:		
		<u>Biodiversity and Nature Conservation</u> • Whilst we agree that 'Water infrastructure can contribute positively to biodiversity, introducing new features that can provide opportunities for nature and wildlife in the medium to long term', the relative importance of habitat lost and that created are not always equal; (for example, if losing or degrading fen habitat or chalk river during the construction of a reservoir). This should be built into the future appraisal.	Comment noted. This response will be considered when undertaking the AoS of the draft NPS.	N/A
		• Reference should be made in Table 3.3 (and Appendix B) to the recently published UK SPA review (see here: http://jncc.defra.gov.uk/page-7309) and consider the recommendations for action; and the State of UK's Birds 2017 (see here: https://www.bto.org/research-data-services/publications/state-uk-birds/2017/state-uk-birds-2017).	Agreed. This reference has been included in Table 3.3 and Appendix B.	Table 3.3, Appendix B (Section 1.3)
		• Reference will need to be made to the Defra 25 Year Environment Plan once published.	Agreed. Reference to the 25 Year Environment Plan has been included in Appendix B.	Appendix B (various topics)

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		• It would be helpful to see a clear link in the Summary of Key Issues (Key Trends) and Appendix B to the extent to which protected areas and habitat and species have been impacted by water resource issues. • The key trends under this section should also address current levels of over abstraction and impact on ecological status.	Comment noted. Water resource impacts (whether abstraction or habitat creation) are identified in a generalised way in a number of publications (EEA, 2015 State of nature in the EU, JNCC and RSPB 'State of Nature' 2016); however, whilst providing justification for the observation of the issue, the reports are considered insufficient to supplement the current baseline detail.	N/A
		<u>Human Health</u> • A further area of relevance to Water Resources Infrastructure is the issue of emerging pollutants. Water Resources Infrastructure may need to consider the detection and removal of chemicals in the drinking water supply that come from the rural or urban parts of a catchment, or in treated waste water returned to the environment (e.g. pharmaceuticals). These chemicals may equally have ecological impacts that need to be mitigated.	Agreed. Reference to pollutants has been included in Table 3.3	Table 3.3
		<u>Water Quality</u> • Historic pollution of groundwater also stems from agricultural operations; nitrate concentrations present an issue for water resources (re drinking water standards) as well as for aquatic ecology.	Agreed. Reference to pollution from agricultural operations has been included in Table 3.3.	Table 3.3
		<u>Water Quantity</u> • The ongoing need to promote water efficiency measures, including metering is recognised; however, as raised above, there is not a level playing field between companies regarding the opportunity to progress universal metering.	Comment noted. This is outside the scope of the AoS and NPS. No change to the Scoping Report is considered to be necessary.	N/A

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		• Metering, and other measures such as leakage reduction, can also be curtailed to some extent by limited customer support for the expenditure that would enable them. Equally, they can be supported up to or beyond the point where they are financially neutral, given customer support for their implementation. The role of the Periodic / Price Review process in determining the current and future landscape for water efficiency measures should therefore be recognised.	Comment noted. This is outside the scope of the AoS and NPS. No change to the Scoping Report is considered to be necessary.	N/A
		• Relevant to water resources infrastructure, we would like added: The volume and flow of water significantly affects ecological functioning and will be affected (potentially positively or negatively) by water resources infrastructure.	Agreed. Table 3.3 has been revised as per this response.	Table 3.3
		<u>Climatic Factors</u> • It is noted that the construction and operation of large scale water resources infrastructure is likely to result in a net increase in energy use and greenhouse gas emissions. Some forms of infrastructure will be inherently more energy-intensive than others, and in addition, the scope for the Infrastructure's energy needs to be met by renewable energy will be greater for certain infrastructure types than for others; this should all be reflected in the AoS.	Agreed. Table 3.3 has been amended as per this response.	Table 3.3
		We welcome the statement of potential opportunity for water resources infrastructure to help address flood risk issues.	Comment noted.	N/A
BFW2	2	Regarding Appendix B, we recommend the following: Under International/European plans and programs: • Regarding biodiversity and nature conservation we suggest adding the EU invasive alien species regulation.	The Invasive Species Regulations fulfil Action 16 of Target 5 of the EU 2020 Biodiversity Strategy, which is included in Appendix B, Section 1.2 of the Scoping Report. Additional reference to Regulation	Appendix B (Section 1.2)

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			(EU) 1143/2014 on invasive alien species has been added.	
		• The UN Sustainable Development Goals. Those of particular relevance are goal 12 on responsible consumption and production (including the sustainable management and efficient use of natural resources) and goal 15 on sustainable management of our environment (including conservation, restoration and sustainable use of inland freshwater ecosystems and their services).	Agreed. Reference to the Development Goals has been included in Appendix B.	Appendix B (Section 11.2)
		Under England, specific plans and programs regarding biodiversity and nature conservation we recommend adding: • The Water Act (2015) specifying the resilience duty and the consequent definition by Ofwat, which includes the protection of the natural environment now and in the future.	Comment noted. The Water Act is included within the two water topics (Appendix B Sections 5 and 6). Whilst the overlap between topic areas is appreciated, plans and programmes have principally been discussed under the topic that is their primary concern to avoid unnecessary duplication.	N/A
		We welcome the acknowledgement that there will be interconnected effects on the environment.	Comment noted.	N/A
		Under the baseline information for abstraction, we propose: • Including current levels of over abstraction and impact on protected areas or WFD status/Reason for not achieving good.	Comment noted. Given the national scale of the AoS, it is not considered proportionate to include this level of information.	N/A
		Under likely evolution of the baseline:	Disagree. Appendix B Section 10 includes a review of national plans,	N/A

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		• The evolution of the baseline currently highlights current trends over the lifetime of the NPS. As such it struggles to take the effects of climate change into account.	policies and baseline data with regards to climate change and potential future scenarios.	
		• We disagree with the statement that "*unsustainable groundwater and surface water abstraction may contribute to environmental damage of rivers and wetlands at 500 sites in England and Wales*" and yet that "*the Environment Agency's approach to abstraction management and the restrictions placed on abstraction by the Water Framework Directive would both be expected to act in mitigation of these potential trends*." The expected changes are due to climate change and the Climate Change Committee conclude that freshwater habitats are particularly vulnerable to climate change and more needs to be done. In addition, the Environment Agency's approach to abstraction management is supposed to reduce current levels of over abstraction but is not currently going to address potential over abstraction arising from a changing climate. We also argue that WFD may not achieve what is proposed due to affordability and exemptions. The potential for abstraction to continue to contribute to environmental damage of our rivers and wetlands should be acknowledged and the potential for climate change to increase this impact.	Disagree. The Environment Agency's approach to managing water abstraction takes full account of the pressures on water resources resulting from climate change.-	N/A
		• We note that a changing climate and abstraction also affects flow variability, which is vitally important to ecological functioning and is not mentioned specifically in the assessment.	Comment noted. Reference to flow variability and ecological functioning has been included in Table 3.3.	Table 3.3
		• Within Table 10.2, under the question "*Will the Water Resources NPS increase resilience to the effects of climate change*?" there is no mention of how the NPS might impact on environmental resilience. We reiterate that the Water resources long-term planning framework fails to identify the long term risks and opportunities of the water supply industry on the environment and vice versa. This is a gap which needs to be filled. There is the potential for a Water Resources NPS to increase environmental resilience, but this needs	Comment noted. The AoS Framework includes a broad range of objectives and guide questions that, taken together, enable the identification of likely significant effects. For example, under biodiversity, the guide questions consider:	Table 4.3, Appendix B (Section 1.6)

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		to be better understood within the NPS and Assessment of Sustainability. We recognise that many of these issues are described elsewhere in the AoS documents, but suggest that they need to be given appropriate prominence via their inclusion at this level of the assessment.	• Will the Water Resources NPS lead to a change in the ecological quality of habitats due to changes in groundwater/river water quality and/or quantity? • Will the Water Resources NPS protect and/or enhance priority species and habitats? • Will the Water Resources NPS affect the structure and function of natural systems (ecosystems)? These are all factors that will contribute towards 'environmental resilience'. Please note, whilst not 'environmental resilience' the final guide question of those listed above has been amended to read: 'Will the Water Resources NPS affect the structure and function, and resilience of ecosystems?'. This is to address a requirement of Section 6 the Environment (Wales) Act 2015 concerning a duty 'to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems'.	
BFW3	3	Yes, in general, the objectives and guide questions cover the breadth of issues appropriate for appraising the effects of the draft NPS. Under Biodiversity and Nature Conservation we suggest an additional two questions:		

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		• "Will the NPS affect the ecological network of protected areas and connectivity between sites?"	Agreed. The guide question suggested in this response has been included under AoS Objective 1.	Table 4.3, Appendix B (Section 1.6)
		• "Will the NPS affect hydrological functioning such as flow variation?"	Comment noted. The proposed guide question has been included under AoS Objective 6.	Table 4.3, Appendix B (Section 1.6)
		One addition we would like made is under section 10: climatic factors: Will the Water Resources NPS increase *environmental and operational* resilience to the effects of climate change?	Comment noted. For the reasons set out above (under Question 2), no change to the Scoping Report is considered to be necessary.	N/A
		We have some broader comments on the proposed appraisal framework: the matrix should be expanded to have a column covering mitigation and the expected residual effect. The appraisal will need to give consideration to the transboundary nature of effects, the magnitude and spatial extent of impacts; environmental standards and limits (and where exceeded) – particularly important if the proposed biodiversity objective is to be meaningful and the frequency and reversibility of any impact.	Comment noted. Mitigation and any transboundary effects will be clearly identified within the matrices in the AoS Report. As noted in the example matrix presented in Table 4.5 of the Scoping Report, in the commentary under the effects column, mitigation and enhancement measures will also be identified. No change to the Scoping Report is therefore proposed.	N/A
		Finally, in the guidance on determining significance (specifically in reference to Biodiversity and Nature Conservation), we would like to see reference made to meeting favourable conservation status and for local biodiversity to be defined.	Comment noted. In the illustrative guidance for the assessment of significance for biodiversity and nature conservation, the examples provided in the definition of an effect will be extended to include the effects on conservation status	Appendix B (Section 1.6), Appendix C

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		Clear analysis of the cumulative effects should be made including the combined effect of the preferred NPS as well as the NPS in combination with other plans, programmes or projects (existing and proposed).	Comment noted. Paragraphs 4.4.7 to 4.4.8 and Tables 4.7 and 4.8 of the Scoping Report set out the proposed approach to the assessment of secondary, cumulative and synergistic effects as part of the appraisal of cumulative effects. Paragraph 4.4.8 states that 'the effects of the draft NPS in-combination with other plans and programmes will also be considered'. No change to the Scoping Report is therefore proposed.	N/A
		We highlight that the following points should be made clear within the AoS scoping report: • Geographic scope (P.35): this should also cover the marine environment surrounding England.	Section 4.2 sets out the proposed scope of the appraisal including its geographic extent. To confirm, this includes effects in the marine environment. For the avoidance of doubt, Section 4.2 will be amended to address this point.	Section 4.2
		• The Draft AoS Report should include an outline of the alternatives chosen as well as the likely significant effects of implementing these.	Comment noted. Section 5.2 of the Scoping Report sets out the proposed structure of the AoS Report, which will include a chapter 'outlining the likely significant environmental and socio-economic effects of the implementation of the draft NPS	N/A

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			and the reasonable alternatives to it, including cumulative effects, mitigating measures, uncertainties and risks. The reasons for selecting the draft NPS as proposed and for the rejection of alternatives, together with any difficulties encountered in completing the appraisal, will be explained'.	
		• The Draft AoS Report must be made available alongside the consultation into the Draft NPS.	Comment noted. The AoS Report will be made available for consultation alongside the draft NPS. In this regard, Section 1.4 of the Scoping Report sets out the stages of the AoS process, and highlights that Stage D includes 'consulting on the draft NPS and the AoS Report'.	N/A
		The proposed Appraisal Framework (Table NTS1) sets out a series of questions against which the draft NPS and alternatives will be appraised. If this process is to ensure that the sustainability of the NPS, in environmental terms, is to be reliably assessed, we suggest the following additions / clarifications to the guide questions: Biodiversity and Nature Conservation: • This section should specifically include reference to Invasive Non-Native Species (INNS) given their propensity to impact upon aquatic ecosystems and the risk that their spread will be facilitated by physical changes to those ecosystems (such as those brought about by NSIP water resource projects). The proposed questions should	Agreed. A guide question relating to INNS has been included in the AoS Framework under AoS Objective 1.	Table 4.3, Appendix B (Section 1.6)

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		specifically ask whether the NPS will increase the spread or transfer of invasive non-native species and consequently impact on habitats and species.		
		• In relation to impacts upon designated conservation areas, the AoS should consider Marine Conservation Zones liable to be designated in Tranche 3, alongside existing MPAs.	Agreed. Reference to Marine Conservation Zones has been included in the AoS Framework.	Table 4.3, Appendix B (Section 1.6)
		• Alongside 'Priority' (NERC Act) species, the AoS should consider Species of Conservation Concern.	Agreed. Reference to Species of Conservation Concern has been included in the AoS Framework.	Table 4.3, Appendix B (Section 1.6)
		• In relation to the structure and function of natural systems, it should be recognised that the current ability of most ecosystems to function naturally is constrained by the impacts of modifications over time, and this in turn hinders the ability of the habitat and the species it supports to function in a way which delivers ecosystem services and allows adaption to pressures such as climate alterations. The AoS should therefore not assume that maintaining the status quo is delivering sustainability; it should consider whether the NPS will impact on opportunities to deliver natural ecosystem function, rather than whether it will affect an ecosystem's (currently sub-optimal) structure or function.	Comment noted. The wording of the guide question is intended to help identify whether effects on ecosystems will be neutral, positive or negative. No change to the Scoping Report is therefore proposed.	N/A
		• In relation to changes in groundwater or river water quality or quantity, specific reference should be made to the requirements of the Water Framework Directive, including the requirement for 'no deterioration'. The AoS should also feature transitional and coastal waters considered under the directive, particularly since desalination schemes (which will feature in the NPS) are likely to impact primarily on these environments. (Although mentioned under 'water quality', the failure to refer to the WFD in relation to ecology is a concern).	Comment noted. Reference to the WFD is included under AoS Objective 5 and in consequence, it is not considered necessary to include further reference under AoS Objective 1. Where effects on water quality may impact on biodiversity, this will be considered in the AoS of the draft NPS.	N/A

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		• Reference should be made to whether the Water Resources NPS will exacerbate the impacts of climate change which is one of the key drivers of biodiversity declines.	Comment noted. Effects on climate change will be considered through the appraisal of the draft NPS against AoS Objective 10. Where impacts may affect biodiversity, this will be considered in the AoS.	N/A
		• We are pleased to see the biodiversity objective refers to working within environmental capacities and limits. However, these limits / capacities for biodiversity will need to defined within the AoS if this is to be used as an effective test of the NPS.	Comment noted.	N/A
		Population, economics and skills: • We are concerned that the wording around economics will promote a 'single-issue' view of costs. We would welcome consideration of natural capital (provided that biodiversity targets are properly built in), and of the ecosystem services provided by this capital in the long term, when considering which solutions deliver the best value. A number of Water Companies are starting to think about taking this approach within their developing Water Resources Management Plans, and the NPS could therefore valuably provide an early lead in this area.	Comment noted. It is not Defra's intention to undertake a natural capital assessment of the draft NPS at this stage.	N/A
		• The section looks at reducing impacts upon the economy, for example, from drought restrictions. Effectively this means ensuring the resilience of water supplies, yet there is no specific acknowledgement of the importance of environmental resilience. The wording may promote consideration primarily of operational and infrastructure resilience, yet by contrast, Ofwat's Chief Executive Cathryn Ross recently said "Ecosystems are part of operational resilience - we depend as much on them to supply clean water and absorb waste water as we do on pipes and treatment works." Options promoted via the NPS should seek to secure environmental resilience in order to protect the asset upon which water companies rely to operate.	Comment noted. For the reasons set out above (under Question 2), no change to the Scoping Report is considered to be necessary.	N/A

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		Climatic factors: • The AoS should specifically consider whether the NPS will hinder the ability of species or habitats to adapt to a changing climate, e.g. by fragmenting habitat and preventing species' dispersal.	Comment noted. A specific guide question relating to adaptation is included under AoS Objective 10. This has been revised to include reference to habitats and species.	Table 4.3, Appendix B (Section 1.6)
		• We propose the following alteration to the wording: *Will the Water Resources NPS increase environmental and operational resilience to the effects of climate change?*	Comment noted. For the reasons set out above (under Question 2), no change to the Scoping Report is considered to be necessary.	N/A
		• The AoS should specifically consider whether the NPS adequately ensures that schemes will themselves be resilient to climate change and growth so that they do not themselves become an issue in the future.	Please see the response above.	N/A
		Water quality and water quantity: • Whilst worth considering at the policy level, many impacts upon water quality and quantity will only become apparent at the individual (and in-combination) scheme level; the NPS should therefore employ robust measures to ensure that impacts not deemed significant at this over-arching level are not then overlooked at the regional or local level where their consequences will be felt, simply because a scheme type is 'waived through' via its inclusion within the NSIP list.	Requested detailed requirements for inclusion in the NPS do not fall within the scope of the AoS Scoping Report but will be considered by Defra in preparing the draft NPS.	N/A
		• Regarding reducing the impact of drought measures on the environment, the AoS will need to consider the (beneficial) impact of not needing to resort to drought orders during times when the environment is already stressed, against the potential (detrimental) impact that the water resources options employed may themselves have upon the environment during times of drought.	Comment noted. This will be considered in the AoS of the draft NPS where appropriate. No change to the Scoping Report is considered to be necessary.	N/A

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		Flood Risk and Coastal Change: • The overarching objective should be extended as follows: To minimise the risks from coastal change and flooding to people, property, communities and habitats and species, taking into account the effects of climate change. • The proposed guide questions should consider the resilience of infrastructure, and places/communities, habitats and species to future flooding.	Agreed. AoS Objective 7 has been amended as per this response. Agreed. An additional guide question has been included under AoS Objective 7 relating to resilience to flooding.	Table 4.3, Appendix B (Section 7.6), Appendix C Table 4.3, Appendix B (Section 7.6)
BFW4	4	We welcome Government's recognition that a twin-track approach to meeting future water resource needs is required, utilising demand management alongside new water resources infrastructure. We have already highlighted issues around the roll-out of demand management options and so conclude that the NPS or an alternative to it could helpfully consider any changes needed to policy or guidance that would facilitate the wider delivery of demand management measures in line with the aspirations of Government, Ofwat and the environmental sector. For example, measures identified in the Waterwise Water Efficiency Strategy for the UK, which is being delivered by a Water UK supported steering group, such as the need for a more effective labelling scheme. Water companies should be actively working with Government, NGOs and other stakeholders to demonstrate high ambition on water efficiency before implementing new supply side solutions. One alternative approach to the NPS would be to consider how far measures could meet national water supply requirements through demand management and smaller measures without the need for nationally important infrastructure. From there it would be possible to determine the likely amount of water to be delivered through new nationally significant infrastructure and where this might be necessary. Generally, there seems to be a misunderstanding of the role of Strategic Environmental Assessment (to be fulfilled here through the AoS). The AoS provides authorities and the public with an early and effective	Comment noted. Reference or a statement of new water resource policy or guidance would be outside the scope of the NPS. The NPS will provide planning policy guidance against which development consent order applications for any nationally significant water resources infrastructure project will be examined. It will also set out why nationally significant water resources infrastructure will be needed, set within the context of the twin track approach. Whilst it is a valid to consider whether the need case for water resource infrastructure is appropriate, within the context and requirements of the SEA Directive 2001/42/EC, unless demand management infrastructure could be envisaged to be of such scale as to be within the scope of the	N/A

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		opportunity to express their opinion on the draft plan and the accompanying environmental report before the adoption of the plan and to enable the implications of different choices to be made clear. Section 2.4 of the AoS Scoping Report sets out a number of possible alternatives, however, a number of these seem to have already been discounted before being assessed and made available to the public. For example, the consultation has been framed to indicate that an NPS is necessary, that a twin-track approach should be adopted and that the NPS should be non-site specific. This is concerning and suggests the AoS is not directly influencing decision-making which would be contrary to the spirit of the SEA Directive and Regulations. We strongly recommend that all reasonable alternatives (including those set out in Section 2.4) are properly assessed and made available for public consultation so the reasons for making certain choices and decisions is clear. Otherwise the AoS will resemble a paper chase with no meaningful influence on the NPS. We would be pleased to meet further with Government to discuss the approach to consultation and assessment of alternatives and the list of reasonable alternatives to be assessed (please refer to our response as a whole for an indication of other possible options, including our response to question 20). This will ensure all reasonable options are given proper consideration. For example, in deciding whether or not to have an NPS it will be important to recognise, that an NPS approach may speed up development and the impacts of projects so consented may be greater and occur sooner and possibly at a larger scale than they would otherwise (hence it will be important to test a no-NPS alternative). Furthermore, a spatially-relevant NPS and AoS would allow a much better assessment of the strategic and cumulative effects of different levels of water infrastructure development at different locations and so enable a strategy/policy that might actually help to maximise environmental benefits and avoid environmental and social impacts. This would also provide a clear framework for company WRMPs. Consideration should also be given to the results of any regional water resources planning exercises (WRSE, WRE), particularly looking at where these differ from or contradict company WRMPs. It should be noted that such differences may arise	Planning Act 2008, it is unlikely that it could be considered a reasonable alternative (given the objectives of the NPS). However, for completeness, such options will be referenced in a section in the AoS Report that sets in detail the consideration of the alternatives to the NPS, and identifies which of those alternatives is considered reasonable. These reasonable alternatives will be taken forward and included within the subsequent appraisal. In this way, the AoS Report will identify, describe and assess the likely significant effects of the NPS and the reasonable alternatives to it, in compliance with the requirements of Article 5(1) of the SEA Directive 2001/42/EC. Section 2.4 of the Scoping Report sets out some of the alternatives that could be considered, with reference to government guidance on the 'hierarchy of alternatives'. This highlighted the potential to consider: • a non-site specific NPS; • a non-site specific NPS that includes location criteria (for example, criteria based on excluding areas of specific environmental concern such as nationally/internationally	

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		where companies plan to different service standards, such as regarding the predicted frequency of drought restrictions.	designated nature conservation sites or national landscape designations); • a location-specific NPS that identifies candidate sites for nationally significant water resources infrastructure. These will be considered further in the AoS Report in compliance with the SEA Directive.	
Woodland Trust				
WT1	1	Topic 1 1 (Biodiversity and Nature Conservation) should include consideration of ancient woodland in line with the Conservative's manifesto pledge to improve protection for this irreplaceable habitat.	Comment noted. Ancient Woodlands are included within the scope of the assessment. The Ancient Woodland Inventory is discussed in Appendix B Section 4.2. The consideration of Ancient Woodlands also falls within the scope of the proposed guide questions; however, not all conservation designations are listed for every guide question in the interests of brevity. Reflecting this response, Ancient Woodland has been specifically referred to in the AoS Framework under AoS Objective 1.	Section 4.3, Appendix B (Section 1.6).
WT2	2	As stated above, irreplaceable habitats including ancient woods and trees should have been considered in the baseline analysis.	The Ancient Woodland Inventory is discussed in Appendix B Section 4.2. The long-term loss of Ancient Woodlands is also identified in Appendix B Section 14.4. No change to the Scoping Report is considered necessary.	N/A

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WT3	3, 4	No comment.	Noted.	N/A
Consumer Council for Water				
CCFW1		No comment.	Noted.	N/A
WSP				
WSP1	1	Yes. Although topic areas identified are in Section 3.1 and 3.2 rather than 3.3. WSP is glad to see that impacts relating to geology and farming are included but would expect to see more specific reference to soil management/sediment control, as failure to manage this resource explicitly may not be entirely sustainable on the long run.	Comment noted. Soil management and sediment control has been identified as a key issue in Table 3.3 and Appendix B (Section 4.4).	Table 3.3, Appendix B (Section 4.4)
WSP2	2	WSP views the baseline as comprehensive within the topic areas. There is no specific assessment against energy policy as the impacts/effects within several topic areas (economy, transport, air quality etc.) have energy implicit within them. Given the intense linkages between energy and water, should there be a specific baseline and impact assessment for energy? The present indicative economic analysis set out Appendix B of is crude and clearly no key decisions should be made using these metrics particularly where the outcomes are marginal against the criteria suggested.	Comment noted. Energy use will be principally considered under AoS Objective 10. This has been clarified in the AoS Framework. The presentation of economic data in Appendix B is considered proportionate to the requirements of an AoS of a proposed NPS concerning water resources. The subsequent AoS Report will use the baseline information presented (revised following consultee responses) to inform the appraisal of the NPS and any reasonable alternatives against the AoS objectives. The resulting assessment will be an AoS and should not be considered an economic analysis. No change to the Scoping Report is considered necessary.	Table 4.3, Appendix B (Section 10.6) N/A
Natural Resources Wales				

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
NRW1	2	**Review of Plans and Programmes** Whilst the AoS has identified a number of plans and programmes relevant for Wales that need to be considered as part of this AoS, it seems that a number have not been considered despite their equivalent for England having been considered. Proposed amendments include: <u>Water Quality</u> • The reference made to Environmental Permitting (England and Wales) Regulations 2010, should be amended to refer to the 2016 regulations. The review of plans and programmes should also describe how the Environmental Permitting (England and Wales) Regulations 2016 regulates discharges that can affect water quality. • The reference to Shoreline Management Plans should be updated to reflect that reviews (SMP2) have been completed, and set policies for the whole coast of England and Wales for the next 20, 50, and 100 years (2005-2025, 2025-2055, and 2055-2105). • The Groundwater (Water Framework Directive) (Wales) Directions 2016. • The Nitrate Pollution Prevention (Wales) Regulations 2013. <u>Water Quantity</u> • Welsh Water company drought plans. • Welsh water resources management plans.	 Agreed. The reference has been amended. Agreed. Specific reference to SMP2 has been included. Agreed. Reference has been added. Agreed. Reference has been added. Comment noted. Reference has been added to drought plans in England and Wales. However, specific reference to Welsh Water's plans has not been included. Agreed. The reference to WRMPs has been revised to clarify that this relates to England and Wales. However, specific reference to	 Appendix B (Sections 4.2 and 5.2) Appendix B (Section 5.2) Appendix B (Section 5.2) Appendix B (Section 5.2) Appendix B (Section 6.2) Appendix B (Section 6.2)

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
			Welsh Water's plans has not been included.	
		• River Basin Management Plans.	Disagree. Reference to RBMPs in England and Wales is included in Appendix B (Section 5.2).	N/A
		• Catchment Abstraction Management Strategies Managing Water Abstraction (2017).	The reference to Catchment Abstraction Management Strategies has been revised to clarify that this relates to England and Wales.	Appendix B (Section 6.3)
		• Water Resources Planning Guidelines.	Disagree. This is a technical document related to the preparation of WRMPs (although reference to the guidelines is included elsewhere in the report).	N/A
		• Water Company drought planning technical guidelines.	Disagree. This is a technical document related to the preparation of Drought Plans.	N/A
		• Welsh Government guiding principles for development of WRMPs.	Disagree. This is a technical document related to the preparation of WRMPs (although reference is included elsewhere in the report).	N/A
		• Welsh Government guiding principles for development of drought plans.	Disagree. This is a technical document related to the preparation of Drought Plans.	N/A
		• UK Climate Change Risk Assessment (specific Wales summary).	Disagree. The UK Climate Change Risk Assessment is	N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
			included in the baseline analysis for the UK as a whole.	
		• Ofwat 2020 policies.	Agreed. Reference has been included.	Appendix B (Section 6.2)
		<u>Flood Risk and Coastal Change</u> • DCWW 2050 consultation: http://www.dwrcymru.com/en/Company-Information/Business-Planning/Welsh-Water-2050.aspx.	Agreed. Reference has been included.	Appendix B (Section 7.2)
		• Flood Risk Regulations 2009: The AoS should also recognise NRW's duties in Wales under the Act.	Agreed. The reference has been amended.	Appendix B (Section 7.2)
		• The AoS should refer to the provisions within the Marine and Coastal Access Act 2009 as it applies to Wales (in addition to how it applies in England).	Agreed. The reference has been amended.	Appendix B (Section 7.2)
		• The National Flood and Coastal Erosion Risk Management Strategy.	Agreed. Reference has been included.	Appendix B (Section 7.2)
		• The Welsh Government made amendments to the Reservoir Act (1975) in 2015/16. The amendments are intended to ensure the ongoing protection of public safety by reducing the risk of an uncontrolled release of water from large reservoirs and the potentially catastrophic flooding this would cause.	Agreed. The reference has been amended.	Appendix B (Section 7.2)
		• Recommended non-statutory standards for sustainable drainage (SUDS) in Wales: Recommended standards that promote more natural SUDS systems in new development and aid developers, local authorities and other stakeholders to demonstrate that they have taken account of the Welsh Government's planning advice on Development and Flood Risk.	Agreed. Reference has been included.	Appendix B (Section 7.2)
		• Wellbeing and Future Generations (Wales) Act 2015.	Comment noted. It is considered that this Act is adequately	N/A

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			referenced elsewhere in Appendix B to the Scoping Report.	
		• Planning (Wales) 2015 Act: Sets out a series of legislative changes to deliver reform of the planning system in Wales.	Comment noted. It is considered that this Act is adequately referenced elsewhere in Appendix B to the Scoping Report.	N/A
		<u>Climatic Factors</u> • The review of plans and programmes should include the duties of Welsh Ministers and public bodies under the Well-being and Future Generations Act (Wales) 2015 to "take account of the report containing an assessment of the risks for the United Kingdom of the current and predicted impact of climate change most recently sent to the Welsh Ministers under section 56(6) of the Climate Change Act 2008 (c.27)" (the UK Climate Change Risk Assessment). This applies to Welsh Ministers under Section 11 of the Act, when preparing their Future Trends Report, and to Public Services Boards under Section 38, when preparing their Local Assessments of Well-being.	Agreed. Reference has been included.	Appendix B (Section 10.2)
		<u>Landscape and Townscape</u> • We suggest that you amend to clarify that Natural Resources Wales has the statutory power to designate National Parks and AONBs in Wales.	Agreed. The reference has been revised.	Appendix B (Section 14.2)
		• We suggest that you amend to clarify that a significant aspect of the Environment (Wales) Act 2016 is that the link between natural resources and well-being is made explicit	Agreed. The reference has been revised.	Appendix B (Section 14.2)
		Overview of the Baseline <u>Land Use, Geology and Soils</u> The geology description for Wales refers to 'Carboniferous peat'. However, we query whether this relates to carboniferous coal measures, or rather should refer to 'Carboniferous rocks', and then expand on	Comment noted. This description has been revised as per this response.	Appendix B (Section 4.3)

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		modern peat/ raise bogs in the soils section. Additionally, reference should be made to Carboniferous Limestone and Devonian sandstones forming important groundwater resources in south Wales. We suggest that the Baseline Overview should clarify that there are approximately 300 SSSI designated for geology, and 485 GCR sites. They are UNESCO Global Geoparks. It should also refer to Regionally Important Geodiversity Sites (RIGS). There are over 800 RIGS in Wales. <u>Water Quality</u> The final paragraph should also refer to the 17 water bodies of the Severn River Basin District within Wales which are targeted by NRW for improvement. It seems that the figures used in the table are based on the 2009 classification. This has been updated by the 2015 classification. Whilst we welcome the inclusion of information relevant to Dŵr Cymru, we consider similar information should be included for the areas within Wales operated by Severn Trent Water and Dee Valley Water to understand current provision and pressures. <u>Flood Risk and Coastal Change</u> We suggest that the baseline date for Wales should also refer to the Catchment Abstraction Management Strategies (CAMS) outputs for the relevant cross-border river basins to identify where water resources pressures exist.	Agreed. The baseline description has been revised. Comment noted. Table 6.3 has been updated. Comment noted. Specific reference to Welsh Water is included in Section 6.3 reflecting the fact that Welsh Water is the main water company in Wales. Inclusion of specific information relating to other water companies is not considered to be proportionate to a national level assessment. No change to the Scoping Report is therefore considered to be necessary. Comment noted. Reference to specific CAMS is not considered to be proportionate to a national level assessment. No change to the	Appendix B (Section 5.5) Appendix B (Section 5.3) N/A N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
			Scoping Report is therefore considered to be necessary.	
		It is estimated that 2,126 properties in Wales are vulnerable to coastal erosion during the next 100 years if there is no active intervention. This figure is reduced to 145 with full implementation of Shoreline Management Plan (SMP)2 polices.	Agreed. The baseline description has been revised.	Appendix B (Section 7.3)
		In this section, risk is referred to in in terms of a "1-in-75 or greater chance of flooding in any given year". This is different to the level of risk previously used in Section 7.3, which refers to high and medium risk (high being > than or = to 1:30, and medium being <1:30, > 1:100). We recommend that risk should be considered consistently throughout the AoS.	Comment noted. This reflects the sources of information used in the report. No change to the Scoping Report is therefore considered to be necessary.	N/A
		As currently drafted, the second sentence of the second paragraph seems to indicate to a SMP for Fairbourne. We suggest this is amended to clarify that Fairbourne is an example of a coastal community at risk from flooding/erosion, and that the SMPs cover the whole coast of Wales.	Agreed. The baseline description has been revised.	Appendix B (Section 7.5)
		<u>Landscape and Townscape</u> For a full overview of the Welsh landscape it is recommended that the following evidence is incorporated into the AoS: • LANDMAP landscape evaluation • National Landscape Character Areas, Seascapes, and • CADW Register of Historic Parks and Gardens Environmental issues affecting well-being in Wales are explored in NRW's State of our Natural Resources Report (SoNaRR) 2016. For landscape trends in Wales see LANDMAP updates 2017. NRW Tranquillity Mapping is also available for analysis in line with Scotland and England. Specifically produced by Wales' Designated Landscapes 'State of the Park / AONB Report' are also a useful source of evidence on the DL's special qualities.	Comment noted. Reference to the sources of information cited in this response has been included in Appendix B.	Appendix B (Section 14.3)

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
NRW2	3	We welcome the clarification in paragraph 4.2.4 of the AoS that it will consider the potential effects of the draft NPS on Wales (as well as England). We recommend that the applicants need to consider potential impacts on environmental features within Wales at the project stage is explicitly recognised in the NPS, as well as the need to consult the relevant statutory consultee.	Comment noted. Requested detailed requirements for inclusion in the NPS do not fall within the scope of the AoS Scoping Report but will be considered by Defra in preparing the draft NPS.	N/A
		We welcome the commitment in paragraph 4.4.7 to undertake an appraisal of secondary, cumulative and synergistic effects alongside other plans/ programmes. However, it would be useful to learn which plans/ programmes will be considered as part of this assessment, and what consultation will be held to ensure that relevant plans/programmes are identified before the assessment is undertaken.	Comment noted. Given the timeframe of the NPS, it is not practical to identify the plans and programmes to be considered in the assessment at this stage as they are subject to change prior to publication of the final AoS report.	N/A
		We welcome the objective to protect and enhance biodiversity and ecosystems. Under Section 6 the Environment (Wales) Act 2015 public bodies have a duty to protect and enhance biodiversity, and in so doing promote the resilience of ecosystems. To meet the aspirations within Wales, we suggest that the 6th guide question is amended to read: "Will the Water Resources NPS affect the structure and function, and resilience of ecosystems?"	Agreed. The guide question has been amended as per this comment.	Table 4.3, Appendix B (Section 1.6)
		Given the objective and guide questions in relation to ecosystem, we consider that Table 1.12 should also include an indicator to monitor the impacts (and their significance) on ecosystem resilience.	Agreed. The definition of significance has been revised as per this response.	Appendix B (Section 1.6)
		Rather than referring to a "decrease" in Water Framework Directive (WFD) status, we advise that the table should refer to "deterioration" to be consistent with conventional and widely understood terminology.	Agreed. The definition of significance has been revised as per this response.	Appendix B (Section 5.6)
		The table refers to both "significant" 'decrease' and 'increase' in WFD status for 'significant negative' and 'significant positive' effects. However, it is not clear how this differs from 'increases/ decreases' for 'negative/	Agreed. A significant negative effect will be qualified by reference to there being a requirement to justify permitting of the option under the provisions of Article 4.7	Appendix B (Table 5.5) and Appendix C (C7).

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		positive' effects. This should be clarified in the table. We would consider that any deterioration in WFD status would be significant.	of the WFD. No distinction will be made for the positive effects in regard to WFD.	
		We recommend that the reasoning of the third Objective/ Guide Question should reflect the aspiration to be consistent with the conclusions of Shoreline Management Plans 2.	Agreed. Table 7.1 has been revised to refer to SMP2.	Appendix B (Section 7.6)
		We suggest that the second Guide Question in Table 14.1 should be amended to read: Will the Water resources NPS affect the purposes and/ or special qualities of protected/ designated landscapes? This change should also be reflected in Table 14.2	Agreed. Tables 14.1/14.2 (and Table 4.3) have been revised as per this response.	Table 4.3, Appendix B (Section 14.6)
		We suggest including an additional guide question in Table 14.1 that reads: Will the Water Resources NPS affect public benefits and/ or services provided by landscape?	Agreed. The guide question proposed in this response has been included in the AoS Framework.	Table 4.3, Appendix B (Section 14.6)
NRW3	4	With regards to the first question as to whether it is necessary, has there been consideration of whether population and economic growth should be located to areas where there is sufficient water resources available?	Comment noted. The selection and refinement of options for appraisal is an ongoing process. Comments here will be considered alongside others in identifying reasonable alternatives for appraisal.	N/A
Northern Ireland Environment Agency				
NIEA1	1	In preparation of the NPS and all of its associated documents, including the AoS, Defra, as the Public Authority, is legislatively required to have regard to the UK Marine Policy Statement (UK MPS) and any relevant Marine Plan. This is not apparent as, for example, the UK MPS is not mentioned in all but one of the documents. The AoS Scoping Report Appendix B considers the UK MPS under *Water Quality* and *Flood Risk and Coastal Change*, however, only in relation to ensuring the sustainable use of marine resources, strategic management of marine activities and approaches to marine planning.	Comment noted. It is considered that the Scoping Report has given due recognition to the UK Marine Policy Statement at Appendix B, Sections 5.2 and 7.2. The implications stemming from, or relating to, the NPS will be considered at the assessment stage.	N/A

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			No change to the Scoping Report is considered necessary.	
NIEA2	1	Regard to the marine should not be limited to 'environment' related topic areas, and it is suggested that wider consideration of the potential impact both on and from the marine, in relation to social and economic topics, is given.	Comment noted. Issues such as the marine environment have principally been discussed under the topic that is their primary concern, although it is recognised that many topic areas and issues overlap/are related. The AoS of the draft NPS will consider effects on marine areas (including social and economic effects) as appropriate. No change to the Scoping Report is considered necessary.	N/A
NIEA3	1	Please note that for Box 1 AoS Scoping Consultees and throughout all of the documents, where reference is made to the Department of the Environment's 'Environment and Heritage Service', Northern Ireland, as a statutory consultee, this should be the Department of Agriculture, Environment and Rural Affairs (DAERA), Natural Environment Agency.	Agreed. References have been updated accordingly.	Box NTS1 Box 1
Natural England				
NE1	1	Yes, we consider that the assessment takes account of the likely significant effects on our specific areas of interest, and has correctly scoped in the relevant topics. We would welcome a commitment within the NPS/AoS to the achievement of a 'Net Gain' for nature and consider that this should be reflected within the assessment questions.	Agreed. The guide question 'Will the Water Resources NPS lead to a net gain in biodiversity?' has been included in the AoS Framework.	Table 4.3, Appendix B (Section 1.6)
NE2	2	The AoS Scoping Report includes a wide range of referenced data sources for establishing the baseline. We welcome the inclusion of National Character Areas as part of the baseline and consider that the information within these assessments could help to identify baseline conditions for a number of the topics (Biodiversity, Landscape, Soils, Recreation, etc.).	Comment noted.	N/A
NE3	3	The guide questions appear to be comprehensive and the objectives cover our main strategic interests. We would welcome recognition of the Government's aim to achieve a net gain for nature through new	Agreed. The guide question 'Will the Water Resources NPS lead to a net gain in biodiversity?' has	Table 4.3, Appendix B (Section 1.6)

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		development and consider that the guide questions should be amended to capture this commitment.	been included in the AoS Framework.	
NE4	4	We welcome the opportunity to comment on the proposed alternatives at the scoping stage and consider that the alternatives presented will provide a useful guide in assessing options available to those preparing the NPS. We note that the alternatives are limited to differing ways of delivering water developments (e.g. whether through an NPS, or not), and we would welcome consideration of an alternative that looked at different types of NPS. For instance, if the NPS was to be used, not just to help determine NSIP applications that come forward under the current round of Water Resources Management Plans, but to guide the development of future Water Resource Management Plans, then we consider that the process could significantly assist meeting Defra's stated aims for the 25 Year Environment Plan for improving water quality and provision. The SEA Directive requires consideration of the short, medium and long term impacts of the alternatives. For an NPS that seeks to guide NSIP projects, we would consider that the construction impacts will be very different from the operational impacts. In order to demonstrate these differing impacts, we consider that it would be better to set a short term assessment of 0-5 years (rather than the current 0-10 years), and a long term assessment of >30 years (rather than >50 years). In our experience, it is very difficult to draw conclusions of impacts (against a baseline) for more than 50 years, due to the levels of uncertainty in future technologies.	Comment noted. The selection and refinement of options for appraisal is an ongoing process. Comments made in this response will be considered in identifying reasonable alternatives for appraisal. Agreed. The proposed timescales for short, medium and long term set out in Table 4.2 of the Scoping Report have been amended as per this response in order to better aid differentiation between construction and operational effects. The timescales will therefore be as follows: • short – 0 to 5 years; • medium – 5 to 30 years; • long – greater than 30 years.	N/A Table 4.2
Historic Environment Scotland				
HES1	3	We note that the historic environment has been scoped into the assessment, under cultural heritage. On the basis of the information provided, we are content with this approach and are satisfied with the scope and level of detail proposed for the assessment. You should ensure that the environmental findings of the assessment are clearly defined from socio-economic findings.	Comment noted.	N/A

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HES2	N/A	We are content with the 12 week consultation period which you propose. Please note that, for administrative purposes, we consider that the consultation period commences on receipt of the relevant documents by the SEA Gateway.	Comment noted.	N/A
Scottish Environment Protection Agency (SEPA)				
SEPA1	3	We are generally content with the scope and level of detail proposed for the assessment but would recommend the inclusion of specific reference to invasive non-native species (INNS) within the guide questions – either within the Biodiversity and Nature Conservation topic or the Water Quality topic. INNS can greatly reduce biodiversity and they can also be a public health hazard (e.g. giant hogweed). INNS are dispersed by human activity; the construction and operation of water resources infrastructure has the potential to affect dispersal of INNS, including cross catchment transfers of INNS.	Comment noted. A specific guide question regarding invasive non-native species has been included under AoS Objective 1.	Table 4.3, Appendix B (Section 1.6)
SEPA2	N/A	We note the reference to mitigation measures (AoS page 42) and would make the following observations: 1. The AoS Report should clearly set out how any negative environmental effects will be addressed bearing in mind that for SEA purposes, negative environmental effects cannot be said to have been mitigated by social or economic gains. 2. It is important to ensure that mechanisms are established in the NPS to ensure that all proposed mitigation which is outwith the scope of changes to the NPS itself can be achieved. For example Box 2 on page 42 provides *promoting high quality, sustainable design in liaison with local communities* as an example of mitigation. Such mitigation will need an enabling mechanism which must be built into a relevant process e.g. a requirement of the NPS itself or a condition of any development consent granted, if mitigation is to be achieved.	Comment noted. Section 5.2 of the Scoping Report sets out the proposed structure of the AoS Report. This will include a chapter outlining the likely significant environmental and socio-economic effects of the implementation of the draft NPS and the reasonable alternatives to it, including cumulative effects, mitigating measures, uncertainties and risks.	N/A
SEPA3	2	We would highlight the following clarifications and updates for AoS Appendix B: Flood Risk Management Strategies – page 149 • Flood Risk Management Strategies (FRMS) are in place for all 14 Local Plan Districts. Links to all 14 plans can be found here http://apps.sepa.org.uk/FRMStrategies/index.html.	Comment noted. Appendix B Sections 7, 10 and 11 have been amended accordingly.	Appendix B (Sections 7.2, 10.2 and 11.2)

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		• A series of Local Flood Risk Management Plans are in place for all 14 Local Plan Districts. Links to all plans: https://www.sepa.org.uk/environment/water/flooding/local-frm-plans/ Climatic factors - page 180 • Draft RPP3 was published in January 2017 http://www.gov.scot/Publications/2017/01/2768 • A Draft Scottish Energy Strategy was published in January 2017, consultation responses are currently being analysed, anticipated publication of the final strategy by end 2017 http://www.gov.scot/Topics/Business-Industry/Energy/energystrategy • An update of the Renewables Routemap was published in 2015 http://www.gov.scot/Topics/Business-Industry/Energy/RoutemapUpdate2015 Waste and resource management – page 204 • Making Things Last: A Circular Economy Strategy for Scotland was published in 2016 http://www.gov.scot/Publications/2016/02/1761		
Scottish Natural Heritage (SNH)				
SNH1	3	We note that the NPS will apply to England only but as is reflected in the consultation documents, proposals in England could potentially have transboundary effects. We are content that you have satisfactorily scoped this into the assessment.	Comment noted.	N/A
Affinity Water				
AW1	N/A	Our review of the key issues and topics covered indicated that they are broadly consistent with those identified generically for water resource management plans. There is one query regarding traffic and transport and waste and resources: how would an NPS for water infrastructure support the achievement of those objectives?	Comment noted. The key issues identified in the Scoping Report reflect the review of plans and programmes and baseline information contained in Appendix B as well as the potential impacts of large scale water resources infrastructure.	N/A

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			It is the role and purpose of the AoS to identify whether the NPS is likely to have a significant effect on traffic and transport and waste and resources. It does not assume from the outset that there would be an effect, either positive or negative, on these aspects. No change to the Scoping Report is considered necessary.	
	1	It is recognised that it is difficult to apply an SEA/HRA to a non-site specific NPS, and would therefore direct the NPS to the dWRMPs where potential infrastructure and options might provide further information that could help the NPS focus on infrastructure types.	Comment noted. Due consideration will be given to the draft WRMPs throughout the appraisal process and in the preparation of the draft NPS. No change to the Scoping Report is considered necessary.	N/A
	4	It would be helpful to see more information relating to how the alternatives were defined, in order to understand whether there might be further alternatives that could be included. Possibly a description of the methodology followed for identifying alternatives?	Comment noted. Section 2.4 of the Scoping Report provides an overview of the approach/basis to identifying reasonable alternatives. The identification of alternatives is an ongoing process and further discussion will be set out in the AoS Report. No change to the Scoping Report is considered necessary.	N/A
South East Water				
SEW1		No comment.	Noted.	N/A
Anglian Water				

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AW1	1	Yes, we agree with the main issues identified in the topic areas. The issues listed adequately reflect both the positive and negative impacts that can occur as part of water resources infrastructure development.	Comment noted.	N/A
South West Water				
SWW1	1	There are no areas that should be removed. We do, however, think that under section 11 "Waste and Resources" specific mention should be made to the use of chemicals and materials in operation and their broader impacts. For example, many of the chemical needed for water treatment will be either petroleum based or sourced from outside the UK. As such they have a broader environmental footprint – i.e. they 'export' an environmental impact to other parts of the country or to other countries. We suggest that under Section 11 "Waste and Resources" the following reference should be included: "*Large scale infrastructure may require the long-term use of materials that are non-renewable or are importuned. In doing so they may export the environmental impact of their production to other parts of the country or to other countries*"	Agreed. Reference to the potential for cross-border impacts has been included in Table 3.3 and Appendix B (Section 11).	Table 3.3, Appendix B (Section 11)
	2	Yes.	Comment noted.	N/A
	3	Amend human health guideline question to: "*Will the Water Resources NPS ensure the continuity of a safe ~~and secure~~ water supply*."	Disagree. It is considered that a secure water supply is an appropriate element of this guide question. Ensuring continuity of water supply can help to maintain human health. No change to the Scoping Report is considered necessary.	N/A
	3	Amend water quality guideline question to: "*Will the Water Resources NPS protect **or** improve surface, ground, estuarine and coastal water quality*?"	Disagree. It would be premature at this stage to assume that the proposals of the NPS could not achieve both the protection and improvement of water quality.	N/A

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			No change to the Scoping Report is considered necessary.	
	3	Add a new water quality guideline to the population, economics and skills AoS topic area: "*Will the Water Resources NPS help give more resilience to other national infrastructure*."	Agreed. The proposed guide question has been included in the AoS Framework.	Table 4.3, Appendix B (Section 2.6)
	4	A significant water resources infrastructure project by definition can be expected to be a large project. Due consideration in the first step (the "need") should be made to maximising potential benefits and test whether the project can deliver multiple benefits. For example, a new reservoir could be built to a range of different sizes. A small reservoir may only meet these demands, but also allow the reduction of abstraction at other distant locations. This would not only test the 'robustness' of the need but the suitability of alternatives.	Comment noted. The selection and refinement of options for appraisal is an ongoing process. Comments here will be considered alongside others in identifying reasonable alternatives for appraisal.	N/A
Northumbrian Water				
NW1	1	There are no further issues we think should be included. We would suggest "Population, economics and skills" should be considered for removal. This issue is more the Justification of Need for a water resource scheme. All of the other issues are the possible consequences aligned to the development of a scheme.	Disagree. The AoS would not be compliant will the scope of topics required by the SEA Directive or reflect the baseline analysis and potential effects of the NPS if 'population, economics and skills' were removed from the assessment. No change to the Scoping Report is considered necessary.	N/A
NW2	2	Yes.	Comment noted. No change to the Scoping Report is considered necessary.	N/A
NW3	3	Yes. See response to Q4 [*presented here as NW1*] for exclusion	Comment noted. See response to NW1. No change to the Scoping Report is considered necessary.	N/A
NW4	4	No. We believe the NPS as proposed is suitable for purpose.	Comment noted.	N/A

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United Utilities				
UU1	1, 2, 3	We think that the AoS has taken an appropriate approach to identifying the issues, and appraising the effects of the draft NPS.	Comment noted.	N/A
UU2	4	We agree that the assessment has identified appropriate alternatives for consideration.	Comment noted.	N/A
Individual 1				
I1	1, 2, 3, 4	No answer, by setting this survey out you already know the answer.	Comment noted.	N/A
Clean Rivers Trust				
CRT1	1	No.	Comment noted. No change to the Scoping Report is considered necessary.	N/A
CRT2	2	There are areas where there is a lack of knowledge demonstrated. It is a conservative and narrow document.	Disagree. The AoS Scoping Report considers the breadth of topics required by the SEA Directive, and in considering wider socio-economic effects presents information for the following 14 topics: biodiversity and nature conservation; population, economics and skills; human health; land use, geology and soils; water quality; water quantity; flood risk and coastal change; air quality; noise; climatic factors; waste and resource management; traffic and transport; cultural heritage; and landscape and townscape. Appendix B contains information for each of the topics that is considered appropriate and proportionate to support the appraisal of the NPS. Without further clarification, it is not	N/A

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			possible to identify where further information is required. No change to the Scoping Report is considered necessary.	
CRT3	3	The guide questions should be removed and a request made for questions to be answered.	Disagree. The guide questions are an important part of establishing the framework for the AoS. No change to the Scoping Report is considered necessary.	N/A
Friends of the Lake District				
FLD1	1	There seems a certain amount of disconnect between the issues identified and those in Appendix B. So, we identify a number of missing issues below, but many of them have been recognised in Appendix B.	Comment noted. Appendix B of the AoS Scoping Report presents a review of national level contextual environmental baseline information, proportionate to the indicative scope of the NPS. The review of plans and programmes and the baseline are summarised in Tables 3.2 and 3.3 of the Scoping Report. This information will be used to inform the appraisal of the draft NPS and reasonable alternatives to it.	N/A
		Population, economics and skills – it is astonishing that there is no recognition here of the impacts of huge infrastructure creation on people's lives or businesses, either during construction or ongoing. Such projects can create huge stress, cause havoc to existing businesses and impact on economics. This is not only for residents, but those who make their living from the land – farmers, woodland owners, tourism businesses. The current United Utilities West Cumbria link is disrupting the lives of residents, preventing farmers from following their usual	In response to this comment, Table 3.3 has been revised to include reference to the potential adverse impacts of water resources infrastructure on population (including economies).	Table 3.3

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		practices for nearly 2 years, having an impact on tourism businesses where roads and access routes are closed, or people are just avoiding the noise and mud that is created. The disruption and impacts for all these people have to be taken into account and the compensation offered never covers the impacts fully.		
		Human health – there should be recognition that water catchments provide significant access and reservoirs, although man made can provide a 'rural' setting with the presence of water being a beneficial thing. Both have proven positive impacts on mental health and wellbeing and also physical health if exercise is taken. The creation of new reservoirs could reduce existing access and recreation provision or may provide more opportunity. This issue is increasing in significance with the rising pressures on the NHS and so should be added.	Agreed. The potential for the development of water resources infrastructure to have both positive and adverse impacts on human health has been included in Table 3.3.	Table 3.3
		Noise – the flip side of the coin to noise is tranquillity but tranquillity is an assessment of noise and other factors. CPRE have mapped tranquillity for the whole country and it is recognised as an important aspect of landscape and people's enjoyment of that landscape. We ask that tranquillity and impacts of construction (probably negative) and the final infrastructure (could be positive e.g. reservoir) are added in please.	Comment noted. Tranquillity is identified within Appendix B (Sections 9.2 and 14.4) as a key issue. However, reference to the CPRE tranquillity map has been included section and reference to tranquillity has also been included in Table 3.3.	Appendix B (Sections 9.3 and 14.4), Table 3.3
		Traffic and transport – needs to be cross referenced to sections on pollution, population and impact on people's lives, increased damage to roadside verges of more and larger lorries.	Comment noted. The linkages between traffic and transport and other topics have been identified in Appendix B (Section 12.1). This has been revised to include reference to health and biodiversity. Linkages with other topics will also be considered further in undertaking the appraisal of the draft NPS. Table 3.3 has also been revised in response to this comment.	Appendix B (Section 12.1), Table 3.3

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		Cultural heritage – this is far wider than just wetland habitats, listed buildings and scheduled monuments. It includes patterns of life and work, traditions etc. The scope of the issue needs to be widened out and designations such as World Heritage Sites which can be designated for the importance of cultural heritage, e.g. the Lake District recognised more fully. In addition, cultural landscape as a function of the interaction between human traditions, landscape and the environment is a relevant consideration.	Comment noted. The policy context and UK baseline with regard to World Heritage Sites is established within Appendix B (Section 14). The extant guide question '*Will the Water Resources NPS conserve or enhance the historic environment, including heritage assets such as historic buildings, conservation areas, features, places and spaces, and their settings?*' includes World Heritage Sites; however, for brevity not all types and classification of historic asset are listed. The following guide questions have been included in the AoS Framework and associated issues reflected in Table 3.3: • 'Will the NPS affect traditional land management activities that have created unique landscapes?' • 'Will the NPS affect the heritage of communities?' In response to this comment, specific reference to important cultural landscapes has also been included in the AoS Framework.	Table 3.3, Table 4.3, Appendix (Section 14.6)
		Access and recreation – it is surprising that there is little mention of impacts on access and recreation, and this links to the sections on population, health, cultural heritage and landscape. Water catchments	Comment noted. Effects on access and recreation are identified as a guide question	Table 3.3

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		often provide a high level of access and recreation and this is hugely appreciated and recognised. Equally the creation of new infrastructure can have pretty devastating, even if usually short term impacts on access, e.g. the current United Utilities West Cumbria link pipeline work.	under AoS Objective 3 and as such, will be considered throughout the AoS process. However, in response to this comment, reference to access and recreation has been included in Table 3.3.	
FLD2	2	Population, economics and skills – under the negative and significant negative, there does not seem to be an assessment of impact on landowners, or economic impact on businesses and landowners, apart from loss of jobs.	In response to this comment, Table 3.3 has been revised to include reference to the potential adverse impacts of water resources infrastructure on population (including economies).	Table 3.3, Table 4.3, Appendix B (Section 2.6)
		Water quantity – the assessment makes no reference to reduction in leakage. It is unacceptable that for some companies, leakage per household is higher than use per household! Significant positive categories and positive impact assessment categories need to refer to reduction in leakage.	Comment noted. The guide questions include 'Will the Water Resources NPS ensure the sustainable and resilient supply of water resources?' which will ensure that effects on leakage are identified and assessed where appropriate. No change to the Scoping Report is considered necessary.	N/A
		Noise – no mention of tranquillity. The CPRE tranquillity maps could be used as a baseline to assess this.	Comment noted. Tranquillity is identified within Appendix B (Sections 9.2 and 14.4) as a key issue. However, reference to the CPRE tranquillity map has been included section and reference to tranquillity has been included in Table 3.3.	Appendix B (Sections 9.3 and 14.4), Table 3.3

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		Transport – needs to assess negative impacts on the landscape as well as the factors listed.	Comment noted. The linkages between traffic and transport and other topics have been identified in Appendix B (Section 12.1). This has been revised to include reference to landscape. Linkages with other topics will also be considered further in undertaking the appraisal of the draft NPS. Table 3.3 has also been revised in response to this comment.	Appendix B (Section 12.1), Table 3.3
		Landscape and Townscape – There is reference to the National Parks and Access to the Countryside Act but the references are very limited compared to reference to other Acts in the document. For example, the document needs to mention the Sandford Principle. It is astonishing that there is no mention of the Environment Act 1995. This is important for a variety of reasons, for example section 62 which is about the duty that statutory undertakers and agencies have to have regard to National Park purposes. This includes water companies. We welcome the recognition of the Countryside and Rights of Way Act 2000 but the references to it are again very limited. For example, there is no mention of section 85 which gives statutory undertakers and agencies a duty to have regard to the purposes of AONB designation. This includes water undertakers. There is also a need to refer to the existence of more local Acts that can have an impact on water providers, e.g. the Manchester Corporation Waterworks Act 1879. We welcome the mention of the NCAs but again reference needs to be made to more local Landscape Character Assessments which will be very relevant at the individual application stage. In addition, there are some more local studies about the change in landscape condition. The landscape assessment could easily consider tranquillity if it has not been considered in the noise section.	Comment noted. The review of plans and programmes contained in Appendix B (Section 14.2) has been revised in response to this comment. However, it is not considered to be appropriate or proportionate to refer to specific local level plans and programmes or studies given the national scale of the assessment.	Appendix B (Section 14.2)

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		The importance of access and recreation is underplayed. It gets a mention under the health section, and landscape, but not the economics or people section.	Comment noted. Access and recreation are identified under health and landscape and will therefore be considered as part of the AoS of the draft NPS. No change to the Scoping Report is considered necessary.	N/A
		Cultural landscape designations such as World Heritage Site are not mentioned, but the potential of major new water to impact on the Outstanding Universal Value is very high.	Comment noted. The policy context and UK baseline with regard to World Heritage Sites is established within Appendix B (Section 14). The extant guide question '*Will the Water Resources NPS conserve or enhance the historic environment, including heritage assets such as historic buildings, conservation areas, features, places and spaces, and their settings?*' includes World Heritage Sites; however, for brevity not all types and classification of historic asset are listed.	N/A
FLD3	3	Water quantity – leakage reduction should be explicitly mentioned, not just more sustainable usage.	Comment noted. The guide questions include reference to the sustainable and resilient supply of water resources which permits consideration of the importance of considering network efficiency and leakage reduction. No change to the Scoping Report is therefore considered necessary. Comment noted. An additional guide question has been included	N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		The issues raised above need to be reflected in the objectives and guide questions, e.g. mention of tranquillity, etc.	under AoS Objective 14 relating to tranquillity. See comments above relating to other amendments to the AoS Framework.	Table 4.3, Appendix B (Section 14.6)
		Does flood management via water infrastructure in extreme events receive enough attention?	Comment noted. The AoS Framework includes a specific objective (AoS Objective 7) relating to flood risk. No change to the Scoping Report is therefore considered necessary.	N/A
		The AOS needs to specifically consider the impacts of further abstraction on lakes on amenity and business use. For example, in the Lake District Windermere and Ullswater are abstracted for public use, and abstraction in summer compounds low lake levels and makes it difficult for boat businesses to operate. Equally, consideration should be given to impacts on outstanding universal value of World Heritage Sites, such as traditional patterns of managing common land.	Comment noted. The AoS will consider effects on amenity and businesses arising from the draft NPS. For example, the AoS Framework includes the guide questions: • Will the Water Resources NPS affect the number or types of jobs available in local economies? • Will the Water Resources NPS affect the social infrastructure and amenities available to local communities? • Will the Water Resources NPS affect opportunities for recreation and physical activity? • Will the Water Resources NPS have detrimental visual impacts?	Table 4.3, Appendix B (Section 2.6)

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
			The AoS will consider (where appropriate) impacts associated with abstraction in this context. The extant guide question '*Will the Water Resources NPS conserve or enhance the historic environment, including heritage assets such as historic buildings, conservation areas, features, places and spaces, and their settings?*' includes World Heritage Sites; however, for brevity not all types and classification of historic asset are listed. Notwithstanding this, the following guide question has been included in the AoS Framework: 'Will the NPS affect traditional land management activities that have created unique landscapes?'	Table 4.3, Appendix B (Section 14.6)
FLD4	4	Alternatives to be considered should include a larger number of smaller schemes that may have less impact but achieve the same result.	Comment noted. Whilst it is valid to consider whether the need case for water resources infrastructure is appropriate, within the context and requirements of the SEA Directive 2001/42/EC, unless future infrastructure could be envisaged to be of such scale as to be within the scope of the Planning Act 2008, it is unlikely that it could be considered a reasonable alternative (given the objectives of the NPS). However, for completeness, such options will be referenced in a section in the	N/A

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
			AoS Report that sets out in detail the consideration of the alternatives to the NPS, and identifies which of those alternatives are considered reasonable. These reasonable alternatives will be taken forward and included within the subsequent appraisal. In this way, the AoS Report will identify, describe and assess the likely significant effects of the NPS and the reasonable alternatives to it, in compliance with the requirements of Article 5(1) of the SEA Directive 2001/42/EC.	
Individual 3				
I3		No comments.	Noted.	N/A
Lake District National Park Authority				
LDNP1	1	Yes, however cultural landscape as a function of the interaction between human traditions, landscape and the environment should be added.	Comment noted. The following guide question has been included in the AoS Framework and reflected in Table 3.3: • 'Will the NPS affect traditional land management activities that have created unique landscapes?' In response to this comment, specific reference to important cultural landscapes has also been included in the AoS Framework.	Table 4.3, Appendix B (Section 14.6)
LDNP2	2	Although culture and protected landscapes feature independently of each other, cultural landscape and designations such as World Heritage Site (for example the English Lakes World Heritage Site) or Biosphere	Comment noted. Section 13.1 and Section 14.1 (Appendix B)	Table 4.3, Appendix B (Section 13.6)

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		Reserve are missing. This omission needs to be addressed. Within the English Lake District WHS the potential of a new reservoir to impact upon features of outstanding universal value within the landscape are high.	highlight the linkages between cultural heritage and landscape. The policy context and UK baseline with regard to World Heritage Sites is established within Appendix B (Section 14). The extant guide question '*Will the Water Resources NPS conserve or enhance the historic environment, including heritage assets such as historic buildings, conservation areas, features, places and spaces, and their settings?*' includes World Heritage Sites; however, for brevity not all types and classification of historic asset are listed. Interrelationships between these topics will be considered further is the AoS of the draft NPS where appropriate. However, in response to this comment, specific reference to important cultural landscapes has been included in the AoS Framework.	
		In addition, the relationship between the multiple benefits water supplies can provide for local economies, health and wellbeing in communities as well as access and recreation should be included.	Comment noted. The key issues identified in Table 3.3 highlight a wide range of benefits associated with water supply including in respect of health and economic growth; this is reflected in the AoS Framework. However, in response to this comment, reference to access and recreation has been included in Table 3.3.	Table 3.3

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		Likewise the impacts and trade-offs that are created as a result of an NPS scheme, should be included too. It is also important that the social aspect is acknowledged. As with other NSIPs, there should be a willingness by communities to participate, if there is strong opposition from communities to be affected this should be a material consideration that carries significant weight.	Requested detailed requirements for inclusion in the NPS do not fall within the scope of the AoS Scoping Report but will be considered by Defra in preparing the draft NPS.	N/A
LDNP3	3	In the Lake District, there is typically a water surplus. However, water is abstracted from natural occurring lakes (albeit modified for abstraction e.g., Windermere) which is utilised and depended upon by the local tourist economy. Proposals for water transfer schemes that may increase demand on water resources that prioritise drinking water over lake levels, affect the amenity value and ability of lake levels to function economically for business that rely on appropriate lake level (for example Windermere Lake Cruises). The AoS should include a proposed guide question such as 'will the NPS affect the economic role of functioning lake levels from natural occurring water resources?'	Comment noted. The AoS will consider effects on amenity and businesses arising from the draft NPS. For example, the AoS Framework includes the guide questions: • Will the Water Resources NPS affect the number or types of jobs available in local economies? • Will the Water Resources NPS affect the social infrastructure and amenities available to local communities? • Will the Water Resources NPS affect opportunities for recreation and physical activity? • Will the Water Resources NPS have detrimental visual impacts?	N/A
		In addition where an NPS scheme affects designated cultural landscapes, created by human traditions a guide question such as 'Will the NPS affect traditional land management activities that have created unique landscapes?' will help understand the impact a scheme will have on traditional land management.	Agreed. The guide question proposed in this response has been included in the AoS Framework.	Table 4.3, Appendix B (Section 14.6)

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
LDNP4	4	Paragraph 2.4.10 sets out an adaptation to the non-site specific approach by applying location criteria. We would want to see other international designations included such as World Heritage Site status, to protect cultural landscapes.	Agreed. The receptors identified in paragraph 2.4.10 are examples and international designations such as World Heritage Sites are an appropriate consideration.	Section 2.4.10
Individual 4.				
I4		No comments.	Noted.	N/A
Royal Town Planning Institute				
RTPI1	3	The AoS and SEA are supported. It is essential that the specific contributions of both are strongly demonstrated in the final NPS.	Comment noted.	N/A
Water UK				
WUK1	1, 2, 3, 4	Yes.	Comment noted.	N/A
CH2M				
CH2M1	1, 2, 3, 4	No comments.	Noted.	N/A
Canal and River Trust				
CART1	1, 2, 3, 4	No comments.	Noted.	N/A
Hampshire County Council				
HCC1	1	The County Council agrees with the 13 main issues set out in section 3.3, in particular Issue 7: Flood Risk and Coastal Change, having regard to our role as a Lead Local Flood Authority with responsibility for the management of local flood risk i.e. surface water, groundwater and from ordinary watercourses, and Issue 10: Climatic Factors (including climate change and adaptation and flood risk). Climate change in the South East is predicted to lead to hotter, drier summers, warmer wetter winters and increased incidents of severe weather such as storms and flooding. In addition, Water UK's 'Water Resources Long Term Planning Framework (2015 - 2065) suggest that, in some scenarios, we are facing longer, more frequent and more acute droughts than previously thought. Drier areas of the country such as the south face a higher risk of more severe droughts than those experienced in the past. These will impact on the services provided by Hampshire County Council such as emergency planning. We are working in partnership to prepare for these impacts and minimise the risks to our communities. The authority considers that all relevant issues have been included.	Comment noted. No change to the Scoping Report is considered necessary.	N/A

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HCC2	2	Yes the AoS is considered to adequately set out sufficient information to establish the context for the appraisal. In respect to this, it is noted that Appendix B topic B7: Flood Risk and Coastal Change refers to the Flood and Water Management Act 2010 and the role of Lead Local Flood Authorities in developing local strategies for managing local flood risk.	Comment noted. No change to the Scoping Report is considered necessary.	N/A
HCC3	3	Yes the AoS objectives and guide questions are considered to cover the issues for appraising the effects of the draft NPS.	Comment noted. No change to the Scoping Report is considered necessary.	N/A
HCC4	4	In supporting the twin track approach and the central role in the identification of potential future infrastructure requirements through the WRMP process that involves both the water supply companies and the Government's regulator OFWAT, it is considered that the 'hierarchy' of alternatives outlined in Section 2.4 discusses all reasonable alternatives.	Comment noted. No change to the Scoping Report is considered necessary.	N/A
Jacobs				
J1	1	With regard to the topic areas for consideration, the "climatic factors" topic listed in Table 3.2, there is a strong bias towards climate change mitigation, with only brief reference to climate resilience and adaptation. There should be more specific mention of climate change adaptation and the need to deliver flexibility through different "adaptation pathways". This principle applies to both individual water resource development flexibility, as well as the order and timing of implementing different WRMP measures (which is ordinarily the case). The need for flexibility and adaptation is important given the significant uncertainties in the longer term with regard to climate, water use, population growth, introduction of new technologies etc. With regard to Section 4.3, then there is a better balance in terms of mitigation, resilience and adaptation. The key issues are summarised in section 3.4. These are relevant as very general context but do not really provide guidance for the NPS in terms of setting an approach for large scale infrastructure or weighing up strategic choices in terms of cumulative impacts. The following comments are made for each: • Topic 1 - The key pressures could be expanded to identify relevant issues for the water infrastructure development more clearly for	Comment noted. Table 3.2 (and Table 3.3) refers specifically to climate change resilience and risk management. However, Table 3.2 has been revised to refer specifically to flexible adaptation. Agreed. Reference to impacts on marine habitats has been included in Table 3.3.	Table 3.2 Table 3.3

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		example impacts on fisheries and from marine discharges could be included.		
		• Topic 2 - This could include reference to stated/surveyed customer preferences on water infrastructure investment and customer behaviour influencing demand.	Agreed. Reference to stated customer preference and consumer behaviour has been included in Table 3.3.	Table 3.3
		• Topic 3 - The role of access to water infrastructure related (reservoir) recreation amenity or more general associated environmental enhancements and link to benefit for health could be noted.	Agreed. Reference to recreation has been included in Table 3.3.	Table 3.3
		• Topic 5 - It is not clear if the first bullet is intended to refer to good environmental /raw water quality or treated water - there are a number of water quality issues such as pesticide and nitrate pollution that are important for the environment and create treatment issues and costs (in addition to health issues covered in Topic 3). There is no mention of potential impact from waste discharges from effluent reuse and desalination, these are likely to be important issues given sensitive and designated receiving environments. The role of water resources infrastructure in terms of contribution to environmental resilience should be considered not just in terms of water supply network resilience. Deteriorating ground water quality e.g. for nitrates is a problem in some areas and this trend is not mentioned although legacy contamination is mentioned. In addition, the point on deterioration in water quality increasing vulnerability to INNS, it should be noted that water quality deterioration can increase vulnerability for biodiversity, habitats and species more generally.	Comment noted. Reference to water quality in the context of water treatment and groundwater quality has been included in Table 3.3. Reference to discharges is already included in Table 3.3 and no change in this regard is considered to be necessary. Linkages between water quality and wider environmental resilience including the vulnerability of biodiversity has been included in Table 3.3.	Table 3.3
		• Topic 6 - The role of water resources infrastructure in increasing environmental resilience not only water supply resilience should be highlighted. For example, there is a general trend to reduce existing water abstraction (ground or surface freshwater) where this is demonstrated as having a detrimental effect and thereby requiring	Comment noted. Linkages between water quality and wider environmental resilience including the vulnerability of biodiversity has been included in Table 3.3.	Table 3.3

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		water savings or new resources to be found. This can potentially support environmental resilience against climate change and other pressures. Supply and environmental resilience are linked but different aspects and both need to be considered.		
		• Topic 7 - Operation of water supply reservoirs to provide flood storage is often overstated and many reservoirs will be pumped storage so would add some caution to the comment on this. The location of reservoirs to avoid flood plain loss or provide sufficient compensation is important and there may be potential to encourage multiple benefits through catchment management which can contribute to flood storage by retaining water within the catchment and improve water quality used to fill reservoirs – these are actions that could be linked to reservoir development.	Comment noted. No change to the Scoping Report is considered necessary.	N/A
		• Topic 8 - Air quality. Potential impacts on nitrate deposition in sensitive habitats should be noted.	Agreed. Reference to nitrate deposition has been included in Table 3.3.	Table 3.3
		• Topic 10 - Climatic Factors: The comments should also note the potential role of new water infrastructure in supporting environmental climate change resilience and adaptation not just supply resilience.	Agreed. Table 3.3 has been revised to more explicitly reference environmental climate change resilience.	Table 3.3
		• Topic 13 - The wording is strange 'construction and operation …. can have impacts on the significance of heritage assets' Also, clearly state potential for impacts on heritage assets and archaeological interests as being relevant.	Comment noted. Reference to the significance of heritage assets reflects the National Planning Policy Framework. Specific reference to archaeological remains has been included in Table 3.3.	Table 3.3
J2	2	In general, the information set out in the Appendix B is comprehensive. There are some omissions, the Water Industry Strategic Environmental Requirements (WISER) issued by the Environment Agency and Natural England jointly (2017) is not referenced. This document is intended to give a clear steer to water companies on expectations for their approach	Agreed. Reference to the Water Industry Strategic Environmental Requirements has been added to Appendix B.	Appendix B (Section 5.2)

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		on resilience and their obligations in terms of enhancing the environment and valuing the environment. These will be relevant in terms of the basis for selection of schemes put forward in company WRMPs. The Conservation of Habitats Regulations need to be updated to include the 2017 Regulations. Biodiversity lacks adequate coverage of the marine protected areas. Marine Conservation Zones are not referenced. The lack of emphasis on coastal/ marine environment is notable given the stated intention to include desalination and potential to include effluent reuse options most of which are likely to be located near the coast. For example, Table 1.10 (Overview of key issues) identifies 'Threats to UK freshwater habitats' but not to the marine environment. The issues should be forward looking and take account of likely high number of future proposals for desalination and effluent reuse many of which could have in combination effects on the coastal environment.	Comment noted. Reference to the Habitats Regulations has been updated and reference to Marine Conservation Zones included. In terms of the baseline information presented, it is considered that there is sufficient reference to the marine environment for the purposes of the AoS of the NPS.	Appendix B (Section 1.2)
J3	3	Table 1.11 – while Marine Protected Areas are mentioned in the objective/guide questions, they are not considered fully for example, the question on impact on fisheries covers freshwater fisheries only but the desalination and effluent reuse options on the coast could have implications on for example, shellfisheries and marine fisheries. On geology and soils in Table 4.6 the implication on the last point is that a change of pattern of land use is undesirable; however, this may not always be the case for example, change from intensive arable to natural habitat and wetlands may contribute to objectives of environmental enhancement. The siting of reservoirs generally has to be influenced by topography, suitable geology and absence of high level other constraints and development. This can leave few options for siting. In some cases, the NPS or options will have both positive and negative aspects in terms of the significance guidance questions and it is not clear	Comment noted. The guide question asks whether there would be an impact on fisheries, which would include both marine and freshwater fisheries. This has been clarified in Table 1.11. Additionally, reference has been included to marine ecology and water quality. Appendix B Table 4.6 makes no assumption as to whether a change in land use is a positive or negative effect, it simply asks the question as to whether it will occur. No change to the Scoping Report is therefore considered to be necessary. The approach to scoring is detailed in Section 4.4. Where	Appendix B (Table 1.11) N/A N/A

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		how these will be reported for the individual guide questions and a net assessment provided.	both positive and negative effects are identified, both will be discussed and both the positive and negative effects will be shown in accordance with the proposed scoring system. No change to the Scoping Report is considered necessary.	
		In general, it is not clear how the assessment of the NPS and alternatives will apply the AoS NPS and option related significance criteria and questions as the NPS is intended to focus on the: proposed vision and objectives; proposed assessment principles; and guidance on impacts.	The approach to the appraisal of the draft NPS is detailed in Section 4 of the Scoping Report. This includes reference to how the objectives and guide questions will be applied. No further detail is considered to be necessary at this stage.	N/A
		The NSIP proposals will need to be viewed in the context of the overall approach in the WRMPs and how they contribute to overall objectives within the company and regional context. In addition, this should be reviewed alongside the other actions being taken by the water companies on leakage and demand management over 25-to 60-year planning context. The large scale schemes may have been identified for example, to avoid many smaller less sustainable abstractions or to allow sustainability reductions to be delivered to support other drivers for environmental enhancement.	Comment noted. This comment relates to specific NSIP proposals and is not considered relevant to the AoS at this stage.	N/A
J4	4	The identification of alternatives against which the AoS will be applied is not completely clear. The hierarchy needs to be considered within the context of how proposed NSIPs fit within the WRMPs balancing demand and supply with a range of options. However, the alternatives for AoS are alternatives for the NPS itself, for example: a) To have one or not so the question is essentially on the difference the planning process makes to actually delivering large scale infrastructure and the risk of not being able to provide the large scale projects	Comment noted. The selection and refinement of options for appraisal is an ongoing process. Comments here will be considered alongside others in identifying reasonable alternatives for appraisal.	N/A

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		(regardless of how these are defined) through the normal planning process and the implications for water resource planning - this is an important deliverability risk. b) Or the outcomes being less favourable without the NPS as a guiding framework – so the same policies and regulations apply regardless of the planning process vs the potential benefits if for example, the NPS provides more appropriate guidance tailored to the types of issues, challenges and opportunities relevant to the NSIPs. In relation to the third level of the hierarchy, the AoS would be assessing and comparing: the non-site specific approach based on providing location criteria; the location specific for candidate sites; and location specific in terms of thresholds and based on the WRMPs. The AoS methodology however, appears to be geared to comparing individual options and programmes of options so it is not clear how comparison will be made between these approaches or how the WRMP context will be taken into account. Other Points - Economic analysis It is not clear that Ecosystems Service Assessment or more standard environmental and social costing will be taken into account. These are relevant tools which can contribute to the analysis particularly in terms of valuing environmental and social enhancements. This is recommended for water companies in the WRMP guidance on valuation and in the Water Industry Strategic Environmental Requirements and although the application of ecosystems services assessment and natural capital accounting is in early stages for WRMP19 the NPS can be forward looking in this respect.	Comment noted. It is not Defra's intention to undertake an Ecosystem Services Assessment of the draft NPS at this stage.	N/A
Severn Trent Water				
STW1	1	We agree with the main issues identified.	Comment noted.	N/A
STW2	2, 3, 4	Yes.	Comment noted.	N/A
Wessex Water				
WW1	1, 2, 3, 4	No further views.	Noted.	N/A
Historic England				

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HE1	1	In the summary of key issues (cultural heritage), reference could also usefully be made to the potential risks of changes in water abstraction (as noted in paragraph 34 of the main consultation document) for the wider historic environment (i.e. not just wetlands). Such changes could result in disruption to important water sources (e.g. the thermal springs in Bath), the flooding or drying of deep archaeological sites (e.g. mines), and general changes to local water levels (affecting mills, bridges, etc.).	Agreed. The additional key issues referred to in this response have been reflected in Table 3.3.	Table 3.3
		Specific mention should be made of the historical importance of some reservoirs, pumping stations and associated facilities (some of which may be designated).	Agreed. Additional reference to the historic importance of certain historic assets has been included in Table 3.3.	Table 3.3
		Registered Battlefields and Designated Wrecks should be added to the list of heritage assets.	Agreed. Reference to registered battlefields and designated wrecks has been included in Table 3.3.	Table 3.3
		Under landscape and townscape, noise should be added under the final bullet point in key trends with both noise and light pollution impacting on tranquillity.	Agreed. Reference to tranquillity has been included in Table 3.3.	Table 3.3
HE2	2	The definition of cultural heritage could usefully be more closely aligned with the definition of the historic environment in the NPPF.	Agreed. The definition has been amended.	Appendix B (Section 13.1)
		The 1990 Act would be more accurately described as follows: 'The Planning (Listed Buildings and Conservation Areas) Act 1990 outlines the level of protection received by listed buildings and conservation areas'.	Agreed. The terminology has been amended.	Appendix B (Section 13.2)
		Reference should also be made to the legislation which authorises Historic England to prepare the parks and gardens and battlefields registers (the Historic Buildings and Ancient Monuments Act 1953).	Agreed. Reference added.	Appendix B (Section 13.2)
		The reference to the National Planning Policy Statement should be corrected to 'National Planning Policy Framework'. The subsequent	Agreed. Reference to the National Planning Policy Statement has been amended. Reference to the	Appendix B (Section 13.2)

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		references to heritage policy are not complete; it may be most efficient to refer to the whole conservation section.	relevant section of the NPPF has been included.	
		The reference to the Planning Practice Guidance is not particularly clear, and would benefit from revision (Historic England would be happy to advise further on this).	Comment noted. The wording in this section has been revised.	Appendix B (Section 13.2)
		Historic England Advice Note 8: Sustainability Appraisal and Strategic Environmental Appraisal should be added to the list of Historic England advice; it is worth noting that GPA3 is about to be reissued.	Agreed. Reference added.	Appendix B (Section 13.2)
		Reference also needs to be made to non-designated heritage assets. These are defined in the NPPF, and subject to specific policy (and Historic England advice). Particularly important within non-designated assets is nationally important, but non-designated archaeology (which is treated in the same way as scheduled monuments in policy terms).	Agreed. Reference to non-designated heritage assets has been included in the baseline analysis.	Appendix B (Section 13.3)
		In Section 13.3, up to date figures on designated assets can be obtained from the National Heritage List for England. The most up to date Heritage at Risk Register is the 2017 edition, not 2016. Reference should be made to Historic Environment Records as valuable sources of information.	Agreed. The figures referred to in this response have been updated in accordance with the revised heritage list and reference made to the Historic Environment Records.	Appendix B (Section 13.3)
		There are some (repeated) errors in Section 14: • In England, parks and gardens are not registered for their landscape value but for their historic interest • The register of parks and gardens is in fact a statutory designation (see reference to the 1953 Act, above). All matters pertaining to historic parks and gardens should be considered under cultural heritage.	Agreed. These errors have been addressed.	Appendix B (Section 13)
HE3	3	**Cultural Heritage** It may be helpful for this NPS to be more closely aligned with other recent and emerging NPSs, particularly with regard to the criteria/questions being used. For example, this is the parallel wording	Comment noted. The guide questions have been updated where appropriate; however, it should be noted that not all of the guide questions proposed are	Table 3.4

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		currently used in the Airports NPS (supplemented with Historic England's suggestions for its improvement): Objective: Conserve and where appropriate enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains. Guide Questions: • Will it affect the significance of internationally and nationally designated heritage assets and their settings? • Will it affect the significance of non-designated heritage assets and their settings? • Will it conserve or enhance heritage assets and the wider historic environment including landscapes, townscapes, buildings, structures and archaeological remains? • Will its construction and operation lead to harm to the significance of heritage assets, for example from the generation of noise, pollutants and visual intrusion? • Will it improve access to/and interpretation, understanding and appreciation of the significance of heritage assets?" In addition to the above, Historic England would welcome the retention of "Will the Water Resources NPS avoid damage to important wetland areas with potential for paleoenvironmental deposits?" **Landscape and Townscape** The wording in this section could be amended as follows: Objective: To protect and enhance landscape, townscape and waterscape quality and visual amenity including areas of tranquillity and dark skies. Guide Questions: • Will the Water Resources NPS have detrimental visual impacts? • Will the Water Resources NPS affect protected/designated landscapes or their setting?	relevant and the NPS could be a non-spatial plan and as such reference, to construction and operation that is specific to a single (or limited number) of locations as is the case for the Airports NPS, for example, is not relevant.	

Ref	Consultation Question	Consultation Response	Commentary / Action Taken	Location of Changes in Final Scoping Report
		• Will the Water Resources NPS affect the intrinsic character or setting of local landscapes, townscapes or waterscapes? • Will the Water Resources NPS help to minimise light pollution and noise from construction and operational activities on residential amenity and on sensitive locations, receptors and views? • Will the Water Resources NPS affect public access to open spaces or the countryside? • Will it protect and enhance nationally and locally designated landscape, townscape and waterscape and their setting?"		
HE4	4	No comment.	Noted.	N/A
Group Against Reservoir Development				
GARD1	1	We have no comments at this stage.	Noted.	N/A
GARD2	2	We have no comments at this stage.	Noted.	
GARD3	3	Yes, in general, the objectives and guide questions cover the breadth of issues appropriate for appraising the effects of the draft NPS. On the proposed appraisal framework, the matrix should be expanded to have a column covering mitigation and the expected residual effect.	Comment noted. Mitigation measures will be clearly set out in the appraisal commentary.	N/A
GARD4	4	As GARD understands, Section 2.4 revolves around whether Nationally Significant Water Infrastructure Projects (NSWIP) are needed, whether the NPS is the best approach to providing this and then detailed questions about whether the NPS should be 'site-specific' or should include detailed planning issues, which seems to us to be a variant of the 'site-specific' issue. GARD accept that some NSWIPs are needed, principally to achieve water transfers, or to provide intrinsically-resilient potable water sources such as desalination and water re-use plants. GARD believes that a NPS on water is needed. At present, there is no co-ordinating framework or national overview and guidance of the complex issue of providing a secure supply of a basic essential whilst needing to safeguard and enhance the natural and social environment of the nation. We also welcome Government's recognition that a twin-track approach to meeting future water resource needs is required, comprising both demand management and new water resources infrastructure.	Comment noted. At this stage, the final form of the NPS has not been decided and this will be informed by the AoS including consideration of reasonable alternatives. In this context, the selection and refinement of options for appraisal is an ongoing process. Comments here will be considered alongside others in identifying reasonable alternatives for appraisal.	N/A

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		GARD is very much against the NPS per se being transformed into a document with site-specific aspects. This would privilege at an early stage various mega-projects which might be selected after insufficient regulator scrutiny and then themselves become embroiled in long processes of legal challenge. Enshrining various project locations in law via an NPS will detract from the document's strategic view and from the authority with which it would be viewed. At this point, we should re-iterate some of the points we have made about the difficulties faced in framing a fit-for-purpose NPS. If these cannot be adequately addressed, these might form the basis of an alternative framework to a NPS: • the NPS must support the implementation of demand management options, thus the NPS or alternative should consider any changes needed to policy or guidance that would facilitate the wider delivery of demand management measures, in line with the professed governmental aspirations. Clauses are needed which bring about a framework in which water companies must be actively working with Government and other stakeholders to demonstrate high ambition on water efficiency before implementing new supply side solutions. This NPS or alternative should also provide a clear framework/directives for company WRMPs. • The NPS or alternative should also provide a clear framework for statutory aspects of regional water resources planning exercises, particularly how they should interact with the individual company WRMPs. Although section 2.4 of the AoS Scoping Report sets out a number of possible alternatives, it seems that a number of these have already been discounted before being assessed and made available to the public. We are concerned that this indicates that the Government has already made up its mind on these matters. This is worrying as the document seems uneven in its approach to demand management and regional planning, as we have indicated above. In order to ensure transparency in decision-making, we recommend that all reasonable alternatives to an NPS		

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		(including those set out in Section 2.4) are properly assessed and made available for public consultation.		
Thames Water				
TW1	1	Thames Water agree that the main issues identified in Sections 3.2 and 3.3 of the AoS are generally appropriate. We do not consider there are any key issues that need removing, but there are a few issues that we consider should be included, as set out below. We note in Table 3.2 under the Human Health topic, reference is made to international objectives to ensure children have access to 'safe water' but that for the national position no reference is made to the provision of 'wholesome' water to protect public health in line with the Drinking Water Inspectorate's key objective. We consider this should be recognised as a key national policy objective. We note this is picked up in the key issues table in Section 3.4 but there should be a linkage between Section 3.2 and 3.4. Under the climatic factors topic in Table 3.2, it would be useful to include explicit reference to climate change adaptation alongside the phrase "to promote climate change risk management". In relation to Section 3.4 covering key issues relevant to the draft NPS, we make the following observations: a) For the Biodiversity and Nature Conservation topic, there is no reference to natural capital and the role that well-designed water resource infrastructure developments can play in enhancing certain ecosystem services. b) For the Biodiversity and Nature Conservation topic area, a key pressure and risk not identified is the effects of population and housing growth in certain parts of England. c) Under the Population, Economics and Skills topic, it should be acknowledged that water resources infrastructure development will also contribute positively to long-term socio-economic growth in addition to	Comment noted. Agreed. Reference to wholesome water has been included in Table 3.2. Agreed. Reference to adaptation has been included in Table 3.2. Agreed. Reference to ecosystem services and natural capital has been added to Table 3.3. Agreed. Reference to pressures associated with population growth has been added to Table 3.3. Agreed. Reference to the operational benefits of water	N/A Table 3.2 Table 3.2 Table 3.3 Table 3.3 Table 3.3

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		the shorter-term employment benefits and skills development already noted in the AoS.	resources infrastructure has been added to Table 3.3.	
		d) We agree with the key issue under the Human Health topic linking provision of a reliable water supply to the protection of public health.	Comment noted.	N/A
		e) Under the Water Quality topic, it would be useful to also reference the effects of population and housing growth (urbanisation) on surface water and groundwater quality, as well as noting that changes to future agricultural policies may also have an effect on water quality.	Agreed. Reference to pressures associated with population growth has been added to Table 3.3.	Table 3.3
		f) In relation to the Water Quantity topic, it should be noted that, in addition to effects on the environment, the risks of increasing use of drought restrictions measures has effects on people and socio-economy.	Agreed. Reference to the use of drought restrictions has been included in Table 3.3.	Table 3.3
		g) Whilst we generally agree (for the Climatic Factors topic) that construction and operation of large scale water resources infrastructure is likely to result in a net increase in energy use, there are also opportunities for developing renewable energy to partially support the energy requirements of these large scale infrastructure schemes.	Comment noted. Reference to the potential for low carbon design including renewable energy provision to minimise greenhouse gas emissions has been included in Table 3.3.	Table 3.3
TW2	2	Thames Water agrees that the Scoping Report and Appendix B set out sufficient information to establish the context for a policy statement that is not location-specific.	Comment noted.	N/A
		We agree that it is appropriate, at this stage, to assume that relevant extant EU legislation will be maintained once the UK has withdrawn from the EU and that similar or equivalent environmental protections will remain in place. In due course, these assumptions will need to be revisited in light of any future changes to relevant legislation.	Comment noted.	N/A
		There are some policies, plans or programmes that we believe should be considered as part of the AoS in addition to those included in Appendix B:		

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		Recent policy development by the Government and the water sector on the application of natural capital accounting to assessing the benefits and dis-benefits associated with long-term infrastructure planning. References are made to parallel policy developments with respect to ecosystem services but not to natural capital accounting.	Agreed. References added where appropriate.	Appendix B
		In relation to the Human Health topic, reference should be made to the recent (September 2017) Drinking Water Inspectorate (DWI) Guidance Note: Long term planning for the quality of drinking water supplies.	Comment noted. This is a technical document and in consequence, it has not been included in the Scoping Report.	N/A
		Ofwat (July 2017) consultation: Delivering Water 2020: Consulting on our methodology for the 2019 price review	Comment noted. This is a technical document and in consequence, it has not been included in the Scoping Report.	N/A
		In relation to future changes to the baseline environment, we suggest reference is made to the Environment Agency's recent work (November 2017) on modelling five future different scenarios to explore the implications for future water resources and management.	Agreed. Reference added.	Appendix B
		Reference to catchment management policy and strategy implementation in the UK nation states to help address water quality risks, enhance biodiversity and support achievement of WFD objectives	Comment noted. Reference to catchment management strategies is currently included in Section 5.2 and therefore no change to the Scoping Report is considered to be necessary.	N/A
		Mayor of London (2011): Securing London's water future: The Mayor's Water Strategy and other equivalent strategies elsewhere in England	Disagree. Given the national scope of the AoS, it is not considered proportionate to include regional/sub-regional plans and programmes.	N/A
		More specific reference to the fact that there are defined policies (including land safeguarding policies in some cases) contained in many	Disagree. Given the national scope of the AoS, it is not	N/A

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		local plans relating to the need for (and safeguarding sites for) large-scale water resources infrastructure development. Thames Water note that the current and future baselines may not be fully developed. The data sources identified currently do not include the water company WRMP and drought plans, only regulatory data. Also, there appears to be no mention of how the future will change, not only from a climate perspective, but also how the socio-economic and environmental baseline will evolve (ref consultation para 6). For a plan with implications for planning 50+ years from now, there will need to be future scenario testing, but how this will be achieved is not mentioned in detail.	considered proportionate to include regional/sub-regional plans and programmes. Disagree. Appendix B presents the contextual baseline information and the 'likely evolution of the baseline' for each of the 14 topics contained in the AoS. The key trends arising from this analysis are summarised in Table 3.3 of the Scoping Report.	 N/A
TW3	3	Thames Water agrees with the inclusion of all of the SEA topics set out in Table 4.1 and the links to the AoS topics. We broadly agree with the AoS objectives and guide questions set out in Section 4.3, with the following suggestions for improvement: a) In relation to Biodiversity and Nature Conservation topic, we consider there should be a guide question relating to the effects on natural capital. b) We suggest that the secure drinking water supply guide question under the Human Health topic could be strengthened as follows: "Will the Water Resources NPS ensure the continuity of a safe and secure drinking water supply to protect public health? c) In relation to the Flood Risk and Coastal Change topic, we suggest that the question relating to development in flood risk areas is clarified: is "development" relating specifically to water resource infrastructure developments or to the broader definition of 'development' (e.g. housing development)? If it relates to the former definition, it is suggested that the guide question is expanded to read: "Will the Water Resources NPS help to avoid development in areas of flood risk and, where possible,	Comment noted. Comment noted. It is not Defra's intention to undertake a Natural Capital Assessment of the draft NPS at this stage. Agreed. The guide question has been amended. Agreed. The guide question has been amended.	N/A N/A Table 4.3, Appendix B (Section 3.6) Table 4.3, Appendix B (Section 7.6)

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		reduce flood risk or where development in flood risk areas cannot be avoided, that appropriate mitigation measures are applied to avoid increasing flood risk and, where possible, reduce flood risk". d) We suggest that an additional guide question is added to the Landscape and Townscape topic to reflect the reference made in Table 3.3 about water infrastructure "contributing positively to landscapes": "Will the Water Resources NPS provide opportunities to enhance landscapes or townscapes?"	Agreed. The guide question suggested in this response has been included under AoS Objective 14.	Table 4.3, Appendix B (Section 14.6)
TW4	4	Thames Water agrees that, if some of the possible alternatives go against established Government policy, then the scope for considering policy alternatives within the AoS should not involve "reopening settled policy", as set out in the Department for Communities and Local Government guidance for an emerging NPS. We agree that consideration of the reasonable alternatives for the NPS should take into account the hierarchy of alternatives as set out in the Office of the Deputy Prime Minister (ODPM) SEA guidance. We further agree that the principles set out in the Scoping Report aligned to the ODPM hierarchy are appropriate. With respect to Paragraphs 2.4.10 and 2.4.11, we agree that it is appropriate to make reference to the draft Water Resources Management Plan (WRMP) 2019 submissions to carry out this assessment. However, we do have some concerns about the reference in paragraph 2.4.10 to "a location-specific NPS that sets thresholds for nationally significant water resources infrastructure based on the scale of the supply demand deficit forecast by a water company and for which demand management and local supply options would be insufficient." Such an approach would not only need to consider the supply-demand deficit forecast by a water company for its own operating area, but also the position of neighbouring water companies that may require a bulk water supply (or develop a shared resource) from that company. The draft 2019 WRMPs, as well as work carried out by the Water Resources South East (WRSE) group, should be consulted to understand the likely	Comments noted. The selection and refinement of options for appraisal is an ongoing process. Comments here will be considered alongside others in identifying reasonable alternatives for appraisal.	N/A

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		scale of inter-company transfers and/or development of shared water resources. It is not clear how alternative large scale water resources infrastructure that is not included within the current or proposed infrastructure types in the Planning Act 2008 are to be considered in the AoS, but the AoS should consider such alternatives that might be included in the draft 2019 WRMPs of some English water companies (for example, large scale treated water transfer options). We consider that there are key timing issues around the integration of additive large schemes. It is likely that several schemes will be required and how they inter-relate and are selected has a definite influence socially and environmentally. These issues can only be considered once the selection and timing of schemes is known. Consideration of both spatial and temporal application of large schemes will be required to assess their effects at a national and regional scale. Therefore, it not just about cumulative impacts of selected schemes, but of greater importance it is also about what is selected in the first place. We do not agree with the statement at paragraph 2.4.12 that the timing and detailed form of implementation are "issues outside the scope of a national, long-term assessment". The timing of nationally significant water resources infrastructure is of particular relevance when considering cumulative, in-combination effects with other policies, plans and programmes (as required by SEA), as well as between the development of such infrastructure between the different water companies in England (as well as Wales and Scotland where there could be possible environmental cumulative effects). Additionally, many of the large-scale water resource infrastructure developments are characterised by relatively long promotion/planning/design/construction/commissioning timescales, with consequent effects on the environment and local communities. We therefore consider that temporal factors must be explored alongside spatial factors in the AoS.		

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Association of Drainage Authorities (ADA)				
ADA1	1	Agree with the main issues identified.	Comment noted.	N/A
ADA2	3	ADA broadly agrees with the main objectives/guide questions identified.	Comment noted.	N/A
CLA				
CLA1	1, 2, 3, 4	We are not in a position to comment on this.	Noted.	N/A