Department
for Environment
Food & Rural Affairs

National Policy Statement for Water Resources

Consultation on developing a National Policy Statement for Water Resources (NPS) and proposals to amend the definition of nationally significant water resources infrastructure in the Planning Act 2008

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This publication is available at www.gov.uk/government/publications

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Introduction

Improving the resilience of the public water supply

1. In March last year, the government set out the need for further action to improve the resilience of the water sector in 'enabling resilience in the water sector'[1]. This included the need to respond to pressures such as population growth, climate change and the need to reduce pressure on the environment. This document identified the actions and decisions that the government will take to enable a more resilient water sector, including the potential for measures to speed up the process of granting planning consent for the delivery of new water resources infrastructure projects. Further evidence from the Committee on Climate Change[2], Water UK[3] and analysis from the Environment Agency supports the need for further action to improve the resilience of water supplies.

2. The government recognises the need for a 'twin track' approach to improve the resilience of water supplies. This means further ambitious action to reduce the demand for water alongside new water resources. This is likely to include new large schemes known as 'nationally significant' infrastructure projects[4].

3. Where water companies propose to develop water resources infrastructure they typically need to secure approvals through the planning system to build and deliver the project. Planning applications are often decided locally[5] however the Planning Act 2008 ("the Planning Act") established a process for making planning decisions for infrastructure projects of national significance. In the fields where this process is available for infrastructure projects, including wastewater, energy and transport, it provides a clear framework for the examination and decision-making processes, which has the potential to accelerate this process. This planning process has not previously been available for water resources projects[6] as relevant provisions in the Planning Act had not been commenced[7].

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[1] Creating a great place for living: Enabling resilience in the water sector
[2] UK Climate Change Risk Assessment 2017
[3] Water UK water resources long term planning framework
[4] Nationally significant infrastructure projects are defined in the Planning Act 2008. Part 3 of this document explains more about how nationally significant infrastructure projects are defined.
[5] Under the Town and Country Planning Act 1990
[6] As defined in the Planning Act.
[7] The provisions are in place under sections 14(1) (m) and (n) of the Planning Act and are further defined in s27 and 28 of the Act, but they have not yet come into force. The Secretary of State does though have the power to give a direction under section 35 of Planning Act in relation to projects or proposed projects in the field of water. So, s/he could direct such a project or proposed project into the NSIP planning process if s/he thinks the project (or proposed project) is of national significance, either by itself or when considered with one or more other projects (or proposed projects) in the same field.

4. In March this year, the government announced that it intended to develop a national policy statement (NPS) for water resources[8]. This will streamline the planning application process for nationally significant water resources infrastructure projects. As a first step towards developing the water resources NPS, we have commenced the relevant Planning Act provisions alongside the publication of this consultation[9]. Decisions on whether to grant development consent[10] for these projects will be based on the policy set out in the national policy statement, on which we are seeking views through this consultation[11].

The government's vision and strategic objectives for water supply resilience

5. The government's vision is for a water industry that works for everyone and provides reliable, robust services now and in the future. To achieve this vision, the government believes that more needs to be done to reduce the risk of drought to water supplies. Achieving a step change in drought resilience will require ambitious action to reduce demand for water and the development of new water resources at both a regional and national scale.

6. There is a clear statutory process for deciding on the most appropriate water resource options at a local level: water resource management planning[12]. Through this process, water companies consider a range of demand management and supply options, eventually identifying the most appropriate options which appear in final 'adopted' water resources management plans. Some plans might include new large infrastructure. Where this is the case[13], the government intends to support infrastructure that:

    i. secures long-term resilience to the impacts of drought and climate change as set out in our strategic policy statement (SPS)[14] to Ofwat and supports the aims of the government's national adaptation programme (NAP) on climate change;

    ii. supports both an increase in population and economic growth across England, in line with the aims of the Industrial Strategy;

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[8] Written ministerial statement - affordable, resilient water supplies.
[9] The Planning Act 2008 (Commencement No. 3) (England) Order 2017
[10] A Development Consent Order (DCO) is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects (NSIP).
[11] Once designated a national policy statement (NPS) sets out, for the relevant sector, the need for new or expanded infrastructure defined as nationally significant in the Planning Act. More detail is set out in part 1 of this document.
[12] Water companies produce water resource management plans every five years. These plans set out how water companies plan to deliver secure public water supplies. These are explained in more detail in part 1.
[13] And that infrastructure meets the definitions of nationally significant in the Planning Act and criteria specified in the national policy statement.
[14] The government's strategic priorities and objectives for Ofwat

iii. supports the achievement of sustainability goals and enhances the environment, in line the Environment Agency's water industry national environment programme (WINEP) and in a way that will be set out in the government's 25 year environment plan; and

iv. offers best value for customers so that water needs can be met in an affordable way both now and in the future, in line with the strategic objective set out in the SPS.

Purpose of this consultation

7. We are consulting on our approach to developing the NPS for water resources and the definitions (e.g. types and sizes of infrastructure) set out in the Planning Act that this should apply to. This document explains what an NPS is and why there is a need for one for water resources. It aims to seek further evidence and views that we should consider. Part 1 of this document also provides a clear, early view of the government's intention for the NPS.

Summary of content

8. The consultation seeks views on our approach to developing the statement, including a set of 'principles' that will underpin this approach (part 2). We have developed three underlying principles that we think should apply to the development of the NPS.

   - **Principle 1**: We will develop an NPS that sets 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' water resource management plans 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.

9. The NPS will be subject to an appraisal of sustainability (AoS) and habitats regulations assessment (HRA). These examine the likely social, economic and environmental effects of the NPS on water resources infrastructure and assess whether the NPS will have any likely significant effects on any European designated nature conservation sites. Alongside this consultation, we have published an AoS scoping report and HRA methodology report that set out the proposed scope and approach to these assessments. We also seek views on these (part 2).

10. The NPS will apply to projects defined as 'nationally significant infrastructure projects' (NSIPs) that are defined in the Planning Act[15]. Alongside the development of the NPS, we are reviewing the type and scale (referred to as definitions) of projects that should be treated as NSIPs. We have proposed some amendments to the current definitions and we are seeking views on these (part 3). The consultation also seeks views on factors we have considered when revising the definitions and sets out the importance of a level playing field for different infrastructure types.

11. A summary of the proposed amendments to the NSIP definitions is set out below.

Infrastructure type	Proposal
Reservoirs and dams	We propose two options: I. To retain the current threshold of 10 million m^3 water held back or stored; or II. To amend the threshold to: reservoirs that store or dams that hold back a volume greater than 10 million m^3 of water OR supply at least 10 million m^3 per year of water.
Transfers	We propose two options for revising down the threshold from 100 million m^3 per year to either: I. 10 million m^3 per year; or II. 30 million m^3 per year.
Desalination	We propose two options as an annual average design output of: I. 10 million m^3 water; or II. 30 million m^3 water.
Effluent reuse	Potential to include, but further information required[16].

12. We see this early consultation as a good opportunity to communicate our emerging thinking on the national policy statement to provide context for the review of the NSIP definitions. We therefore invite comments on the proposals to amend the definitions of the type and scale of projects that should be treated as 'nationally significant infrastructure projects', our approach to developing the NPS and the scoping documentation for the AoS and HRA.

13. We have set a six week period for responses because of the complexity of information to review in this consultation. This does not include any public holidays.

Response due date: This consultation will close six weeks from the issue date of this consultation; at midnight on 22nd December 2017.

[15] Water resources schemes which don't meet the thresholds set out in the Planning Act can also be directed into the NSIP planning process. The NPS will also apply to schemes that are directed in to the NSIP process. There is more information on this in Part 3.
[16] Information will include responses to this consultation.

How to respond: Please respond via citizen space – the consultation is accessible at the following link: https://consult.defra.gov.uk/water/nps-water-supply-planning-act-2008

Please direct any queries to: WaterSupplyNPS@defra.gsi.gov.uk

You may also respond by post to:

NPS consultation
Water Services team
Department for Environment, Food & Rural Affairs, Nobel House (area 3D), 17 Smith Square, London SW1P 3JR

Part 1: Development of an NPS for water resources infrastructure

What is a national policy statement?

Background on the Nationally Significant Infrastructure Projects planning process

14. The Planning Act created a planning process for nationally significant infrastructure projects (NSIPs)[17] in fields including energy, water, waste water, road and rail transport and hazardous waste disposal. For projects falling within scope of what is defined in the Planning Act as a nationally significant infrastructure project, this becomes the only route for obtaining planning consent[18]. The Planning Act defines the type and scale of infrastructure developments considered to be nationally significant and therefore required to obtain a development consent order (DCO). The final decision for granting a DCO rests with the relevant Secretary of State.

15. The NSIP planning process has the potential to speed up decision making on projects identified as NSIPs. For projects that meet the relevant definitions, the NSIP planning process provides clarity and certainty for scheme developers in terms of timescales on decision making. Integral to this process are national policy statements.

16. A national policy statement (NPS) sets out, for the relevant sector, the need for new or expanded nationally significant infrastructure projects. For projects that meet that need, it provides clarity and certainty for scheme developers in terms of timescales on decision making. Having the need set out in an NPS streamlines the subsequent consideration of projects during examination for development consent. Once designated (i.e. adopted), an NPS will also set out the government's policy against which relevant applications for DCOs will be made[19].

17. An NPS also provides detailed policy on how impacts of proposed developments are to be assessed and how any negative impacts can be mitigated. It brings together a range of social, environmental and economic policies with the objective of contributing to the achievement of sustainable development. NPSs must undergo a process of public consultation and Parliamentary scrutiny before being formally designated. An

[17] Separate to the Town and Country Planning Act process
[18] Prior to commencement of the definitions in the Planning Act, permissions were granted under the Town and Country Planning Act 1990.
[19] Section 104 of the Planning Act sets out the decisions of the panel or council when reviewing a DCO application.

NPS may also be a material consideration for planning applications that fall outside of the scope of the Planning Act.

Streamlining of the planning system

18. The NSIP planning process is a bespoke process for NSIP projects in the fields of energy, transport, water supply, waste water and waste. It streamlines the existing planning system for NSIPs in three main ways:

    i. **Establishes the need*:*** Firstly, the process allows the government to prepare an NPS which presents the national evidence base and 'need' for new infrastructure. If a DCO application for a project demonstrates that it meets the need set out in the NPS, this does not need to be revisited again during the examination.

    ii. **Timescales*:*** the Planning Act sets out prescribed timescales for the examination and determination of DCO applications. This means, in effect, that decisions must be made within one year of commencement of the examination, unless one or more of the relevant deadlines are extended by the Secretary of State. There are extensive requirements on applicants to consult with local authorities, communities and statutory consultees at the pre-application stage as set out in the Planning Act. There is the opportunity for local authorities and statutory bodies to participate in the examination of an application. Members of the public can also take part in the examination stage if they register as an interested party. Following the decision by the Secretary of State, the only opportunity to challenge is by Judicial Review.

    iii. **Single application*:*** Finally, the DCO can incorporate other powers which cannot be included in a planning permission under the Town and Country Planning Act 1990. For example, compulsory land acquisition orders.

19. If individual infrastructure projects meet the definitions set out within the Planning Act then the Secretary of State automatically becomes the decision maker for determining an application for development consent. There is a separate power to direct further projects into the NSIP planning process which do not meet the definitions. There is more detail on this in part 3 of this document in which we set out our review of NSIP definitions for water resources.

The NPS and water resources management planning process

20. Robust, long term water resource planning is a vital part of delivering the government's objectives for the water sector. Water companies have a statutory requirement to prepare, maintain and publish statutory water resource management plans (WRMPs) every five years.

21. The process of developing a WRMP requires an estimation of baseline supply and demand taking account of factors such as climate change and population growth. Plans determine if there are any periods where there is likely to be a supply-demand balance

deficit and if so, consider options which could be used to manage the deficit. The government's guiding principles for WRMPs[20] set out that every option (both supply and demand management) should be considered to meet future public water supply needs and companies should demonstrate this in their plans.

22. WRMPs are subject to important statutory environmental assessments including a habitats regulations assessments (HRA)[21] and a strategic environmental assessment (SEA). The intention is that the SEA[22] is fully integrated into the water resources planning process from the earliest stages.

23. Water companies are required to incorporate the views of customers and regulators into their WRMPs by engaging locally and through formal consultation during the preparation of WRMPs. Any option included in a WRMP will need to take account of customer preferences and the willingness of customers to pay.

24. If a WRMP has been adopted that includes large new infrastructure that meets the definition of an NSIP, the NPS is intended to guide the detailed design of these projects and provide the policy framework for assessing and determining individual DCO applications. The NPS will not alter the role of WRMPs in determining the appropriate options to meet future resilience needs.

Why do we need an NPS for water resources infrastructure?

The drivers of need for water resilience

25. The public water supply faces long term pressures from increasing demand and reductions in the availability of supply due to population and economic growth, the impacts of climate change and drought, and the need to protect the environment. These challenges have recently been set out in a number of sources, including the Climate Change Risk Assessment (CCRA2)[23], the Adaptation Sub Committee (ASC)[24], the Environment Agency's Case for Change[25] and their advice to Defra on water supply and resilience and infrastructure[26].

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[20] The government has set guiding principles which explain the key policy priorities the government expects water resources management plans (WRMP) to address. Defra, the Environment Agency and Ofwat also jointly produce detailed technical guidelines on this process.
[21] HRAs are described in more detail in part 2.
[22] The SEA involves an iterative process of collecting information, defining alternatives, identifying environmental effects, developing mitigation measures and revising proposals in light of the predicted environmental effects.
[23] UK Climate Change Risk Assessment 2017
[24] HR Wallingford- Updated projections for water availability for the UK 2015
[25] Environment Agency, Case for Change, 2011
[26] Water supply and resilience Infrastructure-EA guidance to Defra 2016

26. To address the need for resilience, in March last year the government published 'enabling resilience in the water sector'[27] and asked the water industry to develop further evidence of the country's water needs over the next 50 years and the strategic options that could meet these needs. The long term water resources planning framework[28] was published by Water UK in September last year. This, along with a number of other sources including those mentioned above, has shaped and informed our policy framework around water supply resilience.

27. The drivers of need for water resilience, as identified in the evidence we have used to inform our thinking, are summarised below. These will form the basis of our national need case in the NPS, which will set out why new nationally significant water resources infrastructure is needed as part of a twin track approach to addressing the resilience of water supplies.

Population and economic growth

28. The demand for water is closely linked to population growth. It is estimated that the population of England will grow by between 2.7 and 9.6 million by 2040[29]. The ASC 'Updated projections for water availability for the UK' report published in 2015, stated that under a high population scenario, the demand for water across the UK as whole is projected to increase by 9% by 2050. The largest population growth and increase in demand is projected in four regions in England; London, the south east, East Anglia and central England, where there is already water stress.

29. Population growth will add to economic growth as the demand for services increases. This will lead to increasing pressure on the industrial, commercial and agricultural use of water. The CCRA2 suggested an increase in water demand by 2050 of 2 – 5% for domestic consumption, 4 – 6% for industrial and commercial use and 26% for agriculture.

Climate change and drought

30. Climate change is expected to have significant impacts on water availability and the water environment in the future but there is a considerable amount of uncertainty around the scale of these impacts. Despite this uncertainty, evidence shows that by the 2050s summer temperatures are likely to rise, leading to an increase in demand[30].

31. At the same time, summer rainfall is expected to decrease leading to increased risks of short-duration droughts. Long periods of lower than average rainfall are also a risk. A Met Office study on how climate change could affect the frequency of extreme droughts in the UK found that droughts such as the one that occurred in 1976 (one of the most

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[27] Creating a great place for living: Enabling resilience in the water sector
[28] Water UK water resources long term planning framework
[29] ONS high and low population variant data for England as of October 2017
[30] Environment Agency, Case for Change, 2011

severe droughts on record) will become more common. This will affect water availability to support water dependent species and habitats and the availability of water for society and economic growth.

32. The public water supply in parts of the country is already exposed to an unacceptable level of risk of drought. There is potential for high economic losses from restrictions on business and public sector users during periods with the most severe level of restrictions on water use. The Water UK water resources long term planning framework suggested an estimated loss of 37% for non-household Gross Value Added (GVA) across England and Wales. Applied across England and Wales that would equate to an economic loss of around £1.3 billion per day. The government addressed the need for a reduction in the long-term risk to water supply resilience from drought in the SPS.

Protection of the environment

33. Environmental resilience is an integral part of our vision for healthy natural assets, resilient cultural assets and a resilient water sector. The UK is home to globally important wetlands, rivers and chalk streams, the healthy existence of which depends on water availability. Managing water supplies in a sustainable manner to protect these water sources and the habitats that exist in them is vital. This government is committed to being the first in a generation to leave the environment in a better state than it found it.

34. Current levels of water abstraction from some sources will be reduced to protect the environment and help sustain important heritage assets. This will reduce the water available for use by water companies and has the potential to put further pressure on the supply/demand balance. This will add further pressure to some areas, in the south and east of England in particular, that are already water stressed.

Summary

35. We have identified these three broad areas as the key drivers for the need to increase resilience of the public water supply and will expand on these in setting out the need case in the NPS. In doing so we want to draw on the most up to date evidence and analysis and make sure that we take into account a wide range of views. We are also open to views on whether there are any further issues or drivers that should be taken into account when developing the NPS.

The role of water infrastructure in meeting future needs

36. Without further action, parts of England will face a gap between demand for water and available supplies. Despite forecasts of reductions in *per capita* consumption as a result of recent demand management initiatives by water companies, the overall use of water is likely to grow by the 2050's due to the scale of population growth.

37. The Environment Agency's 2013 'case for change' 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 also be required to meet the needs of people, businesses and the environment. This has been supported by other detailed work including the Water UK water resources long term planning framework. This need for new water resource supply options to compliment demand management is reflected in our twin track approach.

38. To make sure an optimal approach is taken for the planning and design of new water resources, companies need to consider strategic regional and national needs as well as local needs and work together in a joined up way, for example, through the regional planning groups of water resources south east (WRSE) and water resources east (WRE). We expect to see some strategic supply options developed through these collaborations presented in water companies' draft WRMPs at the end of this year.

39. We expect some new infrastructure projects, especially those developed on a regional and national scale, to be of a substantial size and complexity, for example large transfers of water from areas of surplus to areas of deficit. These schemes will be strategic in nature and might cross a number of water company areas. There is potential for several schemes developed in separate water companies' WRMPs to be linked or rely upon one another. These considerations are explored in more detail in part 3 of this consultation.

40. Ensuring the timely delivery of large new infrastructure projects is important in making sure future needs can be met in an affordable way that offers best value for consumers.

Consultation question

1. **Do you have any views or further evidence that could inform the need for resilience in the water sector?**

Timings of the NPS

41. This is the first of two consultations we will be holding as we develop the NPS and potentially amend the NSIP definitions. We aim to hold the second and more detailed consultation on the draft NPS and accompanying environmental assessments next summer.

42. As well as a public consultation exercise, the NPS will also be subject to Parliamentary scrutiny. The Planning Act requires the Government to lay a draft NPS before Parliament, and to respond to the recommendations of a Committee of either House, or a resolution of either House, made within a specified period. Proposals to amend the definitions of NSIPs in the Planning Act will also be put to Parliament for consideration at the same time.

Part 2: Approach to development of the NPS

The principles for development

43. We have begun the development of the NPS by considering what we want it to achieve and how it should interact with other statutory processes for planning and delivering water resources infrastructure, in particular the WRMP process. We have therefore started to identify the high level principles that we consider will underpin the development of an NPS. These are informed by initial discussions with stakeholders and are aimed at providing early insight into our thinking and the context for the review of the NSIP definitions.

44. The draft principles are focused around factors that are unique to the development of the NPS for water resources, rather than those that need to be considered more generally when developing an NPS. They help to establish the NPS in a wider policy context and alongside important policy documents, the main two being the strategic policy statement[31] and the government's guiding principles for water resources planning[32].

45. In conjunction with stakeholders, we have developed three proposed underlying principles that we think should apply to the development of the NPS.

Principle 1: We will set out the need for water infrastructure in the NPS as part of a 'twin track' approach to managing water resources.

The NPS will reiterate the need for action to use water more efficiently and reduce leakage, alongside the need to increase supplies, as the most appropriate approach to increasing the long term resilience of water supplies. The government's guiding principles make it clear that water companies must consider every reasonable option to meet future public water supply needs. Companies should demonstrate this in their WRMPs. Our aim is to create a 'level playing field' for different WRMP options and we will consider this concept in how we amend the NSIP definitions.

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.

The development of WRMPs is an established statutory process to identify the most appropriate water resources options locally to meet resilience needs[33]. The NPS will

[31] The government's strategic priorities and objectives for Ofwat
[32] These principles explain the key policy priorities the government expects water resources management plans (WRMP) to address.
[33] Annex A sets out the process for identifying the most appropriate options.

establish the ‘national need’ for new water resources infrastructure but will not identify specific schemes or sites to meet that need. Potential schemes for consideration through the NSIP planning process will be identified in WRMPs.

The WRMP process requires effective local engagement and consultation[34]. Similar engagement will also be required for a proposed application for development consent. For a scheme that meets the definition of an NSIP, the Planning Act sets out the pre-application consultation requirements that have to be met at the DCO application stage to allow an application to be accepted for examination.

The WRMP process also requires social, economic and environmental appraisals to be carried out on potential schemes. A scheme identified as an appropriate option in WRMPs and that also meets the ‘nationally significant infrastructure project’ definition[35], will have been subject to these appraisals.

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.

When developing and selecting potential schemes for WRMPs, companies should take account of this objective and their statutory obligations for the environment. The requirement for companies to demonstrate how they value nature in the development of water resources schemes was set out in our guiding principles for water resources planning.

As discussed above, any scheme identified in WRMPs as an appropriate option would have been through both a strategic environmental assessment and habitats regulations assessment[36]. The NPS will build on these processes and will outline the requirements for demonstrating ‘good design’ of water resources infrastructure. It is our ambition to include the need to establish net environmental benefit as part of demonstrating ‘good design’. This will form part of the assessment criteria that will be referred to when an application for development consent is examined. The intention of this is to make sure large infrastructure schemes identified as preferred options in WRMPs are designed to maximise their potential to enhance the environment.

46. These are the potential principles that we have identified so far. We are seeking views on how these principles could work in practice through the NPS and welcome any further considerations that should inform our approach.

Consultation questions

2. **Do you have any views or comments on these principles for developing the NPS?**

3. **Do you consider there to be any further principles for developing the NPS? Please explain your reasoning.**

The Role of the AoS and HRA

Appraisal of Sustainability

47. The Planning Act requires[37] that an NPS must undergo an appraisal of sustainability (AoS). The AoS makes sure that the likely environmental and socio-economic effects of the NPS are identified, described and evaluated. The objective is that the NPS contributes to the achievement of sustainable development, mitigating and adapting to climate change and achieving good design. The AoS also incorporates a Strategic Environmental Assessment (SEA) in accordance with the requirements of The Environmental Assessment of Plans and Programmes Regulations 2004[38]. The AoS is undertaken at the same time as the development of the NPS which makes sure that the policy is guided by the assessment's findings.

48. We are seeking views on the AoS scoping report. The purpose of the report is to provide sufficient information to consultees to enable them to comment on the proposed scope of the AoS. In particular, the report identifies:

- the relevant significant policy topics or objectives for the draft NPS;
- baseline information and data;
- key economic, social and environmental issues relevant to the appraisal of the draft NPS; and
- the approach to the assessment of the draft NPS including the appraisal framework.

49. The scoping report, non-technical summary has been published alongside this consultation document and can be found at https://consult.defra.gov.uk/water/nps-water-supply-planning-act-2008

[37] Section 5(3)
[38] SI 2004 No. 1633

Consultation questions

4. **Do you agree with the main issues identified in the topic areas (Section 3.3 of the scoping report)? 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?

5. **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?**

6. **Do the AoS objectives and guide questions (Section 4.3 of scoping report) 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?**

7. **Do you have any comments on the discussion on potential reasonable alternatives to the NPS (Section 2.4 of scoping report)? Should any further alternative scenarios be considered? Please support your suggestion with your reasoning.**

Habitats Regulations Assessment

50. The NPS is subject to an assessment of the impact of the policy on designated habitats sites[39]. This requires an assessment of whether there will be any 'likely significant effects' on any designated habitat sites as a result of the implementation of the NPS (either on its own or 'in combination' with other plans or projects) and, if so, whether these effects will result in any adverse effects on that site's integrity. A habitats regulations assessment (HRA) will identify and assess alternatives to remove or compensate for those effects.

51. We are consulting now on the methodology report, the purpose of which is to set out the proposed approach to undertaking the HRA of the NPS. It covers the screening,

[39] Regulations 102 and 103 of the Conservation of Habitats and Species Regulations 2010 (as amended) commonly referred to as the Habitats Directive

appropriate assessment, alternatives and assessment of Imperative Reasons of Overriding Public Interest (IROPI) issues.

52. The methodology report has been published alongside this report and can be found at https://consult.defra.gov.uk/water/nps-water-supply-planning-act-2008

Consultation questions

8. **Do you think that the proposed approach to assessing the NPS against the Habitats Regulations is appropriate?**

   For example, you may consider if the approach described is proportionate and whether it would provide a suitable level of information about potential habitats impacts. If not, how do you think the intended approach should be amended, and why?

9. **Do you think that the HRA Methodology Report sets out sufficient information to establish the context for the Screening Report and later Appropriate Assessment? If not, which areas do you think have been missed and where is the information available from?**

Part 3: Review of NSIP definitions

Introduction

53. Water resources infrastructure projects considered to be nationally significant infrastructure projects (NSIPs) must apply for development consent. The Planning Act defines the type and scale of infrastructure that qualify as NSIPs. Where a project meets the definitions defined in the Act, it must be dealt with through this process.

54. The current definitions for water NSIPs are set out in sections 27 and 28 of the Planning Act as follows:

- **Dams or reservoirs** where the volume of water to be held back by the dam or stored in the reservoir is expected to exceed 10 million cubic metres (m^3);
- The **alteration of a dam or reservoir** where the additional water held back or stored will exceed 10 million m^3; and
- **Water transfers** where the volume of water to be transferred as a result of the development is expected to exceed 100 million m^3 per year.

55. As we set out in the introduction, we have commenced these provisions alongside the publication of this consultation so they will enter into force on 1 January 2018[40]. From this date, water resources infrastructure projects that meet the definitions must apply for development consent.

Reviewing the NSIP definitions

56. Alongside developing the NPS we are reviewing whether the current definitions in the Planning Act remain appropriate in light of the types and scale/ sizes of infrastructure that may be needed to meet our long term water supply needs. The current definitions are relatively high for transfers, compared to the projects that are likely to come forward in WRMPs. For example, a transfer of 100 million m^3 per year could be enough water to supply nearly two million people. A review of 2014 WRMPs identified 12 “feasible options” that meet the current threshold for reservoirs, but only one for transfers[41].

[40] The Planning Act 2008 (Commencement No. 3) (England) Order 2017

[41] It’s important to note that in practice only a handful of schemes will actually be developed following identification as a feasible option. This is because many of the reservoir options are variations on the same scheme and not all of these feasible schemes will become preferred options that are actually delivered, so in practice potentially only a handful of schemes would come forward.

57. There may be smaller projects that could benefit from the NSIP planning process. Transfers below 100 million m^3 in particular may provide connections that contribute to a national need. There may also be other types of infrastructure identified in WRMPs that provide significant amounts of water that could benefit.

58. We want to avoid setting perverse incentives to over-size infrastructure or favour one infrastructure type over others by including/excluding them from the NSIP planning process. On the other hand, it's not appropriate for decisions on all infrastructure to be taken at a national level. Decisions taken by local planning authorities will remain the most appropriate route for decision making for the majority of water resources infrastructure schemes.

59. There are several options for amending the NSIP definitions that are considered in the rest of this section:

i. The size of the current thresholds for reservoirs and transfers;

ii. Whether to introduce other infrastructure types into the definition and if so at what threshold; and

iii. Whether to remove the requirement for NSIPs to be carried out by a water undertaker.

60. We explain in more detail in this section how we have reviewed NSIP definitions in terms of type and scale of infrastructure. The table below summarises our proposals:

Infrastructure type	Proposal
Reservoirs and dams	We propose two options: III. To retain the current threshold of 10 million m^3 water held back or stored; or IV. To amend the threshold to: reservoirs that store or drams that hold back a volume greater than 10 million m^3 of water OR supply at least 10 million m^3 per year of water.
Transfers	We propose two options for revising down the threshold from 100 million m^3 per year to either: III. 30 million m^3 per year; or IV. 10 million m^3 per year
Desalination	We propose two options as an annual average design output of: III. 30 million m^3 water; or IV. 10 million m^3 water.
Effluent reuse	Potential to include, but further information required

Defining nationally significant

61. To determine the type and size of infrastructure that should qualify as an NSIP we have begun by describing what we might view as 'nationally significant infrastructure projects' in the context of water resources. It is important to bear in mind that the intention of the NSIP planning process is to streamline the process for planning consent for large infrastructure projects. It is not appropriate to include options which do not face the same planning issues, such as many demand management options like a wide scale meter rollout.

62. The streamlining benefits provided by the NSIP planning process also serve to reduce costs (see para. 64) and uncertainties, and speed up the delivery of large projects. For smaller schemes the NSIP planning process is likely to be disproportionately time consuming, costly and inflexible compared to the scale and impact of the scheme.

63. For large schemes, we consider that inclusion in the NSIP planning process is a deregulatory measure. It aims to reduce the time taken to complete an application for development consent and increase the clarity over the criteria for decision making, thereby providing increased certainty and avoiding wasted effort. This should result in reduced costs for scheme developers which in turn should result in better value for customers who ultimately pay for the schemes.

Economic analysis of the NSIP planning process

64. Using estimates based on schemes in other fields known to have been delivered through the NSIP route, such as the Thames Tideway Tunnel wastewater project, we have developed a cost analysis for an illustrative but hypothetical reservoir scheme which could benefit from NSIP designation assuming a 10 million m^3 threshold. This "exemplar" has a total capacity of just over 10 million m^3, which based on cost evidence available to us might have a total capital cost of around £160 million. This analysis suggests that the cost savings for the project to the developers would be around £1.15 million compared to the existing planning consent process. The net benefit once estimated administration costs are deducted is £1.06 million. We are keen to receive further information on the costs of the planning process for developing water resources schemes to inform this analysis.

65. There are important wider benefits to society, such as decision making on schemes of national significance being taken at an appropriate level. Society may also benefit from the faster completion of schemes aimed at reducing the risk of drought. A summary of the economic analysis is included at Annex B.

Consultation question

10. Do you have evidence on the costs of potential supply schemes, especially those other than reservoirs, and potential time and cost savings from NSIP designation, to improve our economic analysis (see Annex B for more detail)?

Factors to consider when defining nationally significant

66. Based on our analysis and initial discussions with stakeholders, we have identified some of the factors for considering how nationally significant water resources projects should be defined. These will not form part of the definitions in the Planning Act, they are considerations to inform our thinking. The factors we have considered to inform our analysis are set out in further detail in Annex C and include whether a project:

    - will serve a substantial number of people;
    - is likely to have a significant economic impact, or is important for driving growth in the economy;
    - is of a substantial size;
    - will have an impact across an area wider than a single local authority area;
    - is important to the delivery of a nationally significant infrastructure project or other significant development;
    - makes a significant contribution to environmental objectives; or
    - will require multiple consents or authorisations, and which, in consequence, would benefit from the single authorisation process offered by the NSIP planning process.

67. Based on these factors, size (expressed as volume of water) and population served appear to be the best metrics for reviewing the definitions. The median population of an English local authority area is approximately 133,000[42]. An asset serving more than this number of people would therefore, on average, be likely to have an impact across an area wider than a single local authority.

68. The current NSIP thresholds use a unit of volume (million m^3 water), from which it is possible to estimate the number of people that a particular asset could serve. We have estimated that a baseline threshold of providing 10 million m^3 per year of water into supply would be enough water to supply over 160,000 people[43]. This is the size of a very large town or small city, for example Bournemouth or Peterborough, and is more than the average local authority population identified above. This gives us confidence that this is a reasonable starting point for identifying projects that would have an impact across more than one local authority area.

[42] Estimate based on ONS 2016 data

[43] This is an estimation based on a sample reservoir of 10 million m^3 providing approximately 27 Ml/day although we recognise that the exact conversions will depend on the scheme design.

69. However 160,000 people is significantly lower than the NSIP threshold for wastewater treatment works, which is for projects exceeding a population equivalent of 500,000. This would be equivalent to approximately 30 million m^3 water. We therefore consider the two thresholds mentioned above to be reference points for our analysis but recognise there could be other factors which affect this.

70. There is a case for setting a consistent threshold for all the water resources infrastructure types. This could provide a level playing field and remove any incentive to develop one type of infrastructure over another due to the perceived benefits of the NSIP process. Again, we have taken this as a starting point but considered if there are any further factors that might mean we should deviate from this assumption.

71. We also considered whether to set a single threshold (either amount of water provided or population served) and that any infrastructure type should qualify where it delivers this scale of impact. We have rejected this option on the basis that the Planning Act has specific intentions to streamline the planning system and that this might not apply to other types of infrastructure such as new boreholes or abstraction points, or schemes that would fall within water companies' permitted development rights. Therefore we will continue to set a threshold for specified types of infrastructure.

Consultation questions

11. What are your views on the factors we have set out here for considering if schemes are nationally significant (see also Annex C)?

12. Are there any further factors that we should take into account?

Reservoirs and dams

72. The current definition of an NSIP reservoir is one that holds back a volume of water greater than 10 million m^3. A project can also be an NSIP if it increases the volume of an existing reservoir by more than 10 million m^3. This is equal to 10,000 megalitres (Ml)[44].

73. We have looked at potential new reservoir options that were considered in water companies' 2014 WRMPs. This identified 18 potential schemes that would meet the current definition. None of these was a preferred scheme at WRMP14[45].

[44] These figures are estimates and the actual number of people served by a Ml of water would vary dependent on the per capita consumption of the resource zone(s) the asset serves

[45] While we know of a number of "feasible options" that meet the current threshold of 10million m^3, a number of these are mutually exclusive options within the same area. This means that the number of schemes likely to be selected at the current threshold is small, although we will not know which are most likely to be taken forward until companies publish their 2019 WRMPs.

74. We have identified that water volume is a key determining characteristic as to whether a water resource infrastructure project should be determined as an NSIP. For reservoirs specifically, the volume of water held back is a good indication of the level of complexity of the planning requirements. However, the exact relationship between volume and number of people served is complicated for reservoirs by the nature of the design of each scheme and whether it is used conjunctively with other resources in the network.

75. Analysis of water companies' WRMP14 options showed a general trend for larger reservoirs to provide more water, and therefore serve more people. There are however some potential projects where a smaller reservoir provides more water for use (and therefore serves more people) than other larger projects. Further information on this is at Annex D.

76. We estimate that as a guide, a 10 million m^3 reservoir provides approximately 27 Ml/day of water, which is enough water to supply more than 160,000 people. However, there is potential for smaller projects to benefit from inclusion where they serve a large number of people. An example of this is the Norwich Storage option from Anglian Water's 2014 Water Resource Management Plan. This is a 5 million m^3 reservoir but would provide approximately 46Ml/Day – enough to provide water for some 275,000 plus people – suggesting that this scheme should qualify as an NSIP.

Reservoirs and dams threshold proposals

77. The current threshold of 10 million m^3 appears to be an appropriate staring point for capturing reservoir schemes that could benefit from a streamlined planning process. This has been supported through initial testing with stakeholders. Some have suggested that this threshold is low and we could consider raising it to meet a transfers threshold though there may be good reasons to maintain differing thresholds for different infrastructure types, particularly to reflect the challenges faced by each infrastructure type in the planning system (see para 88). Others have identified that increasing the capacity of an existing reservoir or dam by 10 million m^3 would prove challenging in the planning system.

78. However, a volume only threshold does not recognise the fact that a smaller reservoir could provide more water than a larger one. We could introduce an "and/or" criteria for reservoirs in order to take account of this issue with the intention that reservoirs with a volume of less than 10 million m^3 (as demonstrated in the example above) could be included if they provide a significant volume of water.

79. We are therefore consulting on two options for the reservoirs threshold:

i. To retain the current threshold of 10 million m^3 water held back; or

ii. To amend the threshold to: reservoirs that hold back a volume greater than 10 million m^3 of water OR supply at least 10 million m^3 per year of water.

80. Data from the previous round of WRMPs suggests that amending the definitions in line with (ii) would mean approximately 15 feasible options that would be included, although as some of these are mutually exclusive options, we don't expect all of these would be selected.

Consultation question

13. Which of the two options is your preferred threshold for new nationally significant reservoir schemes?

Please explain your reasoning, where possible using examples of previous reservoir schemes and schemes that are likely to be brought forward in future WRMPs.

Water transfers

81. The current volume threshold for water transfers is for schemes that transfer an annual average in excess of 100 million m^3 non potable water, which we estimate to be equivalent to approximately 274 Ml/Day, or enough water for some 1.6-1.7 million people. This is an exceptionally large volume of water, even accounting for some losses during the transfer[46]. The only option that we are currently aware of that would meet the current threshold is the potential Severn - Thames transfer[47]. We are not aware of any rationale for the threshold being so high.

82. Such a high threshold runs counter to the government's aim to increase connectivity across the water network and encourage more transfers as part of an efficient approach to water resource management nationally. Keeping such a large difference between the reservoirs and transfers threshold also has the potential to drive perverse incentives, for example by incentivising one type of infrastructure.

83. Setting appropriate definitions for transfers is more complex than for reservoirs. Much of the potential for planning complexities will depend on the details of the scheme itself. There are a number of we have considered (described in full in Annex E) when considering schemes that would be of true national sign**i**ficance. These can be summarised as:

[46] The chartered institution of water and environmental management considers a bulk transfer to be 5Ml/Day or more http://www.ciwem.org/wp-content/uploads/2016/04/Bulk-Water-Transfers.pdf.
[47] during a design year (as opposed to annual average use)

Issue	Summary
Size	Broadly speaking the larger the quantity of water, the more complex the scheme and planning permissions required. There may be losses of water along the route of the transfer, particularly where a natural channel is used, so the amount of water put 'in' is likely to be larger than the amount of water taken 'out' and available for supply.
Population served	Generally a larger transfer serves more people. However, this is not always the case. Some transfers are only required in certain circumstances rather than continually. Transfers are normally part of an overall system, making it hard to link directly to how many people are served.
Complexity of infrastructure	The types and amount of infrastructure needed to support a transfer is entirely dependent on the individual scheme. For example, some transfers will use more existing infrastructure or natural waterways, and be gravity-fed, whereas others will use pipes and require pumping stations. The design of the scheme therefore determines what planning permissions may be required and how complex those permissions are.
Scope of planning considerations	Transfers are designed to meet a need that is situated outside of the source area. Making decisions at an appropriate level is one of the key intentions of the NSIP planning process. Large transfers are likely to require coordination between different planning authorities, making them more complex.
Environmental impact	Environmental considerations are likely to be controversial for transfers. Larger transfer schemes that impact multiple river basins are more likely to have a greater environmental impact.

Additional criteria for transfers

84. The Planning Act specifies further criteria that a water transfer must meet to qualify as nationally significant. Transfers must transfer water either[48]:

(i) between river basins[49] in England,
(ii) between water undertakers' areas in England, or
(iii) between a river basin in England and a water undertaker's area in England.

[48] See section 28(1)(c)(i-iii) of the Planning Act.
[49] A river basin is defined in s28(2) of the Planning Act as "an area of land drained by a river and its tributaries"

85. These criteria have the effect of addressing some of the factors for determining a definition for transfers NSIP[50], e.g., the scope of planning considerations. It is likely that the requirement to cross company supply areas or river basins will restrict projects to those that will be large enough to have an impact on an area that is wider than just one local authority and require multiple consents or permissions. We suspect that the inclusion of these additional criteria removes the need to include an additional threshold for 'length of transfer' that we have also considered as part of the review. The rationale for considering length was that a longer transfer is more likely to cross local authority boundaries and is also more likely to require multiple consents and authorisations.

86. The current definition specifies that drinking water is excluded[51]. Water companies already have pipe laying powers[52] that allow them to lay pipes for distributing treated water from treatment plants to customers, therefore this does not need to be included in the definition of NSIP. However, we recognise that there are circumstances where raw water may receive some treatment that falls short of the drinking water standard, for example to avoid the transfer of invasive non-native species. We consider that the current NSIP definition would include such treated transfers.

Transfers threshold proposal

87. We believe there is a strong case for lowering the current threshold. Revising the threshold to make it consistent with those suggested for reservoirs could be beneficial in creating a level playing field. It could also recognise the inherent challenge for transfers; that they are designed to serve a population in a different area. An alternative approach would be to raise the reservoirs threshold to meet any revised transfer threshold.

88. Despite the benefits of a level playing field, there may be legitimate reasons for keeping a different threshold to that for reservoirs, as the relationship between transfer volume and population and/or complexity of planning issues is not simple. This is discussed in more detail in Annex E.

89. We are therefore considering two options for revising down the threshold from an expected capacity over 100 million m^3 per year to either:

i. 10 million m^3 per year; or
ii. 30 million m^3 per year.

[50] Using the 10 million m^3 threshold, there are 23 schemes that have an output of 27Ml/day or higher upon full implementation (equivalent to the serving more than 160,000 people). Once the other criteria are applied to these schemes, only 17 would still qualify. There are no small schemes that would qualify unless a very broad interpretation of "river basin" was applied and schemes transferring water between two relatively minor rivers were included. A full list of schemes considered in this analysis is at Annex E.
[51] See section 28(1)(d) of the Planning Act.
[52] See sections 158 – 159 of the Water Industry Act 1991

90. We also considered setting a threshold at 50 million m^3, estimated to serve 800,000 people per day. This is equivalent to 137Ml/day. However, based on feedback from stakeholders, this threshold is considered to be too high and not have the desired effect of capturing all schemes considered as significant. This is supported by the data using the list of projects identified from WRMP14[53].

91. Reducing the threshold further to 30 million m^3 per year would include schemes with a design output of around 87 Ml/day such as a transfer from Kielder Water to United Utilities and further variations on the Severn – Thames scheme. This would bring the threshold in line with the wastewater NSIP threshold, in considering 500,000 people a nationally significant population.

92. Bringing the threshold down to an annual average capacity of 10 million m^3 per year (equivalent to approximately 27 Ml/Day and theoretically enough water to serve more than 160,000 people) would include a further 17 schemes (see Annex E)[54].

93. We are keen to understand the types and sizes of transfer schemes that would be captured by the different thresholds proposed. In particular, we keen to make sure that strategic connections in the south east are delivered, but currently have limited information about any schemes that might be proposed.

94. We are also seeking further information on the cumulative effect of several smaller transfers and whether we should consider a definition that captures such schemes, for example by setting a 'population served' threshold equivalent to the volume thresholds set out above.

[53] This threshold would only apply to two potential schemes, as shown in Annex E which are both variations on the Severn – Thames scheme.

[54] Schemes that would be captured at this level include, for example a potential transfer from the River Tee in Northumbria to the River Derwent in Derbyshire. This scheme would meet the factors for being nationally significant in that it covers a significant distance and would qualify as crossing company boundaries. It is also between two river basins.

Consultation questions

14. **Which of the two options is your preferred threshold for new nationally significant water transfer schemes?**

    Please explain your reasoning, where possible using examples of previous transfer schemes and schemes that are likely to be brought forward in WRMPs.

15. **Do you have any views on whether there would be benefit in including groups of smaller transfer schemes within the threshold? Please explain your reasoning.**

16. **What do you see as the main benefits and risks of setting the same threshold for all infrastructure types? For example, do you see any reasons that the threshold for reservoirs and transfers should be / not be the same?**

Other infrastructure types

95. Reservoirs and transfers are not the only types of infrastructure that can face planning complexity and other types of infrastructure have the potential to provide large and potentially significant volumes of water for the public water supply. Some that require large new developments or multiple permissions and consents could also benefit from being included in the NSIP planning process. In line with our general approach of setting a level playing field for different infrastructure types, we do not want to establish a disincentive for some types of solutions over others.

Desalination

96. Many sources[55] have identified the potential for new desalination plants to be developed as part of the response to pressure on water resources. Whilst there is currently only one large-scale plant in operation in the UK, it is likely that more will be developed in the coming years. Data from WRMP14 feasible lists showed 18 desalination schemes were considered ranging in output from 20 - 155 Ml/day.

97. As contained, single site infrastructure, desalination plants are not as complex in spatial planning terms as the other infrastructure types mentioned above, but they may still benefit from the streamlined examination and determination process offered by the

[55] including the Water UK water resources long term planning framework, Water Resource in the South East group, the Institute for Chemical Engineers and the National Infrastructure Commission https://www.nic.org.uk/wp-content/uploads/The-impact-of-the-environment-and-climate-change-on-future-infrastructure-supply-and-demand-1.pdf Introduction (p4).

NSIP planning process. For example, Thames Water's Beckton scheme involved a prolonged planning process, including a lengthy public inquiry and consequent construction delays. The desalination process typically involves significant energy use and the need for the scheme was challenged. It has now been built but still requires upgrades to make it as efficient as possible in line with the Mayor of London's commitments to climate change. The Beckton scheme, with a capacity of 150 Ml/day (equivalent to 55 million m^3 per year), is designed to provide enough water to supply approximately one million people so could be considered nationally significant. If the NSIP planning process and a designated NPS had been available to this scheme, there would have been no need to revisit the national need case during an examination of the project.

98. Desalination plants are also the most drought-resistant type of infrastructure, as they are not dependent on weather conditions to operate. They must be situated by the sea or an estuary, but could be designed to serve larger in-land populations suggesting that they could serve a need outside the local authority area.

99. We therefore propose widening the NSIP definitions to include desalination plants. We are seeking views on the scale of the potential benefits of the NSIP planning process for desalination plants and therefore what an appropriate threshold might be. Our starting point is to suggest that the threshold should be in line with that for other infrastructure types, particularly transfers, since many of the planning challenges are similar.

100. We propose two options as an annual average design output of:

i. 10 million m^3 water; or

ii. 30 million m^3 water.

101. Based on WRMP14 data, three scheme options would qualify at the 30 million m^3 threshold although these are all variations on the same scheme for Thames Water. At 10 million m^3 (equivalent to 27 Ml/day), a further six feasible schemes would qualify although again, this includes some variations on the same schemes.

Consultation questions

17. What are your views on the inclusion of desalination schemes in the definition of nationally significant infrastructure?

18. What should the threshold for desalination schemes be?

Please explain your reasoning, where possible providing examples of previous schemes or those that are likely to be brought forward in WRMPs.

Effluent re-use

102. We are considering the inclusion of effluent re-use infrastructure in the NSIP planning process. It is not technically a distinct infrastructure type, being composed of a combination of a water treatment works, transfer and a wastewater treatment works. This makes it more complex to define for the purposes of this part of the Planning Act which is focused on water resources. A review of WRMP14 suggests that it is very unlikely in the short to medium term that direct effluent re-use will be implemented in the UK, though we do want to future proof these amendments as far as possible.

103. Feasible indirect re-use schemes we are aware of involve transferring treated effluent from a wastewater treatment works either upstream from a river abstraction point, or to a storage facility from where it is then abstracted and treated to drinking water standards. For the most part, schemes in the feasible list appear to include using or upgrading existing infrastructure. Furthermore, if the scheme was to involve an amount of water considered nationally significant, potentially the transfer alone could qualify as an NSIP[56] with the other upgrades included as supporting 'ancillary' or associated developments.

104. On the other hand, if the schemes were to provide a significant amount of water we would not want to establish a disincentive. In addition, the technology used in treating effluent is similar to that used for desalination, normally involving reverse osmosis. This is the energy intensive part of the process that has attracted the controversy for previous desalination schemes. It is therefore reasonable to conclude that effluent reuse may face similar challenges.

105. We are seeking further information on potential effluent re-use schemes that may be proposed and whether these would be both of national significance and be appropriate for inclusion in the NSIP planning process. In particular we want to understand the potential scale of such projects, the planning challenges and whether there is the potential for them to be captured in other parts of the NSIP definitions, e.g., under transfers.

Consultation question

19. What are your views on whether effluent reuse schemes should be considered nationally significant?

Please explain your reasoning, where possible providing examples of previous effluent reuse schemes or those likely to be brought forward in WRMPs.

[56] Under the definition of a transfer in the Planning Act.

Directing other schemes into the NSIP planning process

106. Although the definitions determine the types and sizes of schemes that must be considered via the NSIP planning process, the Planning Act also allows for additional schemes to be directed into this planning process. Section 35 of the Act allows the Secretary of State to direct other water resources projects in to the NSIP process, specifically if he considers that the project is of national significance, either by itself or when considered with one or more other projects or proposed projects in the same field.

107. This is an important additional route that allows some flexibility for decisions on schemes to be taken at the appropriate level if there is sufficient reason for a project below the threshold to be considered an NSIP. Any such water resources scheme for which no application has been made[57] can be requested to be directed in to the NSIP planning process, but the proposer must justify the reason for doing so.

Development by undertakers only

108. As drafted currently, NSIPs concerned with dams and reservoirs and the transfer of water resources can only be developed by water undertakers. We do not propose to remove this restriction because we are developing this NPS on the need for nationally significant water resources for the purposes of increasing capacity in the public water supply.

109. However, we are of the view that the current requirements are flexible enough to accommodate forthcoming changes in the water resources market, for example through the introduction of direct procurement. The NSIP planning process would apply so long as a project is being developed on behalf of a water undertaker for the purposes of carrying out the undertaker's functions. The NPS will also refer to the role of WRMPs in identifying schemes, so again this reinforces the role of this planning process being for the delivery of schemes for the public water supply.

Consultation question

20. Do you have any further comments on what water resources infrastructure should or should not be considered nationally significant?

[57] For example, an application under the Town and Country Planning Act 1990.

Annex A: WRMP process

Background on the development of water resource management plans (WRMPs)

The development of options in WRMP preparation includes an initial full screening process of all potential options (the ‘unconstrained list’) to identify the most ‘feasible’ options. The screening process at this stage includes consideration of statutory environmental constraints, for example, whether a potential scheme impacts any designated sites.

These ‘feasible’ options are then subject to analysis of the environmental and social costs including carbon costing and the indicative benefits of schemes. This leads to the identification of ‘preferred options’ to resolving any supply deficits.

The types of options considered in preparing WRMPs can be broadly categorised as:

- demand management (for example leakage reduction or water efficiency measures);
- water transfers (within or between water company areas); or
- increased supply (such as expanding or developing new reservoirs, desalination plants, abstractions or borehole sources or reuse of treated effluent).

Annex B: Summary of economic analysis

Introduction

In preparing for this consultation, Defra has conducted some preliminary economic analysis of the potential net benefits of introducing the NSIP planning process for water supply. In doing so we have focused on the costs and benefits of specifying reservoirs based on some high-level information on costs and potential schemes known to us (see Annex D). Two types of analysis are presented:

a) Illustrative costs and benefits for a hypothetical "exemplar" scheme with a capacity threshold of 10 million m^3 to illustrate the implications of our proposed thresholds on a generic NSIP scheme;
b) An early and tentative estimate of the total potential net benefit of introducing the NSIP planning process with a capacity-based threshold of 10 million m^3.

These analyses are based on the average cost per million m^3 derived from a small sample of early reservoir scheme cost estimates (see below). The implicit assumption is that the cost per million m^3 is constant for reservoir size; in practice some economies of scale are observed in the sample. As such, savings for large schemes may be overestimated, and vice versa. In the context of wider uncertainties about costs this is felt to be acceptable for indicative analysis, but we hope to refine this in future (see below).

In the case of the aggregate analysis (b), the average cost per million m^3 is multiplied by the estimated capacities of the envisaged schemes in Annex D, and totalled to provide a very broad-brush estimate of total potential benefits (savings to project developers). During and after consultation we will refine this analysis and also aim to extend it to other infrastructure types.

Part A: Hypothetical "exemplar" scheme analysis - methodology

The following methodology has been employed to determine the potential net monetised benefit of the proposed 10 million m^3 capacity threshold.

The average time saving to reach consent per scheme through the NSIP planning process, compared with using local planning authorities (LPA), is assumed conservatively to be 6 months. This 6 months is assumed as a 25 % reduction in a baseline estimate of 24 months for a significant water supply project to proceed through existing LPA processes to successful application, but to reiterate is designed to be conservative at this stage. The baseline estimate is informed by Thames Tideway Tunnel (assumed at 33 months, with a time reduction of 50%), but was reduced to reflect the fact that most water supply schemes are perhaps not as complex. For each month of time saved to reach consent, the scheme promoter incurs cost savings of around 0.12% of total scheme costs.

This is based on a formal estimate made for the Thames Tideway Tunnel (a £4.2bn scheme where the undiscounted cost saving from reducing consent by one month was estimated at £5m, see Waste Water NPS Impact Assessment[58]). Therefore the **benefit** is the amount saved in overall scheme costs because of the reduction in time to reach consent. In addition to saved costs there are non-monetised benefits, including the delivery of a more resilient water supply to society at a faster speed and with more certainty around decision making.

The **cost** of the NSIP planning process is based on the additional resource costs for the Planning Inspectorate to assess the case for a Development Consent Order for the NSIP. This is estimated at £0.09m per additional project. This is based upon information in the Localism Bill and Planning Bill Impact Assessments[59].

An average capital cost for a potential reservoir, per million m^3 of capacity is estimated. A sample of eight "feasible" reservoir schemes, with individual cost estimates, was used to construct a simple linear "cost curve". The size of the schemes ranged from 0.8 to 150 million m^3, and capex costs from £20 to £1000m. The average capex cost of these schemes is around 15.92m per million m^3 of water held back.

To illustrate the potential benefit of the thresholds we propose for supply schemes generally, the net benefit of a notional exemplar reservoir scheme with a "held back" volume just above the threshold (say 10,000,001 m^3) is calculated. Based on the average cost estimate such a reservoir would have notional capex costs of £159m (10.000001 million m^3 x £15.92m/million m^3).

[58] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/82278/waste-water-consult-ia.pdf
[59] Localism Bill 2011 Impact Assessment (Major Infrastructure Projects)
Planning Bill 2007 Impact Assessment

NSIP threshold for reservoirs of 10 million m^3: Illustrative benefits and costs of a notional individual scheme

Benefit or cost	**Workings**	**Sum**
Benefit – promoter admin cost saving (benefit to business)	£159m x 0.12% x 6 months (see explanation above)	£1.15m
Cost – PINS	£0.09m per new NSIP project	£0.09m
Net benefit (undiscounted)	£1.15m - £0.09m	£1.06m
Net benefit (discounted)	£1.06m x 1.0000 (discount factor for first year)*	**£1.06m**

**NB it is assumed this exemplar scheme proceeds immediately on commencement of the NSIP planning process*

Risks and Limitations

The above analysis is illustrative of the potential net benefit per scheme based on plausible assumptions, but should not be taken as definitive at this stage. Benefits have been calculated based on evidence from the Thames Tideway Tunnel, a major wastewater project which was classified as a NSIP under the wastewater provisions of the Planning Act, which have already been commenced. There is a risk that this project may not be a representative example scheme as, not only is it a wastewater scheme rather than a supply scheme, it is also a particularly large project. To mitigate this risk, conservative assumptions about the nature of time savings have been employed.

Limitations of the above analysis include:

- the cost saving for each month of planning consent saved is assumed to be constant (at 0.12%) and may not be;
- Estimated PINS costs for each new NSIP project are assumed to be constant, at £0.09m per application (undiscounted; based upon information in the Localism Bill and Planning Bill Impact Assessments). If the total number of schemes assessed increases, it is plausible that the average administration costs per application may increase (due to for example capacity constraints in PINS).

Part B: Aggregate net benefit estimate for a 10 million m^3 NSIP threshold for reservoir schemes

The above analysis relates to **hypothetical** individual schemes to give an illustration of the potential broad order of net benefits at the scheme level. However, the basic methodology has also been employed to calculate the potential order of benefit for each of the twelve known "feasible" reservoir schemes in the list in Annex D of this consultation. Firstly a capex cost was estimated for each reservoir scheme based on reservoir capacity and the overall average cost per million m^3 (as per Part A above). From this, **a very tentative illustration** of the possible order of benefit to scheme promoters for each reservoir was calculated; this is the amount of capex cost saved due to the assumed reduction in time for planning consent. Assumptions may be conservative as discussed above. An estimated administration cost for each new NSIP project (of £0.09m) was then deducted to calculate the net benefit. The aggregate estimated net benefit (after PINS costs) for all 12 known feasible large reservoir schemes in Annex D is estimated on this basis at around **£80m**. Note this is an undiscounted estimate: to the extent these schemes would take several years to complete design and planning, the present value of benefits will be lower.

Annex C: Factors for considering nationally significant

We have taken the following factors into consideration when developing our analysis for appropriate NSIPs. These should not be considered as part of the definition and will not appear in our proposed amendments to the Planning Act. They are guiding factors that have shaped our analysis for reviewing definitions:

- **whether a project will serve a substantial number of people;**
  The number of people served by an asset is the most straightforward measure of the impact of the scheme. The actual number of people served by any individual asset can be difficult to isolate due to the complexity of water supply networks and the potential for any scheme to provide a non-continuous supply of water, for example if it is an alternative source to provide resilience. We can estimate the number of people served by considering the volume of water the scheme is designed to produce, or the asset's capacity (as with reservoirs) although this relationship is not always straight forward. This is explored in part 3.

- **whether a project is likely to have a significant economic impact, or is important for driving growth in the economy;**

  Considering the number of people served by an infrastructure scheme is also a useful proxy for understanding its potential economic impact. Using information from water companies' plans, we can translate between size of the asset and population served in our analysis.

  We could also consider other factors such as whether the infrastructure project serves a particularly water stressed area, provides additional drought resilience, or provides strategic links between resource zones. These concepts are hard to quantify in a threshold, and guidance on planning decisions considering these issues could be more appropriately reflected in the NPS than the NSIP definitions. Nevertheless considering these issues can help to provide context for determining an appropriate threshold.

- **whether a project is of a substantial size;**

  Size (expressed as water volume) is the current metric used to define schemes in the Planning Act. The more water involved, the larger the asset is likely to be and the greater its impact. Larger assets are likely to impact a larger area and therefore face a more complex planning process which could raise planning issues outside a single planning authority's direct need or involve multiple planning authorities. As above, a volume metric also acts as a proxy to measure the impact on people or the economy.

- **whether a project has an impact across an area wider than a single local authority area;**

  Ensuring decision making is undertaken at the appropriate level is one of the key aims of the Planning Act. An NSIP could be designed to meet a need larger than, or outside of, the local area resulting in a regional or even national benefit. This could be a likely scenario for new large water transfers, in particular since they are designed for the purpose of moving water from one location to serve a population elsewhere. Due to the need being elsewhere, decisions taken in the national context, rather than at a local level, would be more appropriate.

- **whether a project is important to the delivery of a nationally significant infrastructure project or other significant development;**

  Considering the links to other large schemes could encourage links between fields and help to join up water resource schemes to other key developments, eg in the energy or agricultural fields. This could be particularly helpful in the future if there was to be a major new development that required cross-sector collaboration, a new water resource to be developed or for water to be transferred over a large distance. This links back to the economic impact of a scheme but is difficult to quantify without any direct examples to consider.

- **whether a project makes a significant contribution to environmental objectives;**

  The impact of infrastructure on the environment is a key consideration in planning decisions and this is likely to be greater for larger schemes. However there may be smaller schemes that have a disproportionately large benefit (or detriment) for the environment, for example new infrastructure schemes could play an important role in relieving pressure of over abstraction of freshwater ecosystems. Such impacts could be considered nationally significant. The relationship between the size of infrastructure and the potential for environmental impacts is harder to establish due to the site specific nature of the impacts. This is an issue where further guidance in the NPS itself may be more appropriate, particularly linking it to the principle of environmental net benefit (see part 2 of the main document).

- **whether a project is likely to require multiple consents or authorisations, and which, in consequence, would benefit from the single authorisation process offered by the NSIP planning process.**

  Applying for multiple consents can be a key source of uncertainty and delay for planning applications. Larger and more significant schemes are likely to require more consents by the nature of the increased complexity of the project. The NSIP planning process is likely to result in an overall cost saving for these schemes, largely due to the avoided costs of a planning inquiry and associated uncertainty for developments and this should be considered as part of the analysis.

Annex D: Further analysis on reservoirs threshold

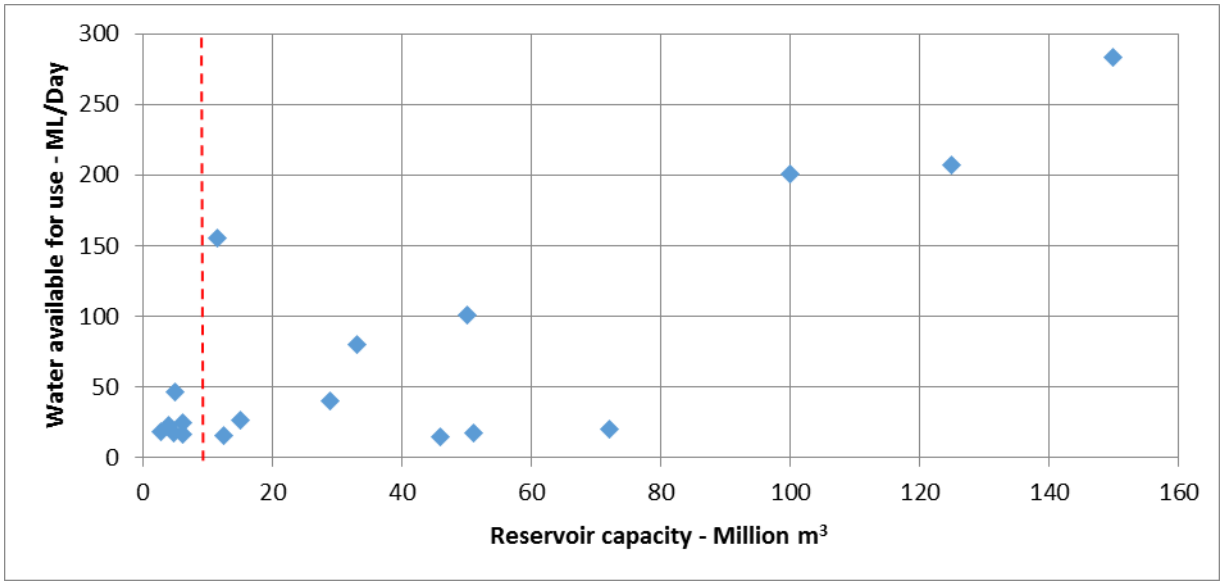
The following schemes have been identified from information provided to the Environment Agency as feasible options at WRMP14. None was a preferred scheme at WRMP14.

Reservoir/dam raising project	Capacity (million m^3)	Water Available for Use (Ml/day)
Upper Thames Reservoir (Thames Water)	150	283
Longdon Marsh (Thames Water)	125	207
Chinnor (Thames Water)	100	201
Goose Green (South East Water)	72	20
Halland (South East Water)	51	17.8
Longworth (Thames Water)	50	101
Blackstone (Thames Water)	46	15
Borrowbeck (United Utilities)	33	80
Grafham Dam Raising (Anglian)	28.9	40
Ruthamford South (Anglian)	15	26
Rutland Dam Raising (Anglian)	12.4	16
Middle Severn (Severn Trent)	11.4	155
Cheddar (Bristol Water)	6	16.3
Puton (Bristol Water)	6	25
Norwich Storage (Anglian)	5	46
Broyle Place (South East Water)	4.8	17.1

Haweswater (United Utilities)	3.9	22.4
Broad Farm (South East Water)	2.8	18.5

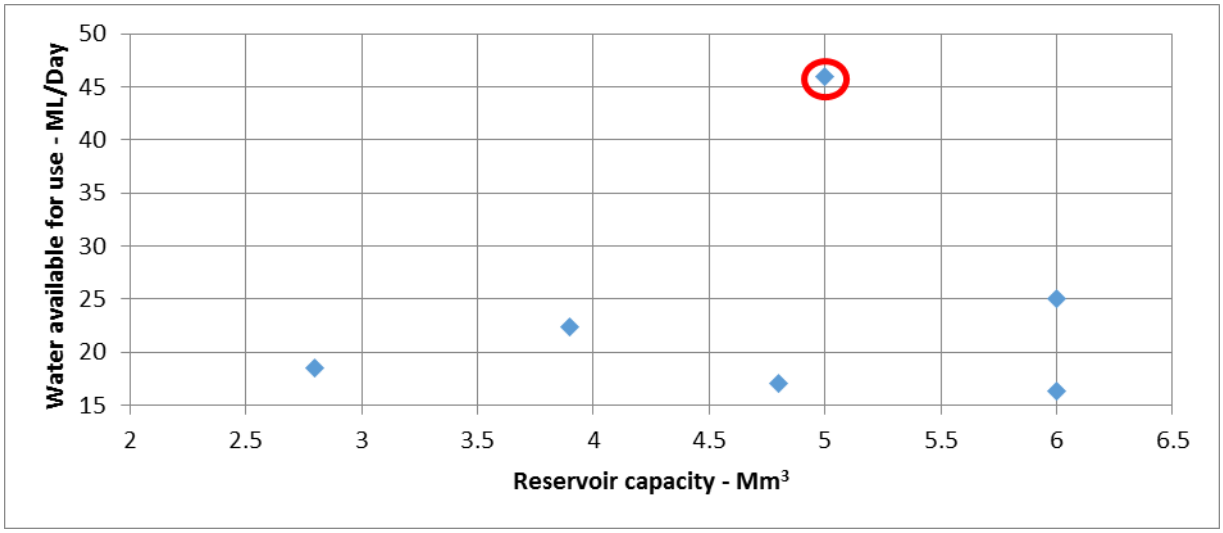
On the basis of this data, we identified that for schemes above the 10 million m^3 threshold, there is a strong relationship between the size of the reservoir and the amount of water it supplies (see figure 1).

Figure 1: "feasible" reservoir projects from 2014 WRMPs - capacity/water available for use – with red dotted line showing the current threshold



However, for smaller reservoirs this relationship starts to be less clear. For example there are smaller reservoirs that could provide up to approximately 46Ml/Day (see figure 2) – enough water for some 275,000 plus people. This notable exception (highlighted by a red circle in figure 2 below) is Anglian Water's Norwich Storage option from their WRMP14. There are also options of similar sizes that would provide far less water.

Figure 2: "feasible" reservoir projects under the current threshold



The size of a reservoir is also a good indication of the complexity of the project and the potential difficulty it might have in the planning stages. The now completed scheme to enlarge and enhance the Abberton reservoir in Essex by circa 10 million m^3 water (increase resulted in ~26 million m^3 total capacity, providing water for approximately 400,000 people) involved four planning authorities, and 123 non-standard planning conditions were attached to the permissions. The complexity of the planning process meant the process from water resource planning to gaining planning consent lasted 12 years, whilst construction lasted only 4 years.

However smaller reservoirs, such as the Norwich storage option mentioned above, can also face planning difficulties. Anglian Water specifically note that one of the risks for delivery of this project is that "complications during the planning process such as a public inquiry may increase the implementation duration"[60]. This suggests that a reservoir project of this size could benefit from the streamlining benefits of the NSIP planning process. Furthermore, a scheme to provide water for this number of people would make an arguably 'significant' contribution to increasing resilience in a dry region, potentially contribute to economic development in the area and be of substantial size.

[60] http://www.anglianwater.co.uk/_assets/media/Option_Appraisal_Report_-revised_draft_WRMP.pdf

Annex E: Further analysis of transfers threshold

The following schemes have been taken from information provided to the Environment Agency as feasible options at WRMP14. None was a preferred scheme at WRMP14.

Transfer project	Capacity (million m^3)	Output (Ml/ day)	Company to company?	River basin to river basin[61]?
Longdon Marsh/Deerhurst 1 (Thames Water)	75.6	207	Yes	Yes
Longdon Marsh/Deerhurst 2 (Thames Water)	75.6	207	Yes	Yes
Kielder 2 (United Utilities)	36.5	100	Yes	Yes
Longson Marsh – via Cotswolds canal 1 (Thames Water)	35.8	98	No	Yes
Longson Marsh – via Cotswolds canal 2 (Thames Water)	35.8	98	No	Yes
Kielder to west Cumbria (United Utilities)	29.2	80	Yes	Yes
Thirlmere transfer to west Cumbria (United Utilities)	29.2	80	No	No
Longdon Marsh/Deerhurst 3 (Thames Water)	27.4	75	Yes	No
Tee to Derwent Pipeline Option 1 Phase 3 (Yorkshire Water)	21.9	60	Yes	Yes
Tees to Swale River Transfer Option 1 Phase 3 (Yorkshire Water)	21.9	60	Yes	Yes
Northumbrian to Cow Green (United Utilities)	18.3	50	Yes	Yes

[61] For the purposes of this analysis we have assumed that the definition of river basin applies to the major river basins in the country equivalent to river basin districts identified by the Environment Agency although this is subject to interpretation and we would welcome and clarifications https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/485616/England_National_RBD_pdf.pdf

Tee to Derwent Pipeline Option 1 Phase 1 (Yorkshire Water)	18.3	50	Yes	Yes
Tees to Swale River Transfer Option 1 Phase 1 (Yorkshire Water)	18.3	50	Yes	Yes
Deerhurst Pipeline 200 Ml/d (Thames Water)	16.4	45	No?	Yes
Iver to Harrow to Arkley (Affinity Water)	14.6	40	No	No
North Surrey North (Affinity Water)	14.6	40	No	No
Ruthamford North RZ Transfer 2 (Anglian Water)	14.2	39	No	No
Thames Water bulk supply to Merton (Sutton and East Surrey)	11.0	30	Yes	No?
Tee to Derwent Pipeline Option 1 Phase 2 (Yorkshire Water)	11.0	30	Yes	Yes
Tees to Swale River Transfer Option 1 Phase 2 (Yorkshire Water)	11.0	30	Yes	Yes
Hunton Bridge to Friars Wash (Affinity Water)	11.0	30	No	No
Canterbury to Maidstone (South East Water)	11.0	30	No	No
Maidstone to Canterbury (South East Water)	11.0	30	No	No

Using this information and feedback from stakeholders we considered how the factors identified in Annex C would apply when revising the transfers threshold. The discussion below is summarised in the main body of the consultation document.

Size: As with reservoirs, it can generally be asserted that the larger the volume of the transfers, the more significant it will be for the receiving population. This could be because it provides a substantial portion of a water company's supply of water, or because access to the extra water could help improve resilience of a whole resource zone.

Population served: It is complex to determine the number of people served by a transfer. Such infrastructure is often part of an overall system in a network, rather than directly and constantly supplying homes. In addition, there may be losses of water along the route of the transfer (known as transmission losses) particularly where a natural channel is used, so the amount of water put 'in' is likely to be larger than the amount of water taken 'out' and available for supply. It's also possible that a transfer isn't used continuously, but may be brought into use during periods of high demand or low rainfall[62].

Complexity of infrastructure: As is the case for other infrastructure types, larger transfers are likely to require more infrastructure to support them, although this is also not a concrete assumption. Types of infrastructure required to support transfers could include pipelines, treatment works, intake structures, screening equipment, service reservoirs and pumping stations. The types and amount of infrastructure needed to support a transfer is entirely dependent on the individual scheme. For example, some transfers will use more existing infrastructure or natural waterways, and be gravity-fed, whereas others will use pipes and require pumping stations. The design of the scheme therefore determines what planning permissions may be required and there is likely to be less consistency between transfer schemes than between reservoirs, for example.

However it's likely that some schemes will be very complex requiring a range of permissions and consents that could benefit from the single application process of the NSIP planning process.

On the other hand, a water transfer could be argued to be less physically intrusive than a major new reservoir development. Transfers tend to be made up of multiple smaller pieces of infrastructure or use natural channels and, although disruption during the construction phase is significant for new pipelines and permanent access rights are required, the landscape can be left relatively unaltered. There is therefore a potential argument for the threshold for schemes benefitting from the NSIP planning process to be higher than for reservoirs.

Scope of planning considerations: Transfers are likely to face complexities in the planning system because they are specifically designed to serve a different population from the source of the water and potentially require coordination of permissions across multiple local authorities over the distance of the transfer.

Environmental impact: Transfers can attract controversy due to the potential impact on water quality caused by introducing water of a different composition to a water environment. However well planned transfers that mitigate the risks, for example of spreading invasive non native species, can also improve water environments by relieving the pressure of over-abstraction on water courses. It's likely that larger transfers schemes will have a larger potential environmental impact, particularly where natural water courses

are used, and as this will be across two river basins could therefore be considered nationally significant.

Annex F: List of desalination schemes considered

The following schemes have been taken from information provided to the Environment Agency as feasible options at WRMP14. None was a preferred scheme at WRMP14.

Option name	Capacity (million m^3)	Water available for use (Ml/day)
Estuary South 150 Ml/d (Thames Water)	55	150
Estuary South 50 Ml/d (Thames Water)	37	100
Estuary South 100 Ml/d (Thames Water)	37	100
Fawley desalination 60 Ml/d (Southern Water)	22	60
Bacton desalination (46 Ml/d) (Anglian Water	17	46
Fawley desalination 45 Ml/d (Southern Water)	16	45
Shoreham Harbour 40 Ml/d (Southern Water)	15	40
Desalination and treated water transfer (Bristol Water)	11	30
Shoreham Harbour 30 Ml/d (Southern Water)	11	30
Desalination (30 Ml/d) (Wessex Water)	11	30

Annex G: List of consultation questions

Consultation questions

Part 1

1. Do you have any views or further evidence that could inform the need for resilience in the water sector?

Part 2

2. Do you have any views or comments on these principles for developing the NPS?
3. Do you consider there to be any further principles for developing the NPS? Please explain your reasoning.
4. Do you agree with the main issues identified in the topic areas (Section 3.3 of AoS Scoping Report)?
5. 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?
6. Do the AoS objectives and guide questions (Section 4.3 of scoping report) 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?
7. Do you have any comments on the discussion on potential reasonable alternatives to the NPS (Section 2.4 of scoping report)? Should any further alternative scenarios be considered? Please support your suggestion with your reasoning.
8. Do you think that the proposed approach to assessing the NPS against the Habitats Regulations is appropriate?
9. Do you think that the HRA Methodology Report sets out sufficient information to establish the context for the Screening Report and later Appropriate Assessment? If not, which areas do you think have been missed and where is the information available from?

Part 3

10. Do you have evidence on the costs of potential supply schemes, especially those other than reservoirs, and potential time and cost savings from NSIP designation, to improve our economic analysis?

11. What are your views on the factors we have set out here for considering if schemes are nationally significant?

12. Are there any further factors that we should take into account?

13. Which of the two options is your preferred threshold for new nationally significant reservoir schemes?

    Please explain your reasoning, where possible using examples of previous reservoir schemes and schemes that are likely to be brought forward in future WRMPs.

14. Which of the two options is your preferred threshold for new nationally significant water transfer schemes?

    Please explain your reasoning, where possible using examples of previous transfer schemes and schemes that are likely to be brought forward in WRMPs.

15. Do you have any views on whether there would be benefit in including groups of smaller transfer schemes within the threshold? Please explain your reasoning.

16. What are the main benefits and risks of setting the same threshold for all infrastructure types? For example, do you see any reasons that the thresholds for reservoirs and transfers should be/ not be the same?

17. What are your views on the inclusion of desalination schemes in the definition of nationally significant infrastructure?

18. What should the threshold for desalination schemes be?

    Please explain your reasoning, where possible providing examples of previous schemes or those that are likely to be brought forward in WRMPs

19. What are your views on whether effluent reuse schemes should be considered nationally significant?

    Please explain your reasoning, where possible providing examples of previous effluent reuse schemes or those likely to be brought forward in WRMPs.

20. Do you have any further comments on what water resources infrastructure should or should not be considered nationally significant?