

AtkinsRéalis



Habitats Regulations Assessment

Portsmouth Water

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PORTSMOUTH WATER DRAFT DROUGHT PLAN 2027

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1. Introduction

1.1 Terms of reference

AtkinsRéalis UK Limited was commissioned by Portsmouth Water to undertake a Habitats Regulations Assessment (HRA) as part of the environmental assessment process supporting the development of their draft Drought Plan (dDP). This report presents the findings of the Portsmouth Water dDP HRA and will accompany the Strategic Environmental Assessment (SEA) as it goes through consultation.

1.2 The Background and need for the Drought Plan

The purpose of a drought plan is to set out the timely actions that a water company will take to ensure continuity of drinking water supply during a drought scenario, whilst at the same time continuing to protect the environment. Portsmouth Water are required to update their current Drought Plan¹ (published in April 2022) and submit a new Draft Drought Plan for 2027 to the Secretary of State, prior to a period of public consultation. The dDP must comply with all relevant legislation and the latest Environment Agency guidelines and supplementary guidance and must be aligned with the 2024 Water Resource Management Plan² (WRMP24) as published in October 2024.

Portsmouth Water's Drought Plan 2022 explains the drought management actions that would be considered during dry weather. The order of the actions has been carefully considered to protect the environment and customer supplies. The actions for managing a drought can be divided into two types. Those which focus on demand-side actions (reducing the need for water) and supply-side actions (such as drought permits or orders). The actions within Portsmouth Water's current Drought Plan includes one supply side drought permit and 'More Before 4' interventions (Option A – Recommissioning of Source U, Option B – Recommissioning unused private boreholes, and Option C – Increasing pump capacity and lowering pump levels at sources Q and R).

Drought permits and drought orders are drought management actions that, if granted, can allow more flexibility to manage water resources and the effects of drought on public water supply and the environment. Portsmouth Water's WRMP19 demonstrated that even in the most severe drought scenarios, only a single drought permit may be required; at Source S. This drought permit has been included in previous WRMPs and is still the only supply-side drought permit option within the most recently published WRMP24. The drought permit was chosen as it has the least likely impact upon the environment.

The Environment Agency's environmental assessment for water company drought planning supplementary guidance³ requires water companies to complete adequate environmental assessments, monitoring and mitigation plans at planning stage to ensure that the assessments are considered 'application ready' for drought permits and orders. Therefore, should a drought permit application be required, the application will need to be accompanied by an Environmental Assessment Report (EAR) alongside the technical monitoring and mitigation plans. In developing the Drought Plan for 2027, the outcomes of any EARs will also need to be reflected in the plan level summary of the Strategic Environmental Assessment (SEA).

¹ The Portsmouth Water Drought Plan 2022, April 2022, Portsmouth Water. Available online: <https://www.portsmouthwater.co.uk/wp-content/uploads/2022/04/Final-Drought-Plan-2022.pdf>

² Water Resource Management Plan 2024, October 2024, Portsmouth Water. Available online: https://www.portsmouthwater.co.uk/wp-content/uploads/2024/10/1D-fWRMP24-App-SEA-NTS-v5.0_published_final.pdf

³ Water company drought plan guideline, June 2025, Environment Agency, Defra. Available online: <https://www.gov.uk/government/publications/water-company-drought-plan-guideline-2025/water-company-drought-plan-guideline-2025>



1.3 Background to HRA

According to the Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations'), before deciding to undertake or give any consent for a plan or project, '*..which is likely to have a significant effect on a European site or a European offshore marine sac site (either alone or in combination with other plans or projects), and is not directly connected with or necessary to the management of that site,*' the Competent Authority must '*make an appropriate assessment of the implications of the plan or project for that site in view of that site's conservation objectives.*'

UK Government policy: National Planning Policy Framework (NPPF)⁴, states that potential Special Protection Areas (pSPA) and possible Special Areas of Conservation (pSAC), listed or proposed Ramsar sites⁵ and sites identified, or required, as compensatory measures for adverse effects on habitats sites, pSPAs, pSACs, and listed or proposed Ramsar sites, on which the Government has initiated public consultation on the scientific case for their designation, should also be considered European Sites. Hereafter, all of the above designated nature conservation sites are referred to as 'European Sites'.

The stages of HRA process are:

- **Stage 1 - Screening:** To assess whether a plan or project either alone or in combination with other plans and projects is likely to have a significant effect on a European Site;
- **Stage 2 - Appropriate Assessment:** To determine whether, in view of a European Site's conservation objectives, the project or plan (either alone or in combination with other projects and plans) would have an adverse effect (or risk of this) on the integrity of the site with respect to the conservation objectives. If adverse impacts are anticipated, potential mitigation measures to alleviate impacts should be proposed and assessed;
- **Stage 3⁶ – Derogations (allow exceptions):** Where a project or plan is assessed as having an adverse residual impact (or risk of this) on the integrity of a European Site, it may qualify for a derogation. Three legal tests must be applied in the following order:
 1. There are no feasible alternative solutions that would be less damaging or avoid damage to the site.
 2. The proposal needs to be carried out for imperative reasons of overriding public interest.
 3. The necessary compensatory measures can be secured.

This report comprises Stage 1 - HRA Screening of the dDP.

A number of European Sites fall within the Portsmouth Water dDP area, hereafter referred to as the 'Plan Area'. Under the Habitats Regulations, Competent Authorities, i.e. any minister, government department, statutory undertaker, public body, or person holding public office, have a general duty, in the exercise of any of their functions to have regard to the Habitats Regulations. Furthermore, according to UK Water Industry Research (UKWIR) 2021 Guidance⁷, a water company is the Competent Authority with respect to HRA.

The Water Company Drought Plan Guideline 2025⁸ (for England and Wales) indicates that water companies must demonstrate in their drought plans that they have met their responsibility to monitor, assess and where possible mitigate for the environmental impact of all supply drought management actions. Environmental assessments for

⁴ Department for Levelling Up, Housing and Communities (2024) National Planning Policy Framework. Available from: [National Planning Policy Framework - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/national-planning-policy-framework) (Accessed November 2025)

⁵ Defined by the Convention on Wetlands of International Importance, especially as waterfowl habitat (otherwise known as the 'Ramsar Convention'). <https://www.ramsar.org/>

⁶ Derogations stages were previously described as two separate stages, but now commonly grouped together.

⁷ UK Water Industry Research (2021) Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans (21/WR/02/15). Available at: [Environmental Assessments for Water Resources Planning](https://www.ukwir.com/Environmental-Assessments-for-Water-Resources-Planning)

⁸ Water company drought plan guideline, June 2025, Environment Agency, Defra. Available online:

<https://www.gov.uk/government/publications/water-company-drought-plan-guideline-2025/water-company-drought-plan-guideline-2025>



supply drought actions should also include any mitigation measures planned to be implemented. Water companies must ensure that their environmental assessments meet all the expectations set out in the relevant environmental legislation, including the Habitats Regulations.

Further technical guidance on the requirements for environmental assessment, monitoring and mitigation for drought plans is set out (for England) in the following document: Environment Agency's supplementary guidance on 'Environmental assessment for water company drought planning'⁹. This supplementary guidance states that European sites require a high level of confidence in the evidence related to environmental impact for decision making due to their designated status, and they may require a more detailed assessment depending on the effects on their designated features.

It also states that water companies must undertake a HRA on the effects of their plan on European sites, alone or in combination with other plans or projects; for example, the effects of drought management actions on European sites. Where decisions [on supply options] have been made through the HRA process, it should be clear why the decision has been made. Natural England expect that all Supplementary Advice (site specific advice provided by Natural England) is considered during the HRA process. With regard to the HRA for the plan, they must consult the relevant statutory nature conservation body.

Additionally, the advice makes it clear that while the water company is the competent authority for the drought plan, the Environment Agency are the competent authorities for drought permit applications and the Secretary of State for Environment, Food and Rural Affairs (Defra) is the competent authority for drought order applications. It goes on to state that, the Environment Agency and Defra may use the information in the HRA together with other information in their assessments of drought permit and drought order applications. Therefore, water companies should ensure that it is clear whether any proposed mitigation is directly linked to avoiding adverse effects on the relevant designated site, so that it can be considered at HRA Stage 2 (Appropriate Assessment).

Mitigation measures are defined in the supplementary advice as those introduced specifically for the purpose of countering likely effects on site features. However, elements of a plan or project that are required for other purposes or standards but coincidentally reduce the likelihood or magnitude of impacts to site features (i.e. not relied upon) are not considered mitigation measures for the purposes of HRA.

This HRA report presents the Stage 1 Screening undertaken on the options selected by Portsmouth Water for inclusion in the dDP for 2027. As set out in the guidance, only supply options are being assessed. For supply options that cannot be screened out, they will be taken forward to Stage 2 AA. The scope for in-combination effects with other plans and projects and within-plan effects are also discussed. However, information about inter-company effects was not available. This is further discussed in Section 1.4 Consultation and Section 2.5 Limitations.

HRA is based on application of the precautionary principle; where Likely Significant Effect (LSE) cannot be ruled out or uncertainty remains, an impact is assumed, triggering the requirement for AA of that option.

1.4 Consultation

Natural England (NE) were consulted on Portsmouth Water's Drought Plan SEA Scoping Report and provided a response on 9 June 2025. Key points made by NE relevant to the HRA are set out in Table 1-1 below, alongside how these comments have been addressed in the HRA.

⁹ Environment Agency (2025) Guidance: LIT 75033 - Environmental assessment for water company drought planning. March 2025.



Table 1-1 - NE Consultation Comments and Responses/ Actions

NE Comment	Response/ Action
<p>In combination assessment:</p> <p>The SEA Report should assess the in-combination and cumulative effects of the other plans and projects. Natural England advises that this assessment should consider other water companies' drought plan and options where they could affect the same environmental receptor.</p>	<p>At the time the HRA was being undertaken, it was not possible to complete a full in-combination assessment for the dDP. This was due to neighbouring water companies still being in the process of developing and refining their own drought management options. As a result, sufficient detail on the nature, scale, timing, and potential environmental pathways of their proposed measures was not yet available. Without this information, a robust appraisal of potential cumulative or synergistic effects on Habitat sites, and any Compensatory Habitat Sites, could not be reliably undertaken. The in-combination assessment will therefore need to be revisited once neighbouring companies' plans have progressed to a stage where their options and associated impact pathways can be clearly understood and assessed alongside this Drought Plan. It is the intention that the ICA will be updated to inform the Final DP. Portsmouth Water shall share the results of the ICA with NE ahead of the final plan submission. For this iteration of the report, the WRMP24 drought options for neighbouring water companies have been used to inform the ICA.</p>
<p>Habitats Regulations Assessment:</p> <p>A HRA is required for SPA supporting habitat also known as functionally linked land. For the Solent & Southampton Water SPA, functionally linked land has been identified and classified through the Solent Wader and Brent Goose Strategy (SWBGS).</p>	<p>This specific information has been considered in the assessment, as set out in Section 2.1.3. Information will be sourced from the Solent Waders & Brent Goose Strategy website¹⁰.</p>
<p>Habitats Regulations Assessment and Duties to Habitats Sites:</p> <p>The HRA of the plan should include an assessment of the in combination and cumulative impacts of the plan with other plans and projects. The HRA should have regards to relevant caselaw and should take account of whether the site is meeting its conservation objectives for relevant features and attributes to the dDP options.</p>	<p>The HRA includes an in-combination assessment and has been undertaken with regard to relevant caselaw, as set out in Section 2 Methodology, specifically 2.1 Stage 1: Screening 'Test of Likely Significance'.</p> <p>The assessment of the supply drought options has been undertaken with reference to supplementary advice on the conservation objectives, where available, and the condition of the Site of Special Scientific Interest (SSSI) units that underpin the European/ Habitats Site designation.</p>

Any further consultation comments or advice from NE will be captured and addressed in future iterations of this assessment report.

¹⁰ [Solent Waders & Brent Goose Strategy – coastal bird conservation, waders and brent geese data and mapping](#)



1.5 This Report

This report comprises a Stage 1 Screening of Portsmouth Water’s dDP options, alone and in-combination.

The report is set out as follows:

- Section 2 – HRA Methodology;
- Section 3 – The Portsmouth Water dDP Options;
- Section 4 – HRA Stage 1 Screening Review.

2. Methodology

2.1 Stage 1: Screening ‘Test of Likely Significance’

HRA screening determines whether there will be any LSEs on any European Site as a result of implementation of identified options ‘alone’ or ‘in combination’ with other plans or projects.

A critical part of the HRA Screening process is determining whether or not the proposals are likely to have a significant effect on European Sites and, therefore, if they will require an AA. The concept of ‘likely significant effect’ as embodied in Article 6 (3) of the Habitats Directive and Regulation 61 (1) of the Habitats Regulations is central to their operation. Its interpretation is well established in law and guidance and embraces the precautionary principle.

The European Court Waddenzee judgement¹¹ provides clarification regarding the term ‘likely’. It concludes that ‘any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site’s conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects.’

Clarification has also been provided through case law on the meaning of ‘likely’ in relation to Bagmoor Wind Ltd v The Scottish Ministers¹². ‘The word ‘likely’ in the regulation is not to be construed as an expression of probability, in a legal sense, but as a description of the existence of a risk (or possibility)’. Consequently, if the possibility of a significant effect cannot be excluded based on objective information, an AA will be required.

The European Court Waddenzee judgement also provides further clarification regarding the term ‘significant’: “where a plan or project not directly connected with or necessary to the management of a site is likely to undermine the site’s conservation objectives, it must be considered likely to have a significant effect on that site. The assessment of that risk must be made in the light inter alia of the characteristics and specific environmental conditions of the site concerned by such a plan or project”.

The Bagmoor Wind case also provides guidance on the term ‘objective.’ It states: “Objective, in this context, means information based on clear verifiable fact rather than subjective opinion”. The Habitats Regulations Handbook¹³ states: “It will not normally be sufficient for an applicant merely to assert that the plan or project will not have an adverse effect on a site, nor will it be appropriate for a competent authority to rely on reassurances based on

¹¹ Case C –127/02 Waddenzee, reference for a preliminary ruling from the Raad van State: Landelijke Vereniging tot Behoud van de Waddenzee, Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij, 7th September 2004.

¹² Bagmoor Wind Limited v The Scottish Ministers, Court of Sessions [2012] CSIH 93.

¹³ <https://www.dtapublications.co.uk/>



supposition or speculation. On the other hand, there should be credible evidence to show that there is a real rather than a hypothetical risk of effects that could undermine the site's conservation objectives. Any serious possibility of a risk that the conservation objectives could be undermined should trigger an 'appropriate assessment'.

The test for likelihood of significant effects requires that consideration is given to potential causes and potential effects (i.e. any potential impact pathways). To do this, information on the proposal is needed to identify the potential causes of effects, and information on the European Site is needed to identify any potential implications related to these effects. In the absence of a potential impact pathway, it can be concluded that no LSE would arise. Relevant aspects (effects) of the proposal have been checked against all features of the relevant European Sites (i.e. screened) to determine whether an LSE may arise.

The judgement as to whether a significant effect is likely needs to be based on the best readily available information. Sources of information may include evidence from projects where similar operations have affected sites with similar qualifying features and conservation objectives and the judgement of relevant specialists that an effect is likely, as well as survey data collected to date for a particular project. In line with the precautionary principle, where there is uncertainty, and/ or information is lacking in relation to the capacity of the effect to undermine the site's conservation objectives, it must be assumed that there will be an effect, unless further information can be made available to eliminate any areas of doubt.

The implication of the Court of Justice of the European Union (CJEU) judgement referred to as People Over Wind (Peter Sweetman v Coillte Teoranta, Case C-323/17) is that competent authorities cannot take account of any *"measures that are intended to avoid or reduce the harmful effects of the envisaged project on the site concerned"*, when considering at the HRA screening stage whether the plan or project is likely to have an adverse effect on a European Site. The effect of this is that the screening stage must be undertaken on a precautionary basis with no regard to any proposed additional avoidance or reduction measures.

It is now accepted best practice to undertake a targeted 'source-pathway-receptor' approach to identifying European Sites for screening. This allows for the movement of mobile/ migratory species, such as birds, fish and, if necessary, marine mammals, and their potential to interact with infrastructure and/ or individual sites associated with options to be taken into account.

According to UKWIR 2021 Guidance¹⁴ there are five steps to be followed when undertaking the screening assessment, these are as follows and discussed below:

- Step 1 – Identify European Sites;
- Step 2 – Collate site information;
- Step 3 – Identify functionally linked land;
- Step 4 – Identify potential impacts;
- Step 5 – Determine LSE.

With reference to Figure 2-1 below, taken from UKWIR 2021 Guidance, Screening Steps 1 to 5 (i.e. the HRA Stage 1 Screening process) are carried out for the final list of Drought Plan options. During option development and assessment, the Screening Steps are undertaken (without reference to mitigation) and also an in-combination assessment. Where the assessment indicates LSEs for an option, the scope and feasibility of mitigation should start to be considered for inclusion at the Stage 2, if required.

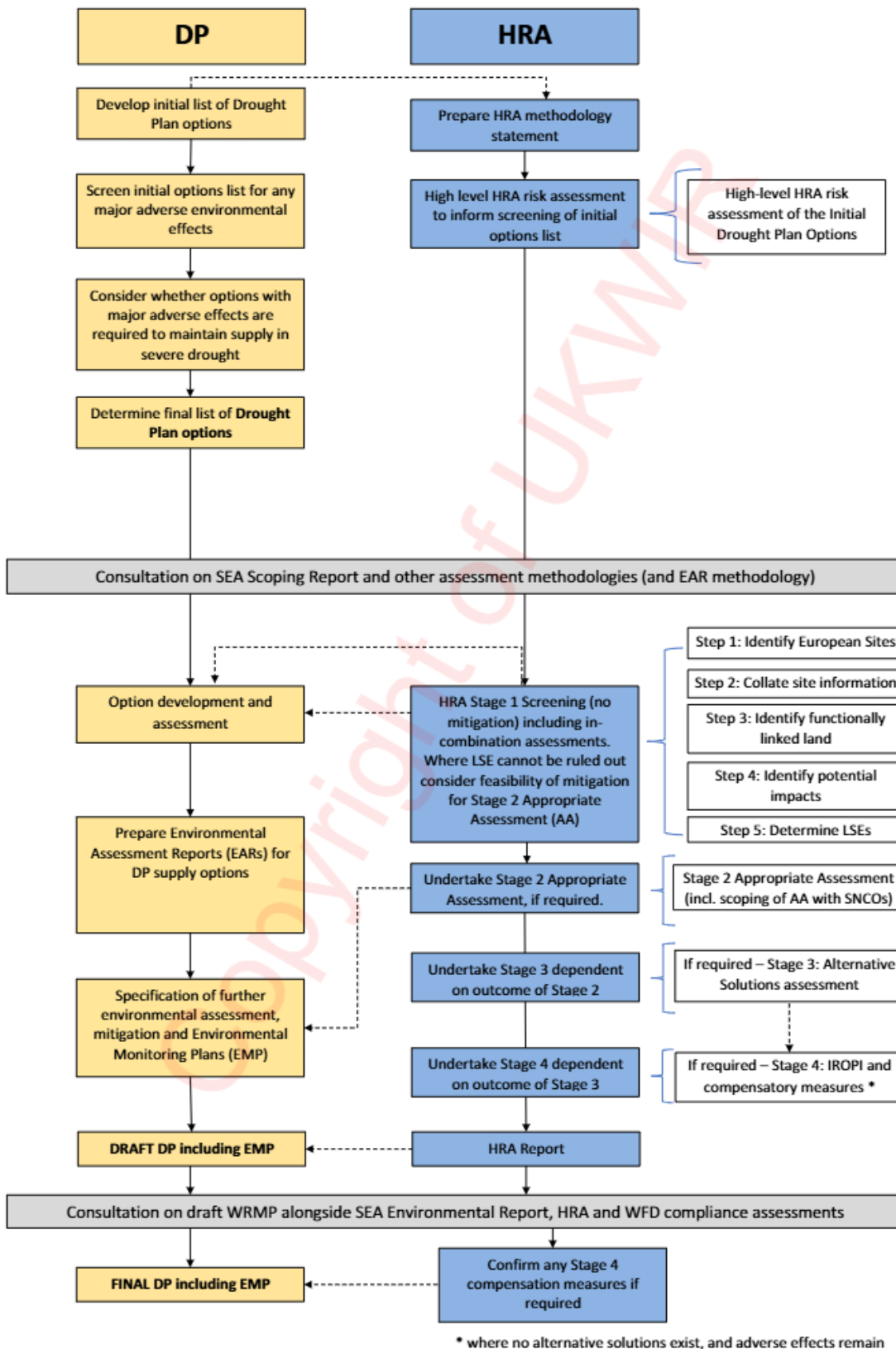
With reference to guidance set out in Section 1.3, only supply options need to be subject to HRA Screening. The demand management options are set out in Section 3 for completeness as part of the dDP but are excluded from the Screening assessment. This is because these options relate to controlling use of demand of water to ease

¹⁴ UK Water Industry Research (2021) Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans (21/WR/02/15). Available at: [Environmental Assessments for Water Resources Planning](#)



supply constraints and do not result in additional abstraction, transfer or associated works to supply more water to meet demand, which may have adverse effects on the habitats, species and the wider environment.

Figure 2-1 – Overview of HRA process in the context of Drought Plans



2.1.1 Stage 1: Step 1 – Identifying European Sites

All European Sites falling within 10 km of an option plus the following ‘exceptional pathways’ will be included in the initial screening:

- Land functionally linked to a European Site (see Step 3 below) within 2 km;
- SAC with bats as a qualifying feature within 30 km of an option;
- Watercourse partially or wholly designated as a European Site that is crossed, lies adjacent to, upstream or downstream of an option; and
- European Site containing a ground water dependent terrestrial ecosystem (GWDTE) with a potential hydrological or hydrogeological linkage to an option.

The above screening criteria will identify all potential European Sites that may be affected by drought plan options coming forward from the dDP.

2.1.2 Stage 1: Step 2 – Collate site information

It will be necessary to undertake a characterisation exercise for all the European Sites identified. This information will be needed to inform the screening assessment and will include the qualifying features of each of the European Sites and their sensitivities. The following sources of information should be consulted in the first instance:

- Standard Data Form (SPA/ SAC) or Ramsar Information Sheet (Ramsar site)¹⁵; and
- Conservation Objectives and Supplementary Advice on Conservation Objectives (for SPAs/ SACs)¹⁶.

The Supplementary Advice on Conservation Objectives provide detail with regard to how a European Site’s Conservation Objects can be met. The supplementary advice can be accessed for European Sites via the Natural England Designated Sites View webpage¹⁷.

2.1.3 Stage 1: Step 3 – Identify functionally linked land

Functionally linked land is land (or sea) outside of a European Site that is important for supporting one or more qualifying features of the European Site. For example, land used as a high-tide roost for coastal SPA birds.

The Solent Waders & Brent Goose Strategy (SWBGS) is an active conservation partnership project, which aims to conserve the internationally important brent goose and wading bird populations within and around the SPAs and Ramsar sites of the Solent coast. Information provided by the SWBGS will be used to inform the assessment and the potential impacts on the associated European Sites.

Given the active use of land around the Solent coast by qualifying species from SPAs and Ramsar sites, any project level HRAs required as a result of options coming forward from the plan, may require a degree of data collection or survey to establish the presence (or absence) of functionally linked land. The UKWIR Guidance suggests that functionally linked land should be treated according to HRA principles and unless it can be shown there are no LSEs, it should be taken forward to AA.

¹⁵ Available from Joint Nature Conservation Committee (JNCC) - <http://jncc.defra.gov.uk>

¹⁶ Available through the Natural England Designated Sites View - <https://designatedsites.naturalengland.org.uk/SiteSearch.aspx>

¹⁷ Natural England Designated Sites View - <https://designatedsites.naturalengland.org.uk/SiteSearch.aspx>.

2.1.4 Stage 1: Step 4 – Identifying potential impacts

Once a list of European Sites that could be affected by each option has been identified the ‘source-pathway-receptor’ approach will be applied in more detail. The potential impacts arising from each option will be considered alongside the impact pathways present and the sensitivity of potential receptors, i.e. European Site qualifying habitats and species. The results of this screening will be presented in a screening matrix and will determine whether LSEs can be ruled out, LSEs are uncertain, or if there is potential for LSEs.

Table 2-1 outlines a non-exhaustive summary of potential impacts associated with option development and is adapted from UKWIR (2021) guidance¹⁸. It considers both construction and operation impacts. Decommissioning is not considered at this stage as the options are considered to be operational for the foreseeable future, but it may be necessary to include potential decommissioning impacts during later stages of assessment depending on the lifespan of the option. Maintenance activities may also need to be included at a more detailed stage of assessment.

Table 2-1 - Potential Impacts for consideration in the Screening assessment

Potential impacts on European Sites	Examples of activities resulting in impacts
Physical loss: <ul style="list-style-type: none"> • Removal; • Smothering. 	<ul style="list-style-type: none"> ▪ Development of built infrastructure associated with the option e.g. new or temporary pipelines, transport infrastructure, temporary weirs; ▪ Indirect effects from a reduction in flows, e.g. drying out of water-margin habitat.
Physical damage: <ul style="list-style-type: none"> • Sedimentation/ silting; • Prevention of natural processes; • Habitat degradation; • Erosion; • Fragmentation; • Severance/ barrier effects; • Edge effects. 	<ul style="list-style-type: none"> ▪ Construction activity leading to permanent and/or temporary damage of habitat; ▪ Increased recreation associated with option, e.g. cycling, dog walking, water sports; ▪ New structures in the landscape creating barriers to movement, including obstruction of flightpaths; ▪ Excavation resulting in changes to local hydrology and hydrogeology; ▪ Inappropriate siting of an option; ▪ Severance of habitat corridors as a result of the option location and design.
Non-physical disturbance: <ul style="list-style-type: none"> • Noise; • Visual disturbance; • Human presence; • Light pollution. 	<ul style="list-style-type: none"> ▪ Noise from construction and temporary pumping activities; ▪ Noise from vehicular traffic during operation; ▪ Presence of plant and personnel involved in construction and operation of the option, e.g. for maintenance; ▪ Increased recreation associated with option, e.g. cycling, dog walking, water sports; ▪ Use of artificial lighting during construction or operation of the option, e.g. for security.

¹⁸ UK Water Industry Research (2021) Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans (21/WR/02/15).



Potential impacts on European Sites

Examples of activities resulting in impacts

Water table/ availability:

- Drying;
- Flooding/ storm water;
- Changes to surface water levels and flow;
- Changes to groundwater level and flows;
- Changes to coastal water movement.

- Change to water levels and flows due to water abstraction, reduced storage, or reduced flow releases from reservoirs to reservoirs to river systems. Potential for changes to habitat availability, e.g. reduction in wetted widths of rivers leading to desiccation of macrophyte beds;
- Changes to groundwater levels from reduced abstraction that result in the re-wetting of an aquifer and mobilisation of nutrients in the catchment. May also result in increased risk of localised flooding.

Toxic contamination:

- Water pollution;
- Soil contamination;
- Air pollution.

- Reduced dilution is downstream or receiving waterbodies due to changes in abstraction or reduced compensation flow releases to river systems;
- Localised soil or water contamination due to mobilised sediments/ run-off and/ or fuel/ oil spillage, e.g. slurry created from excavation work, run-off from concrete or other overlay materials, or leak or spill from plant machinery and vehicles;
- Air emissions associated with vehicular traffic during construction.

Non-toxic contamination:

- Nutrient enrichment (e.g. of soils and water);
- Algal blooms;
- Changes in salinity;
- Changes in thermal regime;
- Changes in turbidity;
- Changes in sedimentation/ silting;
- Dust.

- Changes to water salinity, nutrient levels, turbidity, thermal regime due to increased water abstraction, discharges, storage, or reduced compensation flow releases to river systems;
- Emissions of dust during the earthworks, construction of plant and tunnel/ pipeline construction associated with options.

Biological disturbances:

- Direct mortality;
- Changes to habitat availability;
- Out-competition by non-native species;
- Selective extraction of species;
- Introduction of disease;
- Rapid population fluctuations;
- Natural succession.

- Killing or injury due to construction activity;
- Creation of new pathway for spread of non-native invasive species or the introduction of disease;
- Increased disturbance;
- Landscape and vegetation composition changes.

The distances over which the above impacts need to be considered varies greatly and should be assessed on a case-by-case basis. There may be scope for indirect or 'knock on' effects, which are not apparent until the assessment is being undertaken. Some generalisations can be made, however, these will be based on professional judgement and current guidance.



Physical loss/ damage is most likely to be significant where the boundary of the option extends within or is directly adjacent to the boundary of a European Site, functionally linked land or important habitat corridor for mobile qualifying species.

The zone of influence of some impacts will be limited to within or in close proximity to the site of the option, such as lighting impacts, noise, air quality (based on vehicle emissions on site and along transport routes only) and soil contamination. Therefore, it is important to locate options away from European Sites to minimise the risk of such impacts.

Effects such as water pollution and impacts on the water table/ hydrogeology, local surface water hydrology, drainage and flooding need to be considered within the extent of the ground or surface water catchment in which the option sits. These effects will be dependent on hydrological or hydrogeological continuity between the option and the European Site. Where mobile species such as migratory fish are a qualifying feature of a European Sites, sites upstream of options should also be assessed.

It is also possible to characterise the impacts as this can have a bearing on the potential effects upon European Site's qualifying features. Impacts can be characterised in terms of their likelihood, nature, scale, severity and duration. This will be attempted at screening but will be dependent on the information available at the time of assessment.

2.1.4.1 In-combination Assessment

With respect to UKWIR 2021 Guidance, it is during Programme Appraisal when HRA Screening is repeated, that the in-combination assessment is undertaken. The HRA process requires that the potential effects of other plans or projects also be considered 'in-combination'. In-combination effects refer to cumulative effects between the plan or project under consideration, together with the effects of any existing or proposed projects or plans. The aim is to establish whether there may be an overall LSE in-combination on a European Site.

UKWIR 2021 Guidance states that "once all options with residual low-level effects (i.e. after mitigation), have been identified, one is able to assess them acting together as a whole plan". In being assessed in such a way in-combination effects within the plan itself, i.e. separate options within the WRMP affecting the same European Site(s), and whether or not this would result in an adverse effect are considered prior to undertaking a wider in-combination assessment. If the whole plan may still have a low-level effect that does not result in site integrity being affected, more detailed in-combination assessment is required.

Plans and projects external to the dDP also being assessed for potential impacts to the same European Sites will need to be identified and subject to in-combination assessment accordingly.

Further to WRSE requirements and consultation comments, it is also necessary to assess whether there are any in-combination effects with the options of neighbouring water companies. However, in this case, the details of the options within the plans for the neighbouring water companies, Southern Water (SWS) and South East Water (SEW), were not available at the time of assessment and, therefore, a commitment is made to collate and assess the potential for in-combination affects at a later date, when this information is available. All water companies are aware of the need to undertake this within the assessment of their plans and will share information when ready.

This HRA, therefore, considers in-combination effects with other plans and projects external to the dDP and in-combination effects between the options within the Plan itself, but not between options within neighbouring water companies (at this time).



2.1.4.2 Mitigation

Although mitigation cannot be considered in the assessment at Stage 1, UKWIR 2021 Guidance suggests that during Programme Appraisal (after the feasible options have been screened and the process in being repeated) that the scope and feasibility of mitigation for options, where an LSE has been identified, should start to be considered.

2.1.5 Stage 1: Step 5 – Determine LSEs

There are four possible assessment outcomes:

- **No effect** – where there is no means by which an impact could be had on a European Site. If screening concludes 'No effect', an in-combination assessment is not required and the HRA for that option ends;
- **No LSE** – a low-level effect that is unlikely to be significant on its own. It will be necessary to undertake an in-combination assessment because this effect may become significant in-combination, which then requires the option to be taken forward to Stage 2 AA. If the outcome remains 'no LSE' then the HRA for that option ends;
- **LSE Uncertain** - an LSE cannot be ruled out or there is some uncertainty as to whether there could be an effect, the option will then be taken forward to Stage 2 AA. The in-combination assessment could be deferred until Stage 2 as the option has to be taken forward;
- **LSE** – significant effects likely. A clear pathway for potential impacts. The option will be taken forward to Stage 2 AA. As above, for 'LSE Uncertain', the in-combination assessment could be deferred until Stage 2 as the option has already been taken forward.

The HRA screening should be documented in a Screening Report to enable pre-plan discussion with the relevant Statutory Nature Conservation Organisation (SNCO) – in this instance Natural England.

2.2 Guidance and Caselaw

In addition to the Natural England advice set out in Section 1.4, this HRA has been produced in accordance with the following guidance and caselaw:

- UK Water Industry Research (2021) Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans (21/WR/02/15);
- Tyldesley, D., and Chapman, C., (2013) The Habitats Regulations Assessment Handbook, November 2025 edition UK: DTA Publications Limited;
- Court of Justice for the European Union's ruling on People Over Wind and Sweetman vs Coillte Teoranta, Case C-323/17;
- Waddenzee case (European Court of Justice C-127/02).



3. Portsmouth Water dDP Options

3.1 Introduction

A drought plan must show how a water company will provide a secure supply of water to its customers and protect the environment during dry weather and droughts. It is an operational plan that sets out what actions will need taking before, during and after a drought and sets out how you will assess the effects, including the environmental impacts of the actions taken under the plan and what will be done to monitor and prevent or mitigate these effects. A water company's drought plan has close links with its Water Resources Management Plan.

Portsmouth Water's dDP has 11 options; these include four demand management options and seven supply options. These are described and set out in full in Sections 3.2 and 3.3 below.

3.2 Demand Management Options

The four demand management options are set out in Table 3-1 below. They comprise either measures to reduce water consumption by the user (the customer) or reduce loss within the network. As demand management options do not lead to or require development or other physical work, they will not lead to impacts on European Sites, and therefore, do not need to be subject to HRA. Demand management options will not be considered further in this assessment.

3.3 Supply Options

The seven supply options are set out in Table 3-2 below. They comprise a range of options/ measures to maintain a sufficient supply to meet demand during times of drought. All seven options are for the changing or lowering of pumps at existing abstraction sites within the Portsmouth Water area. Each option will involve either lowering the pump to reach deeper into the groundwater source/ aquifer or replacing it with a pump with a higher rating, i.e. a pump that can abstract a higher volume of water more quickly. Additionally, the abstracted water will be sent for treatment via pipe, therefore, negating the possibility of point source pollution to the aquifer at abstraction points for each option.

It is acknowledged that implementation of these options will not lead to development as there is containment in the existing pumping station. However, in addition to the increased abstraction affecting local groundwater sources, there is a known risk of impacts to water quality. This is discussed in detail in Section 4.



Table 3-1 – Portsmouth Water Drought Plan Demand Management Options

Demand Management Option	Drought Level Trigger	Description
Temporary Use Bans (TUBs)	Implemented once Level 2 (drought) trigger in the Drought Plan has been crossed no more frequently than in a 1-in-20-year drought event	<p>Portsmouth Water can impose restrictions on customer’s water use through TUBs, otherwise known as ‘hosepipe bans’, as set out in Section 36 of the Flood and Water Management Act 2010 and the Water Use (Temporary Bans) Order 2010. The legislation sets out that water companies may ‘prohibit one or more specified uses of water supplied by it if it thinks that it is experiencing, or may experience, a serious shortage of water for distribution’. TUBs may need to be implemented if voluntary water restraints have not reduced demand sufficiently on their own.</p> <p>Under the ban, the following uses will be restricted:</p> <ul style="list-style-type: none"> • Watering a garden using a hosepipe; • Cleaning a private motor vehicle using a hosepipe; • Watering plants on domestic or other non-commercial premises using a hosepipe; • Cleaning a private leisure boat using a hosepipe; • Filling or maintaining a domestic swimming or paddling pool; • Drawing water, using a hosepipe, for domestic recreational use; • Filling or maintaining a domestic pond using a hosepipe; • Filling or maintaining an ornamental fountain; • Cleaning walls or windows of domestic premises using a hosepipe; • Cleaning paths or patios using a hosepipe; • Cleaning other artificial outdoor surfaces using a hosepipe.



Demand Management Option	Drought Level Trigger	Description
Non-Essential Use Bans (NEUBs)	Implemented once Level 3a (severe drought phase 1) of the Drought Plan has been crossed no more frequently than a 1-in-80 year drought event	<p>Should the drought continue to get worse, or the water demand reductions from TUBs are less than expected, then Portsmouth Water can extend the ban to “non-essential” uses of water. NEUBs are a set of measures granted to water companies by the Secretary of State via a Drought Order.</p> <p>The Drought Direction 2016 allows water companies to restrict the use of water for the following purposes:</p> <ul style="list-style-type: none"> • Watering outdoor plants on commercial premises using a hosepipe; • Filling or maintaining a non-domestic swimming or paddling pool; • Filling or maintaining a pond; • Operating a mechanical vehicle washer; • Cleaning any vehicle, boat, aircraft or railway rolling stock using a hosepipe; • Cleaning non-domestic premises using a hosepipe; • Cleaning a window of a non-domestic building using a hosepipe; • Cleaning industrial plant using a hosepipe; • Suppressing dust using a hosepipe; • Operating cisterns in an unoccupied building.
Enhanced Leakage Reduction	Implemented once Level 1 trigger (developing drought) of the Drought Plan has been crossed	<p>Measures to enhance leakage reduction include:</p> <ul style="list-style-type: none"> • Increasing resources to find and fix leaks (enhancing Active Leakage Control); • Reducing the time taken to repair a leak once found by customers; • Increasing communications with customers to further encourage them to report any leaks; • Increasing the frequency of District Metered Areas (DMA) flow monitoring; • Reviewing and adapting the ongoing leakage programme to prioritise fixing leaks over other repair activities; • Reducing pressure across the supply network (see pressure management option dossier for more details).



Demand Management Option	Drought Level Trigger	Description
Pressure Management	This option will be implemented once Level 1b trigger (developing drought) of the Drought Plan has been crossed.	Pressure management strongly relates to reducing leakage. A 'calm' network, where pressures are consistent as possible throughout the day, increases the life of pipes and reduces the number of leaks and bursts that occur. In a period of drought, pressure management can be used to reduce the demand for water and water lost through leakage. It can also help conserve what water resources are available. Portsmouth Water (and other water companies) can reduce customers water pressure to the guaranteed standard of seven metres static head (0.7 bar) in the communication pipe. Problematic District Metered Areas (DMAs) such as those with high consumption, can also be rezoned within a Water Resource Zone (WRZ).

Table 3-2 – Portsmouth Water Drought Plan Supply Options

Supply Option	Drought Level Trigger	Description
Changing Pump at Source T	'More before 4' Level 3b	Lowering Source T pump or replacing it with a pump with a higher rate to help ensure abstraction at current level.
Changing Pump at Source Q	'More before 4' Level 3b	At Source Q, either lowering the pump or replacing it with a pump with a higher rating will help ensure abstraction at current level.
Changing Pump at Source D	'More before 4' Level 3b	At Source D, either lowering the pump or replacing it with a pump with a higher rating will help ensure abstraction at current level.
Changing Pump at Source S	'More before 4' Level 3b	At Source S, either lowering the pump or replacing it with a pump with a higher rating will help ensure abstraction at current level. Alternatively, there may be the opportunity to put larger pumps at this site to pump above the current licence level, but this would require agreement with regulators. A Drought Permit or Order is not required to lower or replace the pump(s), however, if later on there is a need to increase the abstraction above the licence level then a Drought Permit or Order will be needed.
Changing Pump at Source F	'More before 4' Level 3b	At Source F, either lowering the pump or replacing it with a pump with a higher rating will help ensure abstraction at current level.
Changing Pump at Source H	'More before 4' Level 3b	At Source H, either lowering the pump or replacing it with a pump with a higher rating will help ensure abstraction at current level.



Supply Option	Drought Level Trigger	Description
Changing Pump at Source R	'More before 4' Level 3b	At Source R, either lowering the pump or replacing it with a pump with a higher rating will help ensure abstraction at current level.



4. Stage 1 Screening

4.1 European Sites Identified for Screening

A total of 20 European Sites were identified for screening using the parameters set out in Section 2.1. These comprise nine SACs, six SPAs and five Ramsar sites, as set out in Table 4-1 below. Although a number of the site designations overlay each other, for example the Arun Valley is designated as a SAC, SPA and Ramsar site, they are assessed separately within a HRA.

The location of the European Sites in relation to the Portsmouth Water DP area, and location of the supply options is shown on the European Sites Location Plan in **Appendix A**. The majority of the European Sites are within 10 km of dDP supply options, with five SACs with bats as a qualifying feature regularly occurring 10-30 km from supply options. These are Ebernoe Common SAC, Singleton and Cocking Tunnels SAC, The Mens SAC, Briddlesford Copses SAC and Mottisfont Bats SAC.

Information about the European Sites including the qualifying features, vulnerabilities and the Conservation Objectives, is presented in **Appendix B**.

Table 4-1 – European Sites Identified for Screening

SAC	SPA	Ramsar
European Sites within 10 km of Supply Options		
<ul style="list-style-type: none"> Duncton to Bignor Escarpment; Singleton and Cocking Tunnels; Solent Maritime; Arun Valley; River Itchen. 	<ul style="list-style-type: none"> Portsmouth Harbour; Solent and Dorset Coast; Pagham Harbour; Arun Valley; Chichester and Langstone Harbours; Solent and Southampton Water. 	<ul style="list-style-type: none"> Portsmouth Harbour; Pagham Harbour; Arun Valley; Chichester and Langstone Harbours; Solent and Southampton Water.
SAC with Bats as Qualifying Feature Within 30 km of Supply Options		
<ul style="list-style-type: none"> Ebernoe Common; The Mens; Briddlesford Copses; Mottisfont Bats. 		

As part of the process to identify European Sites for screening, the presence of functionally linked land (as mapped through the SBGWS) within 2 km of supply option was also identified. The function was two-fold, firstly to see if any additional European Sites needed to be screened in for assessment, and secondly, to identify potential impact pathways for impacts on European Sites, e.g. disturbance of qualifying bird species using functionally linked land in proximity to supply options. No known or potential functionally linked was identified within 2 km of any of the supply options.

No additional European Sites that are partially or wholly watercourses with hydrological linkage that are beyond the 10 km search area have been identified for screening. Additionally, no European Site containing a GWDTE with a potential hydrological or hydrogeological linkage to an option were identified beyond the 10 km search area.



4.2 Stage 1 Screening Results ‘Alone’

The seven supply options have been subject to HRA Stage 1 Screening. The results summary is provided in Table 4-1 below and the full assessment is set out in **Appendix B**.

Table 4-2 – Summary Screening Results for Supply Options

Option	European Sites Screened	Likely Significant Effect?	HRA Stage 2 AA?
Changing Pump at Source T	Solent and Dorset Coast SPA (Marine Component)	No	No
	Pagham Harbour SPA	No	No
	Pagham Harbour Ramsar	No	No
	Solent Maritime SAC (Marine Component)	No	No
	Chichester and Langstone Harbours SPA	No	No
	Chichester and Langstone Harbours Ramsar	No	No
	Duncton to Bignor Escarpment SAC	No	No
	Singleton and Cocking Tunnels SAC	No	No
	The Mens SAC	No	No
	Ebernoe Common SAC	No	No
Changing Pump at Source Q	Duncton to Bignor Escarpment SAC	No	No
	Solent and Dorset Coast SPA (Marine Component)	No	No
	Singleton and Cocking Tunnels SAC	No	No
	The Mens SAC	No	No
	Ebernoe Common SAC	No	No
Changing Pump at Source D	River Itchen SAC	No	No
	Solent Maritime SAC (Marine Component)	No	No
	Solent & Southampton Water SPA	No	No
	Solent & Southampton Water Ramsar	No	No
	Solent and Dorset Coast SPA (Marine Component)	No	No
	Mottisfont Bats SAC	No	No
	Briddlesford Copses SAC	No	No
Changing Pump at Source S	Duncton to Bignor Escarpment SAC	No	No
	Arun Valley SAC	No	No
	Arun Valley SPA	No	No
	Arun Valley Ramsar	No	No
	Solent and Dorset Coast SPA (Marine Component)	No	No
	Singleton and Cocking Tunnels SAC	No	No



Option	European Sites Screened	Likely Significant Effect?	HRA Stage 2 AA?
	The Mens SAC	No	No
	Ebernoe Common SAC	No	No
Changing Pump at Source F	Solent Maritime SAC (Marine Component)	No	No
	Solent & Southampton Water SPA	No	No
	Solent & Southampton Water Ramsar	No	No
	Solent and Dorset Coast SPA (Marine Component)	No	No
	Portsmouth Harbour SPA	No	No
	Portsmouth Harbour Ramsar	No	No
	Briddlesford Copses SAC	No	No
	Singleton and Cocking Tunnels SAC	No	No
Changing Pump at Source H	Solent Maritime SAC (Marine Component)	No	No
	Solent & Southampton Water SPA	No	No
	Solent & Southampton Water Ramsar	No	No
	Solent and Dorset Coast SPA (Marine Component)	No	No
	Briddlesford Copses SAC	No	No
	Singleton and Cocking Tunnels SAC	No	No
Changing Pump at Source R	Duncton to Bignor Escarpment SAC	No	No
	Solent and Dorset Coast SPA (Marine Component)	No	No
	Singleton and Cocking Tunnels SAC	No	No
	Pagham Harbour SPA	No	No
	Pagham Harbour Ramsar	No	No
	The Mens SAC	No	No
	Ebernoe Common SAC	No	No

Due to the nature of the proposed options, no construction impacts have been identified. Implementing the options does not involve physical works or ground disturbance that could affect the qualifying features of the European Sites screened. Consequently, the assessment focuses solely on potential operational impacts as these primarily relate to water quality considerations associated with the abstraction process and the potential effects of abstraction on groundwater levels, which may influence connected surface water habitats. Therefore, the assessment addresses only the operational risks to ensure compliance with relevant conservation objectives of the European sites.

4.3 Screening ‘In-combination’

It is necessary to consider impacts alone and in-combination when deciding whether or not a dDP supply option will have an LSE on European sites. This includes whether there will be ‘within plan’ in-combination effects or scope for in-combination effects with the other plans and projects external to the plan, see Table 4-3 below.



Table 4-3 – Potential Sources of In-combination Effects

Plan or Project	Potential in-combination effects
Nationally Significant Infrastructure Projects (NSIPs) in the region	<ul style="list-style-type: none"> Habitat loss/ disturbance, including functionally linked land and connective habitat;
Commercial, residential, minerals or waste development arising from Local Authority land use plans	<ul style="list-style-type: none"> Hydrology and hydrogeological changes; Water quality/ quantity;
Shoreline management plans	<ul style="list-style-type: none"> Species disturbance from noise and vibration, visual intrusion.
Local transport plans	
Other large-scale development projects requiring HRA	

No LSEs were identified for any of the options and as there was an absence of an effect pathway or it was considered that there would be no discernible impact on the European Site, there is no scope for in-combination effects with other plans and projects. As this is the case, this also means that there is no scope for in-combination effects with other options within the dDP.

4.4 Screening Summary

The Stage 1 Screening ‘alone’ identified that none of the options have been assessed to have an LSE and were considered to have ‘No Effect’ as there was either considered to be no effect pathway for an impact or that there would be no discernible effect on the European Site.

As a result of the outcome of the screening assessment, there is also no scope for LSEs in combination, and an in-combination assessment was not undertaken. No within-plan in-combination effects were identified, and potential inter-company in-combination effects were not assessed at this time due to information from other water companies not being available.

In conclusion, none of the dDP options will need to be taken forward to AA.

APPENDICES

Appendix A. European Sites Location Plan

Figure A-1 - European Sites Location Plan



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Appendix B. European Designated Sites Information

B.1 Portsmouth Harbour SPA

Site Designation Status	Portsmouth Harbour SPA ¹⁹
Site Code	UK9011051
Location of European Site	OSNGR SU 617 034
Qualifying Features	<p>ARTICLE 4.2 QUALIFICATION (79/409/EEC)</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none">▪ <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 0.9% of the population 5 year peak mean 1991/92-1995/96;▪ <i>Calidris alpina alpina</i> (Northern Siberia/Europe/Western Africa) 1% of the population in Great Britain 5 year peak mean 1991/92-1995/96;▪ <i>Limosa limosa islandica</i> (Iceland - breeding) 0.4% of the population in Great Britain 5 year peak mean 1991/92-1995/96;▪ <i>Mergus serrator</i> (North-western/Central Europe) 0.9% of the population in Great Britain 5 year peak mean 1991/92-1995/96.
Vulnerabilities of the European Site	<p>The site is vulnerable to:</p> <ul style="list-style-type: none">▪ Fishing and harvesting aquatic resources;▪ Pollution to groundwater (point sources and diffuse sources);▪ Changes in abiotic conditions;▪ Outdoor sports and leisure activities, recreational activities;▪ Changes to biotic conditions.
Conservation Objectives of the European Site	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;</p> <ul style="list-style-type: none">▪ The extent and distribution of the habitats of the qualifying features;▪ The structure and function of the habitats of the qualifying features;▪ The supporting processes on which the habitats of the qualifying features rely;▪ The population of each of the qualifying features; and,▪ The distribution of the qualifying features within the site.

¹⁹ Portsmouth Harbour SPA: [Designated Sites View](#)



B.2 Portsmouth Harbour Ramsar Site

Site Designation Status	Portsmouth Harbour Ramsar site²⁰
Location of European Site	OSNGR SU 617 034
Qualifying Features	<p><u>Ramsar criterion 3</u></p> <p>The intertidal mudflat areas possess extensive beds of eelgrass <i>Zostera angustifolia</i> and <i>Zostera noltei</i> which support the grazing dark-bellied brent geese populations. The mud-snail <i>Hydrobia ulvae</i> is found at extremely high densities, which helps to support the wading bird interest of the site. Common cord-grass <i>Spartina anglica</i> dominates large areas of the saltmarsh and there are also extensive areas of green algae <i>Enteromorpha</i> spp. and sea lettuce <i>Ulva lactuca</i>. More locally the saltmarsh is dominated by sea purslane <i>Halimione portulacoides</i> which gradates to more varied communities at the higher shore levels. The site also includes a number of saline lagoons hosting nationally important species.</p> <p><u>Ramsar criterion 6 – species/populations occurring at levels of international importance.</u></p> <p>Qualifying Species/populations (as identified at designation):</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ Dark-bellied brent goose, (<i>Branta bernicla bernicla</i>), 2105 individuals, representing an average of 2.1% of the GB population (5 year peak mean 1998/9-2002/3).
Vulnerabilities of the European Site	<p>The site is vulnerable to:</p> <ul style="list-style-type: none"> ▪ Eutrophication; ▪ Unspecified development, urban use; ▪ Coastal engineering e.g. construction of sea defences for coastal protection.
Conservation Objectives of the European Site	<p>Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Portsmouth Harbour SPA have been referenced.</p>

²⁰ Portsmouth Harbour Ramsar site: [Designated Sites View](#)



B.3 Solent and Dorset Coast SPA

Site Designation Status	Solent and Dorset Coast SPA²¹
Site Code	UK9020330
Location of European Site	Ordnance Survey National Grid Reference (OSNGR) SZ 431 897
Qualifying Features	<p>ARTICLE 4.1 QUALIFICATION (79/409/EEC)</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Sterna sandvicensis</i> - 4.01% of the GB breeding population (5 year mean 2010-2014, 441 pairs); ▪ <i>Sterna hirundo</i> - 4.77% of the GB breeding population (5 year mean 2009-2014, 492 pairs); ▪ <i>Sterna albifrons</i> - 3.31% of the GB breeding population (5 year mean 2009-2014, 63 pairs).
Vulnerabilities of the European Site	<p>The vulnerabilities of the site are:</p> <ul style="list-style-type: none"> ▪ Military use and civil unrest; ▪ Exploration and extraction of oil and gas; ▪ Shipping lanes, ports and marine constructions; ▪ Urbanised areas, human habitation; ▪ Fishing and harvesting aquatic resources; ▪ Outdoor sports and leisure activities, recreational activities; ▪ Renewable abiotic energy use; ▪ Discharges.
Conservation Objectives of the European Site	<p>The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:</p> <ul style="list-style-type: none"> ▪ the extent and distribution of the habitats of the qualifying features; ▪ the structure and function of the habitats of the qualifying features; ▪ the supporting processes on which the habitats of the qualifying features rely; ▪ the populations of each of the qualifying features; ▪ the distribution of qualifying features within the site.

²¹ Solent and Dorset Coast SPA: [Designated Sites View](#)



B.4 Duncton to Bignor Escarpment SAC

Site Designation Status	Duncton to Bignor Escarpment SAC²²
Site Code	UK0030138
Location of European Site	OSNGR SU965137
Qualifying Features	Annex I habitats that are a primary reason for selection of this site: <ul style="list-style-type: none">▪ 9130 <i>Asperulo-Fagetum</i> beech forests.
Vulnerabilities of the European Site	None listed on Natura 2000 – Standard Data Form
Conservation Objectives of the European Site	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring; <ul style="list-style-type: none">▪ The extent and distribution of qualifying natural habitats;▪ The structure and function (including typical species) of qualifying natural habitats, and▪ The supporting processes on which the qualifying natural habitats rely.

²²Duncton to Bignor Escarpment SAC: [Designated Site View](#)



B.5 Singleton and Cocking Tunnels SAC

Site Designation Status	Singleton and Cocking Tunnels SAC²³
Site Code	UK0030337
Location of European Site	OSNGR SU872144
Qualifying Features	Annex II species present as a qualifying feature, but not a primary reason for site selection: <ul style="list-style-type: none">▪ 1308 Barbastelle (<i>Barbastella barbastellus</i>);▪ 1323 Bechstein's bat (<i>Myotis bechsteinii</i>).
Vulnerabilities of the European Site	The site is vulnerable to the following: <ul style="list-style-type: none">▪ Modification of cultivation practices;▪ Changes in biotic conditions;▪ Other ecosystem modifications;▪ Outdoor sports and leisure activities, recreational activities.
Conservation Objectives of the European Site	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring: <ul style="list-style-type: none">▪ The extent and distribution of the habitats of qualifying species;▪ The structure and function of the habitats of qualifying species;▪ The supporting processes on which the habitats of qualifying species rely;▪ The populations of qualifying species; and,▪ The distribution of qualifying species within the site.

²³ Singleton and Cocking Tunnels SAC: [Designated Sites View](#)



B.6 Pagham Harbour SPA

Site Designation Status	Pagham Harbour SPA²⁴
Site Code	UK9012041
Location of European Site	OSNGR SZ 872 968
Qualifying Features	<p>ARTICLE 4.1 QUALIFICATION (79/409/EEC)</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Sterna albifrons</i> (Eastern Atlantic - breeding) 0.3% of the GB breeding population 5 year mean, 1992-1996; ▪ <i>Sterna hirundo</i> (Northern/Eastern Europe - breeding) % of the GB breeding population Count, as at 1996. <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Philomachus pugnax</i> (Western Africa - wintering) 1.4% of the GB population 5 year mean, 1995-1999. <p>ARTICLE 4.2 QUALIFICATION (79/409/EEC)</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 0.6% of the population 5 year peak mean 1991/92-1995/9.
Vulnerabilities of the European Site	<p>The site is vulnerable to:</p> <ul style="list-style-type: none"> ▪ Outdoor sports and leisure activities, recreational activities; ▪ Human induced changes in hydraulic conditions; ▪ Pollution to groundwater (point sources and diffuse sources); ▪ Fishing and harvesting aquatic resources.
Conservation Objectives of the European Site	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;</p> <ul style="list-style-type: none"> ▪ The extent and distribution of the habitats of the qualifying features; ▪ The structure and function of the habitats of the qualifying features; ▪ The supporting processes on which the habitats of the qualifying features rely; ▪ The population of each of the qualifying features; and, ▪ The distribution of the qualifying features within the site.

²⁴ Pagham Harbour SPA: [Designated Sites View](#)



B.7 Pagham Harbour Ramsar site

Site Designation Status	Pagham Harbour Ramsar site²⁵
Location of European Site	OSNGR SZ 872 968
Qualifying Features	<u>Ramsar criterion 6</u> – species/ populations occurring at levels of international importance. Qualifying species/populations (as identified at designation): Species with peak counts in winter: <ul style="list-style-type: none">▪ Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, 2512 individuals, representing an average of 1.1% of the population (5 year peak mean 1998/9-2002/3).
Vulnerabilities of the European Site	N/A
Conservation Objectives of the European Site	Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Pagham Harbour SPA have been referenced.

²⁵ Pagham Harbour Ramsar site: [Designated Sites View](#)

B.8 Solent Maritime SAC

Site Designation Status	Solent Maritime SAC²⁶
Site Code	UK0030059
Location of European Site	OSNGR SU756003
Qualifying Features	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> ▪ 1130 Estuaries; ▪ 1320 <i>Spartina</i> swards (<i>Spartinion maritima</i>); ▪ 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>). <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> ▪ 1110 Sandbanks which are slightly covered by sea water all the time; ▪ 1140 Mudflats and sandflats not covered by seawater at low tide; ▪ 1150 Coastal lagoons * Priority feature; ▪ 1210 Annual vegetation of drift lines; ▪ 1220 Perennial vegetation of stony banks; ▪ 1310 <i>Salicornia</i> and other annuals colonizing mud and sand; ▪ 2120 "Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes')". <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> ▪ 1016 Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>).
Vulnerabilities of the European Site	<p>The site is vulnerable to the following:</p> <ul style="list-style-type: none"> ▪ Pollution to groundwater (point sources and diffuse sources); ▪ Outdoor sports and leisure activities, recreational activities; ▪ Changes in biotic conditions; ▪ Fishing and harvesting aquatic resources; ▪ Changes in abiotic conditions.
Conservation Objectives of the European Site	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> ▪ The extent and distribution of qualifying natural habitats and habitats of qualifying species; ▪ The structure and function (including typical species) of qualifying natural habitats; ▪ The structure and function of the habitats of qualifying species; ▪ The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely; ▪ The populations of qualifying species; and, ▪ The distribution of qualifying species within the site.

²⁶ Solent Maritime SAC: [Designated Sites View](#)



B.9 Arun Valley SAC

Site Designation Status	Arun Valley SAC²⁷
Site Code	UK0030366
Location of European Site	OSNGR TQ035143
Qualifying Features	Annex II species that are a primary reason for selection of this site: <ul style="list-style-type: none">4056 Ramshorn snail (<i>Anisus vorticulus</i>).
Vulnerabilities of the European Site	The site is vulnerable to the following: <ul style="list-style-type: none">Human induced changes in hydraulic conditions.
Conservation Objectives of the European Site	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring; <ul style="list-style-type: none">The extent and distribution of the habitats of qualifying species;The structure and function of the habitats of qualifying species;The supporting processes on which the habitats of qualifying species rely;The populations of qualifying species; and,The distribution of qualifying species within the site.

²⁷ Arun Valley SAC: [Designated Sites View](#)



B.10 Arun Valley SPA

Site Designation Status	Arun Valley SPA ²⁸
Site Code	UK9020281
Location of European Site	OSNGR TQ034142
Qualifying Features	<p>ARTICLE 4.1 QUALIFICATION (79/409/EEC) Over winter the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Cygnus columbianus bewickii</i> (Western Siberia/North-eastern & North-western Europe) 1.6% of the population in Great Britain 5 year peak mean for 1992/93 to 1996/7 <p>ARTICLE 4.2 QUALIFICATION (79/409/EEC) An internationally important assemblage of birds: Over winter the area regularly supports 27241 waterfowl (5 year peak mean 1991/92-1995/96) Including: <i>Cygnus columbianus bewickii</i>.</p>
Vulnerabilities of the European Site	<p>The site is vulnerable to the following:</p> <ul style="list-style-type: none"> ▪ Pollution to groundwater; ▪ Human induced changes in hydraulic conditions.
Conservation Objectives of the European Site	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;</p> <ul style="list-style-type: none"> ▪ The extent and distribution of the habitats of the qualifying features; ▪ The structure and function of the habitats of the qualifying features; ▪ The supporting processes on which the habitats of the qualifying features rely; ▪ The population of each of the qualifying features; and, ▪ The distribution of the qualifying features within the site.

²⁸ Arun Valley SPA: [Designated Sites View](#)



B.11 Arun Valley Ramsar site

Site Designation Status Arun Valley Ramsar site²⁹

Location of European Site OSNGR TQ039152

Qualifying Features

Ramsar criterion 2

The site holds seven wetland invertebrate species listed in the British Red Data Book as threatened. One of these, *Pseudamnicola confusa*, is considered to be endangered. The site also supports four nationally rare and four nationally scarce plant species.

Ramsar criterion 3

In addition to the Red Data Book invertebrate and plant species, the ditches intersecting the site have a particularly diverse and rich flora. All five British duckweed Lemna species, all five water-cress Rorippa species, and all three British water milfoils (*Myriophyllum* species), all but one of the seven British water dropworts (*Oenanthe* species), and two-thirds of the British pondweeds (*Potamogeton* species) can be found on site.

Ramsar criterion 5

Assemblages of international importance:

Species with peak counts in winter:

- 13774 waterfowl (5 year peak mean 1998/99-2002/2003)

Vulnerabilities of the European Site

The site is vulnerable to:

- Water extraction (not covered elsewhere) - water abstraction for Public Water Supply.

Conservation Objectives of the European Site

Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Pagham Harbour SPA have been referenced.

²⁹ Arun Valley Ramsar site: [Designated Sites View](#)

B.12 Chichester and Langstone Harbours SPA

Site Designation Status	Chichester and Langstone Harbours SPA³⁰
Site Code	UK9011011
Location of European Site	OSNGR SU697024
Qualifying Features	<p>ARTICLE 4.1 QUALIFICATION (79/409/EEC)</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> • <i>Sterna albifrons</i> (Eastern Atlantic - breeding) 4.2% of the GB breeding population 5 year mean, 1992-1996; • <i>Sterna hirundo</i> (Northern/Eastern Europe - breeding) 0.3% of the GB breeding population 5 year mean, 1992-1996; • <i>Sterna sandvicensis</i> (Western Europe/Western Africa) 0.2% of the GB breeding population 5 year mean, 1993-1997. <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> • <i>Limosa lapponica</i> (Western Palearctic - wintering) 3.2% of the GB population 5 year peak mean 1991/92-1995/96. <p>ARTICLE 4.2 QUALIFICATION (79/409/EEC)</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> • <i>Anas acuta</i> (North-western Europe) 1.2% of the population in Great Britain 5 year peak mean 1991/92-1995/96; • <i>Anas clypeata</i> (North-western/Central Europe) 1% of the population in Great Britain 5 year peak mean 1991/92-1995/96; • <i>Anas crecca</i> (North-western Europe) 0.5% of the population 5 year peak mean 1991/92-1995/96; • <i>Anas penelope</i> (Western Siberia/North-western/North-eastern Europe) 0.7% of the population in Great Britain 5 year peak mean 1991/92-1995/96; • <i>Arenaria interpres</i> (Western Palearctic - wintering) 0.7% of the population in Great Britain 5 year peak mean 1991/92-1995/96; • <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 5.7% of the population 5 year peak mean 1991/92-1995/96; • <i>Calidris alba</i> (Eastern Atlantic/Western & Southern Africa - wintering) 0.2% of the population 5 year peak mean 1991/92-1995/96; • <i>Calidris alpina alpina</i> (Northern Siberia/Europe/Western Africa) 3.2% of the population 5 year peak mean 1991/92-1995/96; • <i>Charadrius hiaticula</i> (Europe/Northern Africa - wintering) 3% of the population in Great Britain 5 year peak mean 1991/92-1995/96; • <i>Mergus serrator</i> (North-western/Central Europe) 3% of the population in Great Britain 5 year peak mean 1991/92-1995/96; • <i>Numenius arquata</i> (Europe – breeding) 1.6% of the population in Great Britain 5 year peak mean 1991/92-1995/96; • <i>Pluvialis squatarola</i> (Eastern Atlantic - wintering) 2.3% of the population 5 year peak mean 1991/92-1995/96;

³⁰ Chichester and Langstone Harbours SPA: [Designated Sites View](#)



- *Tadorna tadorna* (North-western Europe) 3.3% of the population in Great Britain 5 year peak mean 1991/92-1995/96;
- *Tringa totanus* (Eastern Atlantic - wintering) 1% of the population 5 year peak mean 1991/92-1995/96.

ARTICLE 4.2 QUALIFICATION (79/409/EEC): AN INTERNATIONALLY IMPORTANT ASSEMBLAGE OF BIRDS

Over winter the area regularly supports: 93230 waterfowl (5 year peak mean 1991/92-1995/96) Including: *Branta bernicla bernicla*, *Tadorna tadorna*, *Anas penelop* , *Anas crecca*, *Anas acuta*, *Anas clypeata*, *Mergus serrator*, *Charadrius hiaticula*, *Pluvialis squatarola*, *Calidris alba*, *Calidris alpina alpina* , *Limosa lapponica*, *Numenius arquata*, *Tringa totanus*, *Arenaria interpres*

Vulnerabilities of the European Site

The site is vulnerable to the following:

- Changes in biotic conditions;
- Pollution to groundwater (point sources and diffuse sources);
- Changes in abiotic conditions;
- Fishing and harvesting aquatic resources;
- Outdoor sports and leisure activities, recreational activities.

Conservation Objectives of the European Site

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features;
- The structure and function of the habitats of the qualifying features;
- The supporting processes on which the habitats of the qualifying features rely;
- The population of each of the qualifying features; and,
- The distribution of the qualifying features within the site.



B.13 Chichester and Langstone Harbours Ramsar site

Site Designation Status	Chichester and Langstone Harbours Ramsar site³¹
Location of European Site	OSNGR SU697024
Qualifying Features	<p><u>Ramsar Criterion 1</u></p> <p>Two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes.</p> <p><u>Ramsar Criterion 5</u></p> <p>Assemblages of international importance:</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> • 76480 waterfowl (5 year peak mean 1998/99-2002/2003). <p><u>Ramsar Criterion 6</u></p> <p>Species/populations occurring at levels of international importance.</p> <p>Qualifying Species/populations (as identified at designation):</p> <p>Species with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> • Ringed plover, <i>Charadrius hiaticula</i>, Europe/Northwest Africa 853 individuals, representing an average of 1.1% of the population (5 year peak mean 1998/9-2002/3); • Black-tailed godwit, <i>Limosa limosa islandica</i>, Iceland/W Europe 906 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9-2002/3); • Common redshank, <i>Tringa totanus totanus</i>, 2577 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3) . <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> • Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, 12987 individuals, representing an average of 6% of the population (5 year peak mean 1998/9-2002/3); • Common shelduck, <i>Tadorna tadorna</i>, NW Europe 1468 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3); • Grey plover, <i>Pluvialis squatarola</i>, E Atlantic/W Africa -wintering 3043 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3); • Dunlin, <i>Calidris alpina alpina</i>, W Siberia/W Europe 33436 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9-2002/3).
Vulnerabilities of the European Site	<p>The site is vulnerable to the following:</p> <ul style="list-style-type: none"> • Erosion; • Eutrophication; • Pollution – domestic sewage.

³¹ Chichester and Langstone Harbours Ramsar site: [Designated Sites View](#)



**Conservation Objectives
of the European Site**

Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Chichester and Langstone Harbours SPA have been referenced.



B.14 The Mens SAC

Site Designation Status	The Mens SAC³²
Site Code	UK0012716
Location of European Site	OSNGR TQ024236
Qualifying Features	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 9120 Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>). <p>Annex II species present as a qualifying feature, but not a primary reason for site selection</p> <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>).
Vulnerabilities of the European Site	<p>The site is vulnerable to the following:</p> <ul style="list-style-type: none"> Forest and plantation management & use; Other ecosystem modifications Changes in biotic conditions; Modification of cultivation practices.
Conservation Objectives of the European Site	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats and habitats of qualifying species; The structure and function (including typical species) of qualifying natural habitats; The structure and function of the habitats of qualifying species; The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely; The populations of qualifying species; and, The distribution of qualifying species within the site.

³² The Mens SAC: [Designated Sites View](#)



B.15 Ebernoe Common SAC

Site Designation Status	Ebernoe Common SAC ³³
Site Code	UK0012715
Location of European Site	OSNGR SU975271
Qualifying Features	<p>Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none">9120 Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>). <p>Annex II species that are a primary reason for selection of this site</p> <ul style="list-style-type: none">1308 Barbastelle (<i>Barbastella barbastellus</i>);1323 Bechstein's bat (<i>Myotis bechsteinii</i>).
Vulnerabilities of the European Site	<p>The site is vulnerable to the following:</p> <ul style="list-style-type: none">Human induced changes in hydraulic conditions;Other ecosystem modifications;Changes in biotic conditions;Modification of cultivation practices;Forest and plantation management and use.
Conservation Objectives of the European Site	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none">The extent and distribution of qualifying natural habitats and habitats of qualifying species;The structure and function (including typical species) of qualifying natural habitats;The structure and function of the habitats of qualifying species;The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;The populations of qualifying species; and,The distribution of qualifying species within the site.

³³ Ebernoe Common SAC: [Designated Sites View](#)



B.16 Solent and Southampton Water SPA

Site Designation Status	Solent and Southampton Water SPA³⁴
Site Code	UK9011061
Location of European Site	OSNGR SZ452975
Qualifying Features	<p>ARTICLE 4.1 QUALIFICATION (79/409/EEC)</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Larus melanocephalus</i> 15.4% of the GB breeding population 5 year peak mean, 1994-1998 ▪ <i>Sterna albifrons</i> (Eastern Atlantic - breeding) 2% of the GB breeding population 5 year peak mean, 1993-1997 ▪ <i>Sterna dougallii</i> (Europe - breeding) 3.1% of the GB breeding population 5 year peak mean, 1993-1997 ▪ <i>Sterna hirundo</i> (Northern/Eastern Europe - breeding) 2.2% of the GB breeding population 5 year peak mean, 1993-1997 ▪ <i>Sterna sandvicensis</i> (Western Europe/Western Africa) 1.7% of the GB breeding population 5 year peak mean, 1993-1997 <p>ARTICLE 4.2 QUALIFICATION (79/409/EEC)</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Anas crecca</i> (North-western Europe) 1.1% of the population 5 year peak mean, 1992/3-1996/7 ▪ <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 2.5% of the population 5 year peak mean, 1992/3-1996/7 ▪ <i>Charadrius hiaticula</i> (Europe/Northern Africa - wintering) 1.2% of the population 5 year peak mean, 1992/3-1996/7 ▪ <i>Limosa limosa islandica</i> (Iceland - breeding) 1.7% of the population 5 year peak mean, 1992/3-1996/7 <p>ARTICLE 4.2 QUALIFICATION (79/409/EEC): AN INTERNATIONALLY IMPORTANT ASSEMBLAGE OF BIRDS</p> <ul style="list-style-type: none"> ▪ Over winter the area regularly supports: 51361 waterfowl (5 year peak mean 1991/92-1995/96) Including: <i>Branta bernicla bernicla</i>, <i>Anas crecca</i>, <i>Charadrius hiaticula</i>, <i>Limosa limosa islandica</i>
Vulnerabilities of the European Site	<p>The site is vulnerable to the following:</p> <ul style="list-style-type: none"> ▪ Outdoor sports and leisure activities, recreational activities; ▪ Changes in abiotic conditions; ▪ Changes in biotic conditions; ▪ Fishing and harvesting aquatic resources; ▪ Pollution to groundwater (point sources and diffuse sources).
Conservation Objectives of the European Site	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;</p> <ul style="list-style-type: none"> ▪ The extent and distribution of the habitats of the qualifying features; ▪ The structure and function of the habitats of the qualifying features;

³⁴ Solent and Southampton Water SPA: [Designated Sites View](#)



- The supporting processes on which the habitats of the qualifying features rely;
- The population of each of the qualifying features; and,
- The distribution of the qualifying features within the site.



B.17 Solent and Southampton Water Ramsar site

Site Designation Status	Solent and Southampton Water Ramsar site³⁵
Location of European Site	OSNGR SZ454977
Qualifying Features	<p><u>Ramsar Criterion 1</u></p> <p>The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs.</p> <p><u>Ramsar Criterion 2</u></p> <p>The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.</p> <p><u>Ramsar Criterion 5</u></p> <p>Assemblages of international importance:</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ 51343 waterfowl (5 year peak mean 1998/99-2002/2003). <p><u>Ramsar Criterion 6</u></p> <p>Species/populations occurring at levels of international importance.</p> <p>Qualifying Species/populations (as identified at designation):</p> <p>Species with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> ▪ Ringed plover, (<i>Charadrius hiaticula</i>), Europe/Northwest Africa 397 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3); <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ Dark-bellied brent goose, (<i>Branta bernicla bernicla</i>), 6456 individuals, representing an average of 3% of the population (5 year peak mean 1998/9-2002/3); ▪ Eurasian teal, (<i>Anas crecca</i>), NW Europe 5514 individuals, representing an average of 1.3% of the population (5 year peak mean 1998/9-2002/3); ▪ Black-tailed godwit, (<i>Limosa limosa islandica</i>), Iceland/W Europe 1240 individuals, representing an average of 3.5% of the population (5 year peak mean 1998/9-2002/3).
Vulnerabilities of the European Site	<p>The site is vulnerable to the following:</p> <ul style="list-style-type: none"> ▪ Erosion.
Conservation Objectives of the European Site	<p>Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Solent and Southampton Water SPA have been referenced.</p>

³⁵ Solent and Southampton Water Ramsar site: [Designated Sites View](#)

B.18 River Itchen SAC

Site Designation Status	River Itchen SAC details³⁶
Site Code	UK0012599
Location of European Site	OSNGR SU467174
Qualifying Features	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> ▪ 3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation. <p>Annex II species that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> ▪ 1044 Southern damselfly (<i>Coenagrion mercurial</i>); ▪ 1163 Bullhead (<i>Cottus gobio</i>). <p>Annex II species present as a qualifying feature, but not a primary reason for site selection</p> <ul style="list-style-type: none"> ▪ 1092 White-clawed (or Atlantic stream) crayfish (<i>Austropotamobius pallipes</i>); ▪ 1096 Brook lamprey (<i>Lampetra planeri</i>); ▪ 1106 Atlantic salmon (<i>Salmo salar</i>); ▪ 1355 Otter (<i>Lutra lutra</i>).
Vulnerabilities of the European Site	<p>The site is vulnerable to the following:</p> <ul style="list-style-type: none"> ▪ Grazing; ▪ Pollution to groundwater (point sources and diffuse sources); ▪ Human induced changes in hydraulic conditions.
Conservation Objectives of the European Site	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> ▪ The extent and distribution of qualifying natural habitats and habitats of qualifying species; ▪ The structure and function (including typical species) of qualifying natural habitats; ▪ The structure and function of the habitats of qualifying species; ▪ The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely; ▪ The populations of qualifying species; and, ▪ The distribution of qualifying species within the site.

³⁶ River Itchen SAC: [Designated Sites View](#)



B.19 Briddlesford Copses SAC

Site Designation Status	Briddlesford Copses SAC³⁷
Site Code	UK0030328
Location of European Site	OSNGR SZ547902
Qualifying Features	Annex II species that are a primary reason for selection of this site: <ul style="list-style-type: none">▪ 1323 Bechstein's bat (<i>Myotis bechsteinii</i>).
Vulnerabilities of the European Site	The site is vulnerable to the following: <ul style="list-style-type: none">▪ Forest and Plantation management & use;▪ Modification of cultivation practices;▪ Changes in biotic conditions;▪ Pollution to groundwater (point sources and diffuse sources).
Conservation Objectives of the European Site	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring: <ul style="list-style-type: none">▪ The extent and distribution of the habitats of qualifying species;▪ The structure and function of the habitats of qualifying species;▪ The supporting processes on which the habitats of qualifying species rely;▪ The populations of qualifying species; and,▪ The distribution of qualifying species within the site.

³⁷ Briddlesford Copses SAC: [Designated Sites View](#)



B.20 Mottisfont Bats SAC

Site Designation Status	Mottisfont Bats SAC³⁸
Site Code	UK0030334
Location of European Site	OSNGR SU313280
Qualifying Features	Annex II species that are a primary reason for selection of this site: <ul style="list-style-type: none">▪ 1308 Barbastelle (<i>Barbastella barbastellus</i>)
Vulnerabilities of the European Site	The site is vulnerable to the following: <ul style="list-style-type: none">▪ Forest and Plantation management & use;▪ Changes in biotic conditions;▪ Unknown threat or pressure.
Conservation Objectives of the European Site	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring; <ul style="list-style-type: none">▪ The extent and distribution of the habitats of qualifying species;▪ The structure and function of the habitats of qualifying species;▪ The supporting processes on which the habitats of qualifying species rely;▪ The populations of qualifying species; and,▪ The distribution of qualifying species within the site.

³⁸ Mottisfont Bats SAC: [Designated Sites View](#)



Appendix C. HRA Stage 1 Screening



C.1 Table C-1 – HRA Screening for Supply Option: Changing Pump at Source T

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Solent and Dorset Coast SPA (Marine Component), 6.9 km south	<p>Article 4.1 Qualification</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Sterna sandvicensis</i> - 4.01% of the GB breeding population (5 year mean 2010-2014, 441 pairs); ▪ <i>Sterna hirundo</i> - 4.77% of the GB breeding population (5 year mean 2009-2014, 492 pairs); ▪ <i>Sterna albifrons</i> - 3.31% of the GB breeding population (5 year mean 2009-2014, 63 pairs). 	<p>Maintain or restore the extent and distribution of the habitats of the qualifying features</p> <p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the populations of each of the qualifying features</p> <p>Maintain or restore the distribution of qualifying features within the site</p>	<p>There are no pathways for direct impacts on the SPA due to distance from the option and its location offshore in coastal/marine habitat.</p> <p>Although the SPA lies in proximity to the option drainage catchment (draining via the Aldingborne Rife waterbody, discharging at Bognor Regis³⁹) there will be no indirect effects as a result of groundwater abstraction. Furthermore, the supplementary advice on conservation objectives does not identify increased abstraction as a threat to the SPA.</p> <p>As there are no anticipated construction impacts or land take, indirect impacts on the SPA via disturbance of species or functionally linked land can be discounted.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SPA's qualifying features in light of the conservation objectives.</p>	No	No
Pagham Harbour SPA, 7.6 km south-west	<p>Article 4.1 Qualification</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Sterna albifrons</i> (Eastern Atlantic - breeding) 0.3% of the GB breeding population 5 year mean, 1992-1996; ▪ <i>Sterna hirundo</i> (Northern/Eastern Europe - breeding) % of the GB breeding population Count, as at 1996. <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Philomachus pugnax</i> (Western Africa - wintering) 1.4% of the GB population 5 year mean, 1995-1999. <p>Article 4.2 Qualification</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 0.6% of the population 5 year peak mean 1991/92-1995/9. 	<p>Maintain or restore the extent and distribution of the habitats of the qualifying features</p> <p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the population of each of the qualifying features</p> <p>Maintain or restore the distribution of qualifying features within the site</p>	<p>There are no pathways for direct impacts on the SPA due to distance from the option and the absence of a direct hydrological link. Furthermore, as the option lies in the adjacent drainage catchment (draining via the Aldingborne Rife waterbody rather than Pagham Rife waterbody⁴⁰) there will be no indirect effects as a result of groundwater abstraction.</p> <p>As there are no anticipated construction impacts or land take, indirect impacts on the SPA via disturbance of species or functionally linked land can be discounted.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SPA's qualifying features in light of the conservation objectives.</p>	No	No
Pagham Harbour Ramsar site, 7.6 km south-west	<p><u>Ramsar criterion 6</u> – species/ populations occurring at levels of international importance.</p> <p>Qualifying species/populations (as identified at designation):</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, 2512 individuals, representing an average of 1.1% of the population (5 year peak mean 1998/9-2002/3). 	<p>Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Pagham Harbour SPA have been referenced.</p>	<p>See assessment for Pagham Harbour SPA above.</p>	No	No
Solent Maritime SAC (Marine)	<p>Annex I habitats that are a primary reason for selection of this site:</p>	<p>Maintain or restore the extent and distribution of qualifying natural</p>		No	No

³⁹ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>

⁴⁰ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Component), 8.2 km west	<ul style="list-style-type: none"> 1130 Estuaries; 1320 <i>Spartina</i> swards (<i>Spartinion maritima</i>); 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>). <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 1110 Sandbanks which are slightly covered by sea water all the time; 1140 Mudflats and sandflats not covered by seawater at low tide; 1150 Coastal lagoons * Priority feature; 1210 Annual vegetation of drift lines; 1220 Perennial vegetation of stony banks; 1310 Salicornia and other annuals colonizing mud and sand; 2120 "Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")". <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> 1016 Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>). 	<p>habitats and habitats of qualifying species</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>There are no pathways for direct impacts on the SAC due to distance from the option and its location in coastal/ marine habitat.</p> <p>Furthermore, as the option lies in a different drainage catchment (option lies in the Aldingborne Rife waterbody whilst the Lavant (Sussex), Bosham Stream and Ems waterbodies drain into Solent Maritime SAC⁴¹) there will be no indirect effects as a result of groundwater abstraction.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SAC's qualifying features in light of the conservation objectives.</p>		
Chichester and Langstone Harbours SPA, 8.2 km west	<p>Article 4.1 Qualification</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> <i>Sterna albifrons</i> (Eastern Atlantic - breeding) 4.2% of the GB breeding population 5 year mean, 1992-1996; <i>Sterna hirundo</i> (Northern/Eastern Europe - breeding) 0.3% of the GB breeding population 5 year mean, 1992-1996; <i>Sterna sandvicensis</i> (Western Europe/Western Africa) 0.2% of the GB breeding population 5 year mean, 1993-1997. <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> <i>Limosa lapponica</i> (Western Palearctic - wintering) 3.2% of the GB population 5 year peak mean 1991/92-1995/96. <p>Article 4.2 Qualification</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> <i>Anas acuta</i> (North-western Europe) 1.2% of the population in Great Britain 5 year peak mean 1991/92-1995/96; <i>Anas clypeata</i> (North-western/Central Europe) 1% of the population in Great Britain 5 year peak mean 1991/92-1995/96; <i>Anas crecca</i> (North-western Europe) 0.5% of the population 5 year peak mean 1991/92-1995/96; <i>Anas penelope</i> (Western Siberia/North-western/North-eastern Europe) 0.7% of the population in Great Britain 5 year peak mean 1991/92-1995/96; <i>Arenaria interpres</i> (Western Palearctic - wintering) 0.7% of the population in Great Britain 5 year peak mean 1991/92-1995/96; 	<p>Maintain or restore the extent and distribution of the habitats of the qualifying features</p> <p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the population of each of the qualifying features</p> <p>Maintain or restore the distribution of the qualifying features within the site</p>	<p>There are no pathways for direct impacts on the SPA due to distance from the option and the absence of a direct hydrological link. Furthermore, as the option lies in a different drainage catchment (option lies in the Aldingborne Rife waterbody whilst the Lavant (Sussex), Bosham Stream and Ems waterbodies drain into Solent Maritime SAC⁴²) there will be no indirect effects as a result of groundwater abstraction.</p> <p>As there are no anticipated construction impacts or land take, indirect impacts on the SPA via disturbance of species or functionally linked land can be discounted.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SPA's qualifying features in light of the conservation objectives.</p>	No	No

⁴¹ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>

⁴² <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
	<ul style="list-style-type: none"> ▪ <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 5.7% of the population 5 year peak mean 1991/92-1995/96; ▪ <i>Calidris alba</i> (Eastern Atlantic/Western & Southern Africa - wintering) 0.2% of the population 5 year peak mean 1991/92-1995/96; ▪ <i>Calidris alpina alpina</i> (Northern Siberia/Europe/Western Africa) 3.2% of the population 5 year peak mean 1991/92-1995/96; ▪ <i>Charadrius hiaticula</i> (Europe/Northern Africa - wintering) 3% of the population in Great Britain 5 year peak mean 1991/92-1995/96; ▪ <i>Mergus serrator</i> (North-western/Central Europe) 3% of the population in Great Britain 5 year peak mean 1991/92-1995/96; ▪ <i>Numenius arquata</i> (Europe – breeding) 1.6% of the population in Great Britain 5 year peak mean 1991/92-1995/96; ▪ <i>Pluvialis squatarola</i> (Eastern Atlantic - wintering) 2.3% of the population 5 year peak mean 1991/92-1995/96; ▪ <i>Tadorna tadorna</i> (North-western Europe) 3.3% of the population in Great Britain 5 year peak mean 1991/92-1995/96; ▪ <i>Tringa totanus</i> (Eastern Atlantic - wintering) 1% of the population 5 year peak mean 1991/92-1995/96. <p>Article 4.2 Qualification: An Internationally Important Assemblage Of Birds Over winter the area regularly supports: 93230 waterfowl (5 year peak mean 1991/92-1995/96) Including: <i>Branta bernicla bernicla</i>, <i>Tadorna tadorna</i>, <i>Anas penelop</i>, <i>Anas crecca</i>, <i>Anas acuta</i>, <i>Anas clypeata</i>, <i>Mergus serrator</i>, <i>Charadrius hiaticula</i>, <i>Pluvialis squatarola</i>, <i>Calidris alba</i>, <i>Calidris alpina alpina</i>, <i>Limosa lapponica</i>, <i>Numenius arquata</i>, <i>Tringa totanus</i>, <i>Arenaria interpres</i>.</p>				
Chichester and Langstone Harbours Ramsar, 8.2 km west	<p><u>Ramsar Criterion 1</u> Two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes.</p> <p><u>Ramsar Criterion 5</u> Assemblages of international importance: Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ 76480 waterfowl (5 year peak mean 1998/99-2002/2003). <p><u>Ramsar Criterion 6</u> Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> ▪ Ringed plover, <i>Charadrius hiaticula</i>, Europe/Northwest Africa 853 individuals, representing an average of 1.1% of the population (5 year peak mean 1998/9-2002/3); ▪ Black-tailed godwit, <i>Limosa limosa islandica</i>, Iceland/W Europe 906 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9-2002/3); 	Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Chichester and Langstone Harbours SPA have been referenced.	See assessment for Chichester and Langstone Harbours SPA above.	No	No



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
	<ul style="list-style-type: none"> Common redshank, <i>Tringa totanus totanus</i>, 2577 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3) . <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, 12987 individuals, representing an average of 6% of the population (5 year peak mean 1998/9-2002/3); Common shelduck, <i>Tadorna tadorna</i>, NW Europe 1468 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3); Grey plover, <i>Pluvialis squatarola</i>, E Atlantic/W Africa -wintering 3043 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3); Dunlin, <i>Calidris alpina alpina</i>, W Siberia/W Europe 33436 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9-2002/3). 				
Duncton to Bignor Escarpment SAC, 8.7 km north-east	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 9130 <i>Asperulo-Fagetum</i> beech forests. 	<p>Maintain or restore the extent and distribution of qualifying natural habitats</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the supporting processes on which the qualifying natural habitats rely</p>	<p>There are no pathways for direct impacts on the SAC due to distance from the option and the absence of a direct hydrological link. Furthermore, as the option lies in a different drainage catchment (option lies in the Aldingborne Rife waterbody whilst the Lavant (Sussex) waterbody drain into Solent Maritime SAC⁴³) there will be no indirect effects as a result of groundwater abstraction.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SAC's qualifying features in light of the conservation objectives.</p>	No	No
Singleton and Cocking Tunnels SAC, 9.6 km north-west	<p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>); 1323 Bechstein's bat (<i>Myotis bechsteinii</i>). 	<p>Maintain or restore the extent and distribution of the habitats of qualifying species</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's and Barbastelle bats, which are generally considered to extend approximately 3 km and 6 km, respectively, from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.</p>	No	No
	<p>Annex I habitats that are a primary reason for selection of this site:</p>	<p>Maintain or restore the extent and distribution of qualifying natural</p>	<p>Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for</p>	No	No

⁴³ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
The Mens SAC, 18.8 km north-east	<ul style="list-style-type: none"> ▪ 9120 Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>). <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> ▪ 1308 Barbastelle (<i>Barbastella barbastellus</i>). 	<p>habitats and habitats of qualifying species</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>Barbastelle bats which is generally considered to extend approximately 6 km from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.</p> <p>As the SAC lies in the Arun Upper operational catchment⁴⁴, it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.</p>		
Ebernoe Common SAC, 20.2 km north	<p>Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> ▪ 9120 Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>). <p>Annex II species that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> ▪ 1308 Barbastelle (<i>Barbastella barbastellus</i>); ▪ 1323 Bechstein's bat (<i>Myotis bechsteinii</i>). 	<p>Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's and Barbastelle bats, which are generally considered to extend approximately 3 km and 6 km, respectively, from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.</p> <p>As the SAC lies in the Arun Upper operational catchment⁴⁵, it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.</p>	No	No

⁴⁴ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3486>

⁴⁵ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3486>



C.2 Table C-2 – HRA Screening for Supply Option: Changing Pump at Source Q

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Duncton to Bignor Escarpment SAC, 6.9 km north-east	Annex I habitats that are a primary reason for selection of this site: <ul style="list-style-type: none"> 9130 <i>Asperulo-Fagetum</i> beech forests. 	<p>Maintain or restore the extent and distribution of qualifying natural habitats</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the supporting processes on which the qualifying natural habitats rely</p>	<p>There are no pathways for direct impacts on the SAC due to distance from the option and the absence of a direct hydrological link. Furthermore, as the option lies in a different drainage catchment (option lies in the Lidsey Rife waterbody whilst the Lavant (Sussex) waterbody drain into Solent Maritime SAC⁴⁶) there will be no indirect effects as a result of groundwater abstraction.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SAC's qualifying features in light of the conservation objectives.</p>	No	No
Solent and Dorset Coast SPA (Marine Component), 6.9 km south	Article 4.1 Qualification During the breeding season the area regularly supports: <ul style="list-style-type: none"> <i>Sterna sandvicensis</i> - 4.01% of the GB breeding population (5 year mean 2010-2014, 441 pairs); <i>Sterna hirundo</i> - 4.77% of the GB breeding population (5 year mean 2009-2014, 492 pairs); <i>Sterna albifrons</i> - 3.31% of the GB breeding population (5 year mean 2009-2014, 63 pairs). 	<p>Maintain or restore the extent and distribution of the habitats of the qualifying features</p> <p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the populations of each of the qualifying features</p> <p>Maintain or restore the distribution of qualifying features within the site</p>	<p>There are no pathways for direct impacts on the SPA due to distance from the option and its location offshore in coastal/marine habitat.</p> <p>Although the SPA lies in proximity to the option drainage catchment (draining via the Lidsey Rife waterbody, eventually discharging at Bognor Regis⁴⁷) there will be no indirect effects as a result of groundwater abstraction. Furthermore, the supplementary advice on conservation objectives does not identify increased abstraction as a threat to the SPA.</p> <p>As there are no anticipated construction impacts or land take, indirect impacts on the SPA via disturbance of species or functionally linked land can be discounted.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SPA's qualifying features in light of the conservation objectives.</p>	No	No
Singleton and Cocking Tunnels SAC, 10.6 km north-west	Annex II species present as a qualifying feature, but not a primary reason for site selection: <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>); 1323 Bechstein's bat (<i>Myotis bechsteini</i>). 	<p>Maintain or restore the extent and distribution of the habitats of qualifying species</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p>	<p>Given the substantial distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's and Barbastelle bats, which are generally considered to extend approximately 3 km and 6 km, respectively, from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.</p>	No	No

⁴⁶ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>

⁴⁷ <https://environment.data.gov.uk/catchment-planning/WaterBody/GB107041012010>

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
The Mens SAC, 16.8 km north-east	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 9120 Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>). <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>). 	<p>Maintain or restore the distribution of qualifying species within the site</p> <p>Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>Given the substantial distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Barbastelle bats, is generally considered to extend approximately 6 km from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.</p> <p>As the SAC lies in the Arun Upper operational catchment⁴⁸, it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.</p>	No	No
Ebernoe Common SAC, 18.9 km north	<p>Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> 9120 Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>). <p>Annex II species that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>); 1323 Bechstein's bat (<i>Myotis bechsteini</i>). 	<p>Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>Given the substantial distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's and Barbastelle bats, which are generally considered to extend approximately 3 km and 6 km, respectively, from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.</p> <p>As the SAC lies in the Arun Upper operational catchment⁴⁹, it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.</p>	No	No

⁴⁸ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3486>

⁴⁹ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3486>





C.3 Table C-3 – HRA Screening for Supply Option: Changing Pump at Source D

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
River Itchen SAC, 5 km west	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation. <p>Annex II species that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 1044 Southern damselfly (<i>Coenagrion mercuriale</i>); 1163 Bullhead (<i>Cottus gobio</i>). <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> 1092 White-clawed (or Atlantic stream) crayfish (<i>Austropotamobius pallipes</i>); 1096 Brook lamprey (<i>Lampetra planeri</i>); 1106 Atlantic salmon (<i>Salmo salar</i>); 1355 Otter (<i>Lutra lutra</i>). 	<p>Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>The River Itchen SAC is a classic spring-fed chalk river and is sensitive to 'human induced changes in hydraulic conditions'. According to the supplementary advice⁵⁰, water quantity/quality is an important supporting process and the target states "Where the feature or its supporting habitat is dependent on surface water and/or groundwater, restore water quality and quantity to a standard which provides the necessary conditions to support the feature".</p> <p>The option and the SAC lie in different but adjacent operational catchments; the option in East Hampshire Rivers Operational Catchment (Horton Heath Stream water body) and the SAC within the Itchen Operational Catchment. Therefore, there is no impact pathway by which additional abstraction at Source D will affect the River Itchen SAC.</p>	No	No
Solent Maritime SAC (Marine Component), 6.1 km south	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 1130 Estuaries; 1320 Spartina swards (<i>Spartinion maritima</i>); 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>). <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 1110 Sandbanks which are slightly covered by sea water all the time; 1140 Mudflats and sandflats not covered by seawater at low tide; 1150 Coastal lagoons * Priority feature; 1210 Annual vegetation of drift lines; 1220 Perennial vegetation of stony banks; 1310 Salicornia and other annuals colonizing mud and sand; 2120 "Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")". <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> 1016 Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>). 	<p>Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>There are no pathways for direct impacts on the SAC due to distance from the option and its location in coastal/marine habitat.</p> <p>Furthermore, as the option and the SAC lie in different but adjacent operational catchments; the option in East Hampshire Rivers Operational Catchment (Horton Heath Stream water body) and the SAC within the Western Streams Operational Catchment⁵¹ there will be no indirect effects as a result of groundwater abstraction.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SAC's qualifying features in light of the conservation objectives.</p>	No	No

⁵⁰ <https://designatedsites.naturalengland.org.uk/TerrestrialAdvicePDFs/UK0012599.pdf>

⁵¹ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Solent & Southampton Water SPA, 6.1 km south	<p>Article 4.1 Qualification</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Larus melanocephalus</i> 15.4% of the GB breeding population 5 year peak mean, 1994-1998 ▪ <i>Sterna albifrons</i> (Eastern Atlantic - breeding) 2% of the GB breeding population 5 year peak mean, 1993-1997 ▪ <i>Sterna dougallii</i> (Europe - breeding) 3.1% of the GB breeding population 5 year peak mean, 1993-1997 ▪ <i>Sterna hirundo</i> (Northern/Eastern Europe - breeding) 2.2% of the GB breeding population 5 year peak mean, 1993-1997 ▪ <i>Sterna sandvicensis</i> (Western Europe/Western Africa) 1.7% of the GB breeding population 5 year peak mean, 1993-1997 <p>Article 4.2 Qualification</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Anas crecca</i> (North-western Europe) 1.1% of the population 5 year peak mean, 1992/3-1996/7 ▪ <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 2.5% of the population 5 year peak mean, 1992/3-1996/7 ▪ <i>Charadrius hiaticula</i> (Europe/Northern Africa - wintering) 1.2% of the population 5 year peak mean, 1992/3-1996/7 ▪ <i>Limosa limosa islandica</i> (Iceland - breeding) 1.7% of the population 5 year peak mean, 1992/3-1996/7 <p>Article 4.2 Qualification: An Internationally Important Assemblage Of Birds</p> <p>Over winter the area regularly supports: 51361 waterfowl (5 year peak mean 1991/92-1995/96) Including: <i>Branta bernicla bernicla</i>, <i>Anas crecca</i>, <i>Charadrius hiaticula</i>, <i>Limosa limosa islandica</i></p>	<p>Maintain or restore the extent and distribution of the habitats of the qualifying features</p> <p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the population of each of the qualifying features</p> <p>Maintain or restore the distribution of the qualifying features within the site</p>	<p>There are no pathways for direct impacts on the SPA due to distance from the option and the absence of a direct hydrological link. Furthermore, as the option lies in a different drainage catchment (option lies in the Horton Heath Stream waterbody whilst the Meon waterbody drain into Solent & Southampton Water SPA⁵²) there will be no indirect effects as a result of groundwater abstraction.</p> <p>As there are no anticipated construction impacts, indirect impacts on the SPA via disturbance of species or functionally linked land can be discounted.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SPA's qualifying features in light of the conservation objectives.</p>	No	No
Solent & Southampton Water Ramsar site, 6.1 km south	<p><u>Ramsar Criterion 1</u></p> <p>The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs.</p> <p><u>Ramsar Criterion 2</u></p> <p>The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.</p> <p><u>Ramsar Criterion 5</u></p> <p>Assemblages of international importance:</p> <p>Species with peak counts in winter:</p>	<p>Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Solent and Southampton Water SPA have been referenced.</p>	See assessment for Solent & Southampton Water SPA above.	No	No

⁵² <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3157>



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
	<ul style="list-style-type: none"> 51343 waterfowl (5 year peak mean 1998/99-2002/2003). <p><u>Ramsar Criterion 6</u> Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> Ringed plover, <i>Charadrius hiaticula</i>, Europe/Northwest Africa 397 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3); <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, 6456 individuals, representing an average of 3% of the population (5 year peak mean 1998/9-2002/3); Eurasian teal, <i>Anas crecca</i>, NW Europe 5514 individuals, representing an average of 1.3% of the population (5 year peak mean 1998/9-2002/3); Black-tailed godwit, <i>Limosa limosa islandica</i>, Iceland/W Europe 1240 individuals, representing an average of 3.5% of the population (5 year peak mean 1998/9-2002/3). 				
Solent and Dorset Coast SPA (Marine Component), 8.7 km south-west	<p>Article 4.1 Qualification</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> <i>Sterna sandvicensis</i> - 4.01% of the GB breeding population (5 year mean 2010-2014, 441 pairs); <i>Sterna hirundo</i> - 4.77% of the GB breeding population (5 year mean 2009-2014, 492 pairs); <i>Sterna albifrons</i> - 3.31% of the GB breeding population (5 year mean 2009-2014, 63 pairs). 	<p>Maintain or restore the extent and distribution of the habitats of the qualifying features</p> <p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the populations of each of the qualifying features</p> <p>Maintain or restore the distribution of qualifying features within the site</p>	See assessment for Solent & Southampton Water SPA above.	No	No
Mottisfont Bats SAC, 22.2 km north-west	<p>Annex II species that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>). 	<p>Maintain or restore the extent and distribution of the habitats of qualifying species</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which the habitats of qualifying species rely</p>	<p>Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Barbastelle bats, is generally considered to extend approximately 6 km from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying feature of the SAC.</p> <p>As the SAC lies in the Test Lower and Southampton Streams operational catchment⁵³, it is considered that there is no impact</p>	No	No

⁵³ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3284>



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
		Maintain or restore the populations of qualifying species Maintain or restore the distribution of qualifying species within the site	pathway for groundwater abstraction to affect the habitats of the SAC.		
Briddlesford Copses SAC, 27.1 km south	Annex II species that are a primary reason for selection of this site: <ul style="list-style-type: none"> ▪ 1323 Bechstein's bat (<i>Myotis bechsteinii</i>). 	Maintain or restore the extent and distribution of the habitats of qualifying species Maintain or restore the structure and function of the habitats of qualifying species Maintain or restore the supporting processes on which the habitats of qualifying species rely Maintain or restore the populations of qualifying species Maintain or restore the distribution of qualifying species within the site	Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's bat, which is generally considered to extend approximately 3 km from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying feature of the SAC. As the SAC lies in the Isle of Wight Rivers operational catchment ⁵⁴ , it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.	No	No

⁵⁴ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3235>



C.4 Table C-4 – HRA Screening for Supply Option: Changing Pump at Source S

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Duncton to Bignor Escarpment SAC, 4.8 km north	Annex I habitats that are a primary reason for selection of this site: <ul style="list-style-type: none"> 9130 <i>Asperulo-Fagetum</i> beech forests. 	Maintain or restore the extent and distribution of qualifying natural habitats	There are no pathways for direct impacts on the SAC due to distance from the option and the absence of a direct hydrological link. Furthermore, as the option lies in a different drainage catchment (option lies in the Lidsey Rife waterbody whilst the Lavant (Sussex) waterbody drain into Solent Maritime SAC ⁵⁵) there will be no indirect effects as a result of groundwater abstraction. Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SAC's qualifying features in light of the conservation objectives	No	No
		Maintain or restore the structure and function (including typical species) of qualifying natural habitats			
		Maintain or restore the supporting processes on which the qualifying natural habitats rely			
Arun Valley SAC, 8.5 km north-east	Annex II species that are a primary reason for selection of this site: <ul style="list-style-type: none"> 4056 Ramshorn snail (<i>Anisus vorticulus</i>). 	Maintain or restore the extent and distribution of the habitats of qualifying species	Given the distance of the SAC from the proposed option and its location in a different operational catchment (Arun Lower ⁵⁶ as opposed to Western Streams) there is considered to be an absence of impact pathways, including one for impacts via groundwater abstraction.	No	No
		Maintain or restore the structure and function of the habitats of qualifying species			
		Maintain or restore the supporting processes on which the habitats of qualifying species rely			
		Maintain or restore the populations of qualifying species			
		Maintain or restore the distribution of qualifying species within the site			
Arun Valley SPA, 8.5 km north-east	Article 4.1 Qualification Over winter the area regularly supports: <ul style="list-style-type: none"> <i>Cygnus columbianus bewickii</i> (Western Siberia/North-eastern & North-western Europe) 1.6% of the population in Great Britain 5 year peak mean for 1992/93 to 1996/7 Article 4.2 Qualification An internationally important assemblage of birds: <ul style="list-style-type: none"> Over winter the area regularly supports 27241 waterfowl (5 year peak mean 1991/92-1995/96) Including: <i>Cygnus columbianus bewickii</i>. 	Maintain or restore the extent and distribution of the habitats of qualifying features	There are no pathways for direct impacts on the SPA due to distance from the option and its location in a different drainage catchment. As there are no anticipated construction impacts, land take, indirect impacts on the SPA via disturbance of species or functionally linked land can be discounted.	No	No
		Maintain or restore the structure and function of the habitats of qualifying features			
		Maintain or restore the supporting processes on which the habitats of qualifying features rely			
		Maintain or restore the populations of qualifying features			
		Maintain or restore the distribution of qualifying features within the site			

⁵⁵ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>

⁵⁶ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3266>

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Arun Valley Ramsar site, 8.5 km north-east	<p><u>Ramsar criterion 2</u></p> <p>The site holds seven wetland invertebrate species listed in the British Red Data Book as threatened. One of these, <i>Pseudamnicola confusa</i>, is considered to be endangered. The site also supports four nationally rare and four nationally scarce plant species.</p> <p><u>Ramsar criterion 3</u></p> <p>In addition to the Red Data Book invertebrate and plant species, the ditches intersecting the site have a particularly diverse and rich flora. All five British duckweed Lemna species, all five water-cress Rorippa species, and all three British water milfoils (Myriophyllum species), all but one of the seven British water dropworts (Oenanthe species), and two-thirds of the British pondweeds (Potamogeton species) can be found on site.</p> <p><u>Ramsar criterion 5</u></p> <p>Assemblages of international importance:</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> 13774 waterfowl (5 year peak mean 1998/99-2002/2003) 	Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Pagham Harbour SPA have been referenced.	See assessment for Arun Valley SAC and SPA above.	No	No
Solent and Dorset Coast SPA (Marine Component), 8.9 km south	<p>Article 4.1 Qualification</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> <i>Sterna sandvicensis</i> - 4.01% of the GB breeding population (5 year mean 2010-2014, 441 pairs); <i>Sterna hirundo</i> - 4.77% of the GB breeding population (5 year mean 2009-2014, 492 pairs); <i>Sterna albifrons</i> - 3.31% of the GB breeding population (5 year mean 2009-2014, 63 pairs). 	<p>Maintain or restore the extent and distribution of the habitats of the qualifying features</p> <p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the populations of each of the qualifying features</p> <p>Maintain or restore the distribution of qualifying features within the site</p>	<p>There are no pathways for direct impacts on the SPA due to distance from the option and its location offshore in coastal/marine habitat. Although the SPA lies in proximity to the option drainage catchment (draining via the Lidsey Rife waterbody, eventually discharging at Bognor Regis⁵⁷) there will be no indirect effects as a result of groundwater abstraction. Furthermore, the supplementary advice on conservation objectives does not identify increased abstraction as a threat to the SPA.</p> <p>As there are no anticipated construction impacts, land take, indirect impacts on the SPA via disturbance of species or functionally linked land can be discounted.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SPA's qualifying features in light of the conservation objectives.</p>	No	No
Singleton and Cocking Tunnels SAC, 9.8 km north-west	<p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>); 1323 Bechstein's bat (<i>Myotis bechsteinii</i>). 	<p>Maintain or restore the extent and distribution of the habitats of qualifying species</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which the habitats of qualifying species rely</p>	<p>Given the substantial distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's and Barbastelle bats, which are generally considered to extend approximately 3 km and 6 km, respectively, from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.</p>	No	No

⁵⁷ <https://environment.data.gov.uk/catchment-planning/WaterBody/GB107041012010>



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
		Maintain or restore the populations of qualifying species Maintain or restore the distribution of qualifying species within the site			
The Mens SAC, 14.7 km north-west	Annex I habitats that are a primary reason for selection of this site: <ul style="list-style-type: none"> 9120 Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>). Annex II species present as a qualifying feature, but not a primary reason for site selection: <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>). 	Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species Maintain or restore the structure and function (including typical species) of qualifying natural habitats Maintain or restore the structure and function of the habitats of qualifying species Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely Maintain or restore the populations of qualifying species Maintain or restore the distribution of qualifying species within the site	Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Barbastelle bats, is generally considered to extend approximately 6 km from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC. As the SAC lies in the Arun Upper operational catchment ⁵⁸ , it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.	No	No
Ebernoe Common SAC, 16.8 km north	Annex I habitats that are a primary reason for selection of this site: <ul style="list-style-type: none"> 9120 Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>). Annex II species that are a primary reason for selection of this site: <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>); 1323 Bechstein's bat (<i>Myotis bechsteinii</i>). 	Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species Maintain or restore the structure and function (including typical species) of qualifying natural habitats Maintain or restore the structure and function of the habitats of qualifying species Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely	Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's and Barbastelle bats, which are generally considered to extend approximately 3 km and 6 km, respectively, from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC. As the SAC lies in the Arun Upper operational catchment ⁵⁹ , it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.	No	No

⁵⁸ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3486>

⁵⁹ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3486>



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
		Maintain or restore the populations of qualifying species Maintain or restore the distribution of qualifying species within the site			



C.5 Table C-5 – HRA Screening for Supply Option: Changing Pump at Source F

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Solent Maritime SAC (Marine Component), 7.2 km west	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 1130 Estuaries; 1320 Spartina swards (<i>Spartinion maritima</i>); 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>). <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 1110 Sandbanks which are slightly covered by sea water all the time; 1140 Mudflats and sandflats not covered by seawater at low tide; 1150 Coastal lagoons * Priority feature; 1210 Annual vegetation of drift lines; 1220 Perennial vegetation of stony banks; 1310 Salicornia and other annuals colonizing mud and sand; 2120 "Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")". <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> 1016 Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>). 	<p>Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>There are no pathways for direct impacts on the SAC due to distance from the option and its location in coastal/marine habitat.</p> <p>Furthermore, as the option and the SAC lie in different but adjacent operational catchments; the option in East Hampshire Rivers Operational Catchment (Meon water body) and the SAC within the Western Streams Operational Catchment⁶⁰) there will be no indirect effects as a result of groundwater abstraction.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SAC's qualifying features in light of the conservation objectives.</p>	No	No
Solent & Southampton Water SPA, 7.2 km west	<p>Article 4.1 Qualification</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> <i>Larus melanocephalus</i> 15.4% of the GB breeding population 5 year peak mean, 1994-1998 <i>Sterna albifrons</i> (Eastern Atlantic - breeding) 2% of the GB breeding population 5 year peak mean, 1993-1997 <i>Sterna dougallii</i> (Europe - breeding) 3.1% of the GB breeding population 5 year peak mean, 1993-1997 <i>Sterna hirundo</i> (Northern/Eastern Europe - breeding) 2.2% of the GB breeding population 5 year peak mean, 1993-1997 <i>Sterna sandvicensis</i> (Western Europe/Western Africa) 1.7% of the GB breeding population 5 year peak mean, 1993-1997 <p>Article 4.2 Qualification</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> <i>Anas crecca</i> (North-western Europe) 1.1% of the population 5 year peak mean, 1992/3-1996/7 <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 2.5% of the population 5 year peak mean, 1992/3-1996/7 	<p>Maintain or restore the extent and distribution of the habitats of the qualifying features</p> <p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the population of each of the qualifying features</p> <p>Maintain or restore the distribution of the qualifying features within the site</p>	<p>The option is located in the same catchment water body (Meon water body⁶¹) as the SPA and is hydrologically linked via the River Meon, being located at least 12 km downstream.</p> <p>As implementation of the option will only result in impacts associated with additional groundwater abstraction, to which the SPA is not sensitive, and there will be no water quality impacts, it is considered highly unlikely that there will be any discernable effect on the SPA.</p> <p>As there are no anticipated construction impacts, land take, indirect impacts on the SPA via disturbance of species or functionally linked land can be discounted.</p>	No	No

⁶⁰ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>

⁶¹ <https://environment.data.gov.uk/catchment-planning/WaterBody/GB107042016640>

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
	<ul style="list-style-type: none"> ▪ <i>Charadrius hiaticula</i> (Europe/Northern Africa - wintering) 1.2% of the population 5 year peak mean, 1992/3-1996/7 ▪ <i>Limosa limosa islandica</i> (Iceland - breeding) 1.7% of the population 5 year peak mean, 1992/3-1996/7 <p>Article 4.2 Qualification: An Internationally Important Assemblage of Birds</p> <ul style="list-style-type: none"> ▪ Over winter the area regularly supports: 51361 waterfowl (5 year peak mean 1991/92-1995/96) Including: <i>Branta bernicla bernicla</i>, <i>Anas crecca</i>, <i>Charadrius hiaticula</i>, <i>Limosa limosa islandica</i> 				
Solent & Southampton Water Ramsar site, 7.2 km west	<p>Ramsar Criterion 1 The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs.</p> <p>Ramsar Criterion 2 The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.</p> <p>Ramsar Criterion 5 Assemblages of international importance: Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ 51343 waterfowl (5 year peak mean 1998/99-2002/2003). <p>Ramsar Criterion 6 Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> ▪ Ringed plover, <i>Charadrius hiaticula</i>, Europe/Northwest Africa 397 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3); <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, 6456 individuals, representing an average of 3% of the population (5 year peak mean 1998/9-2002/3); ▪ Eurasian teal, <i>Anas crecca</i>, NW Europe 5514 individuals, representing an average of 1.3% of the population (5 year peak mean 1998/9-2002/3); ▪ Black-tailed godwit, <i>Limosa limosa islandica</i>, Iceland/W Europe 1240 individuals, representing an average of 3.5% of the population (5 year peak mean 1998/9-2002/3). 	Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Solent and Southampton Water SPA have been referenced.	See assessment for Solent & Southampton Water SPA above.	No	No
Solent and Dorset Coast SPA (Marine)	Article 4.1 Qualification During the breeding season the area regularly supports:	Maintain or restore the extent and distribution of the habitats of the qualifying features	See assessment for Solent & Southampton Water SPA above.	No	No



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Component), 7.7 km south	<ul style="list-style-type: none"> ▪ <i>Sterna sandvicensis</i> - 4.01% of the GB breeding population (5 year mean 2010-2014, 441 pairs); ▪ <i>Sterna hirundo</i> - 4.77% of the GB breeding population (5 year mean 2009-2014, 492 pairs); ▪ <i>Sterna albifrons</i> - 3.31% of the GB breeding population (5 year mean 2009-2014, 63 pairs). 	<p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the populations of each of the qualifying features</p> <p>Maintain or restore the distribution of qualifying features within the site</p>			
Portsmouth Harbour SPA, 9.1 km south	<p>ARTICLE 4.2 QUALIFICATION (79/409/EEC)</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 0.9% of the population 5 year peak mean 1991/92-1995/96; ▪ <i>Calidris alpina alpina</i> (Northern Siberia/Europe/Western Africa) 1% of the population in Great Britain 5 year peak mean 1991/92-1995/96; ▪ <i>Limosa limosa islandica</i> (Iceland - breeding) 0.4% of the population in Great Britain 5 year peak mean 1991/92-1995/96; ▪ <i>Mergus serrator</i> (North-western/Central Europe) 0.9% of the population in Great Britain 5 year peak mean 1991/92-1995/96. 	<p>Maintain or restore the extent and distribution of the habitats of the qualifying features</p> <p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the population of each of the qualifying features</p> <p>Maintain or restore the distribution of the qualifying features within the site</p>	See assessment for Solent & Southampton Water SPA above.	No	No
Portsmouth Harbour Ramsar site, 9.1km south	<p><u>Ramsar criterion 3</u></p> <p>The intertidal mudflat areas possess extensive beds of eelgrass <i>Zostera angustifolia</i> and <i>Zostera noltei</i> which support the grazing dark-bellied brent geese populations. The mud-snail <i>Hydrobia ulvae</i> is found at extremely high densities, which helps to support the wading bird interest of the site. Common cord-grass <i>Spartina anglica</i> dominates large areas of the saltmarsh and there are also extensive areas of green algae <i>Enteromorpha</i> spp. and sea lettuce <i>Ulva lactuca</i>. More locally the saltmarsh is dominated by sea purslane <i>Halimione portulacoides</i> which gradates to more varied communities at the higher shore levels. The site also includes a number of saline lagoons hosting nationally important species.</p> <p><u>Ramsar criterion 6</u> – species/populations occurring at levels of international importance.</p> <p>Qualifying Species/populations (as identified at designation):</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ Dark-bellied brent goose, (<i>Branta bernicla bernicla</i>), 2105 individuals, representing an average of 2.1% of the GB population (5 year peak mean 1998/9-2002/3). 	Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Portsmouth Harbour SPA have been referenced.	See assessment for Portsmouth Harbour SPA above.	No	No



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Bridlesford Copses SAC, 22.9 km south	Annex II species that are a primary reason for selection of this site: <ul style="list-style-type: none"> 1323 Bechstein's bat <i>Myotis bechsteinii</i> 	Maintain or restore the extent and distribution of the habitats of qualifying species	Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's bat, which is generally considered to extend approximately 3 km from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying feature of the SAC. As the SAC lies in the Isle of Wight Rivers operational catchment ⁶² , it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.	No	No
		Maintain or restore the structure and function of the habitats of qualifying species			
		Maintain or restore the supporting processes on which the habitats of qualifying species rely			
		Maintain or restore the populations of qualifying species			
		Maintain or restore the distribution of qualifying species within the site			
Singleton and Cocking Tunnels SAC, 27.5 km east	Annex II species present as a qualifying feature, but not a primary reason for site selection: <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>); 1323 Bechstein's bat (<i>Myotis bechsteinii</i>). 	Maintain or restore the extent and distribution of the habitats of qualifying species	Given the substantial distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's and Barbastelle bats, which are generally considered to extend approximately 3 km and 6 km, respectively, from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC. As the SAC lies in the Western Streams operational catchment ⁶³ , it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.	No	No
		Maintain or restore the structure and function of the habitats of qualifying species			
		Maintain or restore the supporting processes on which the habitats of qualifying species rely			
		Maintain or restore the populations of qualifying species			
		Maintain or restore the distribution of qualifying species within the site			

⁶² <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3235>

⁶³ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>



C.6 Table C-6 – HRA Screening for Supply Option: Changing Pump at Source H

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Solent Maritime SAC (Marine Component), 9.1 km south-west	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 1130 Estuaries; 1320 Spartina swards (<i>Spartinion maritima</i>); 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>). <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 1110 Sandbanks which are slightly covered by sea water all the time; 1140 Mudflats and sandflats not covered by seawater at low tide; 1150 Coastal lagoons * Priority feature; 1210 Annual vegetation of drift lines; 1220 Perennial vegetation of stony banks; 1310 Salicornia and other annuals colonizing mud and sand; 2120 "Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes"). <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> 1016 Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>). 	Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species	<p>There are no pathways for direct impacts on the SAC due to distance from the option and its location in coastal/marine habitat. Furthermore, as the option and the SAC lie in different but adjacent operational catchments; the option in East Hampshire Rivers Operational Catchment (Meon water body) and the SAC within the Western Streams Operational Catchment⁶⁴) there will be no indirect effects as a result of groundwater abstraction. Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SAC's qualifying features in light of the conservation objectives.</p>	No	No
		Maintain or restore the structure and function (including typical species) of qualifying natural habitats			
		Maintain or restore the structure and function of the habitats of qualifying species			
		Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely			
		Maintain or restore the populations of qualifying species			
		Maintain or restore the distribution of qualifying species within the site			
Solent & Southampton Water SPA, 9.1 km south-west	<p>Article 4.1 Qualification</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> <i>Larus melanocephalus</i> 15.4% of the GB breeding population 5 year peak mean, 1994-1998 <i>Sterna albifrons</i> (Eastern Atlantic - breeding) 2% of the GB breeding population 5 year peak mean, 1993-1997 <i>Sterna dougallii</i> (Europe - breeding) 3.1% of the GB breeding population 5 year peak mean, 1993-1997 <i>Sterna hirundo</i> (Northern/Eastern Europe - breeding) 2.2% of the GB breeding population 5 year peak mean, 1993-1997 <i>Sterna sandvicensis</i> (Western Europe/Western Africa) 1.7% of the GB breeding population 5 year peak mean, 1993-1997 <p>Article 4.2 Qualification</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> <i>Anas crecca</i> (North-western Europe) 1.1% of the population 5 year peak mean, 1992/3-1996/7 <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 2.5% of the population 5 year peak mean, 1992/3-1996/7 	Maintain or restore the extent and distribution of the habitats of the qualifying features	<p>The option is located in the same catchment water body (Meon water body⁶⁵) as the SPA and is hydrologically linked via the River Meon, being located at least 14 km downstream. As implementation of the option will only result in impacts associated with additional groundwater abstraction, to which the SPA is not sensitive, and there will be no water quality impacts, it is considered highly unlikely that there will be any discernable effect on the SPA. As there are no anticipated construction impacts, land take, indirect impacts on the SPA via disturbance of species or functionally linked land can be discounted.</p>	No	No
		Maintain or restore the structure and function of the habitats of the qualifying features			
		Maintain or restore the supporting processes on which the habitats of the qualifying features rely			
		Maintain or restore the population of each of the qualifying features			
		Maintain or restore the distribution of the qualifying features within the site			

⁶⁴ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>

⁶⁵ <https://environment.data.gov.uk/catchment-planning/WaterBody/GB107042016640>

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
	<ul style="list-style-type: none"> ▪ <i>Charadrius hiaticula</i> (Europe/Northern Africa - wintering) 1.2% of the population 5 year peak mean, 1992/3-1996/7 ▪ <i>Limosa limosa islandica</i> (Iceland - breeding) 1.7% of the population 5 year peak mean, 1992/3-1996/7 <p>Article 4.2 Qualification: An Internationally Important Assemblage Of Birds</p> <ul style="list-style-type: none"> ▪ Over winter the area regularly supports: 51361 waterfowl (5 year peak mean 1991/92-1995/96) Including: <i>Branta bernicla bernicla</i>, <i>Anas crecca</i>, <i>Charadrius hiaticula</i>, <i>Limosa limosa islandica</i> 				
Solent & Southampton Water Ramsar site, 9.1 km south-west	<p>Ramsar Criterion 1</p> <p>The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs.</p> <p>Ramsar Criterion 2</p> <p>The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.</p> <p>Ramsar Criterion 5</p> <p>Assemblages of international importance:</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ 51343 waterfowl (5 year peak mean 1998/99-2002/2003). <p>Ramsar Criterion 6</p> <p>Species/populations occurring at levels of international importance.</p> <p>Qualifying Species/populations (as identified at designation):</p> <p>Species with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> ▪ Ringed plover, <i>Charadrius hiaticula</i>, Europe/Northwest Africa 397 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3); <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, 6456 individuals, representing an average of 3% of the population (5 year peak mean 1998/9-2002/3); ▪ Eurasian teal, <i>Anas crecca</i>, NW Europe 5514 individuals, representing an average of 1.3% of the population (5 year peak mean 1998/9-2002/3); ▪ Black-tailed godwit, <i>Limosa limosa islandica</i>, Iceland/W Europe 1240 individuals, representing an average of 3.5% of the population (5 year peak mean 1998/9-2002/3). 	Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Solent and Southampton Water SPA have been referenced.	See assessment for Solent & Southampton Water SPA above.	No	No



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Solent and Dorset Coast SPA (Marine Component), 9.9 km south	<p>Article 4.1 Qualification</p> <p>During the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Sterna sandvicensis</i> - 4.01% of the GB breeding population (5 year mean 2010-2014, 441 pairs); ▪ <i>Sterna hirundo</i> - 4.77% of the GB breeding population (5 year mean 2009-2014, 492 pairs); ▪ <i>Sterna albifrons</i> - 3.31% of the GB breeding population (5 year mean 2009-2014, 63 pairs). 	Maintain or restore the extent and distribution of the habitats of the qualifying features	See assessment for Solent & Southampton Water SPA above.	No	No
		Maintain or restore the structure and function of the habitats of the qualifying features			
		Maintain or restore the supporting processes on which the habitats of the qualifying features rely			
		Maintain or restore the populations of each of the qualifying features			
		Maintain or restore the distribution of qualifying features within the site			
Bridlesford Copses SAC, 25.2 km south	<p>Annex II species that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> ▪ 1323 Bechstein's bat <i>Myotis bechsteinii</i> 	Maintain or restore the extent and distribution of the habitats of qualifying species	<p>Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's bat, which is generally considered to extend approximately 3 km from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying feature of the SAC.</p> <p>As the SAC lies in the Isle of Wight Rivers operational catchment⁶⁶, it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.</p>	No	No
		Maintain or restore the structure and function of the habitats of qualifying species			
		Maintain or restore the supporting processes on which the habitats of qualifying species rely			
		Maintain or restore the populations of qualifying species			
		Maintain or restore the distribution of qualifying species within the site			
Singleton and Cocking Tunnels SAC, 26.4 km east	<p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> ▪ 1308 Barbastelle (<i>Barbastella barbastellus</i>); ▪ 1323 Bechstein's bat (<i>Myotis bechsteinii</i>). 	Maintain or restore the extent and distribution of the habitats of qualifying species	<p>Given the substantial distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's and Barbastelle bats, which are generally considered to extend approximately 3 km and 6 km, respectively, from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.</p> <p>As the SAC lies in the Isle of Western Streams operational catchment⁶⁷, it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.</p>	No	No
		Maintain or restore the structure and function of the habitats of qualifying species			
		Maintain or restore the supporting processes on which the habitats of qualifying species rely			
		Maintain or restore the populations of qualifying species			

⁶⁶ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3235>

⁶⁷ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
		Maintain or restore the distribution of qualifying species within the site			



C.7 Table C-7 – HRA Screening for Supply Option: Changing Pump at Source R

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Duncton to Bignor Escarpment SAC, 6.8 km north-east	Annex I habitats that are a primary reason for selection of this site: <ul style="list-style-type: none"> 9130 <i>Asperulo-Fagetum</i> beech forests. 	<p>Maintain or restore the extent and distribution of qualifying natural habitats</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the supporting processes on which the qualifying natural habitats rely</p>	Given the distance of the SAC from the proposed option and its location in a different operational catchment, there is considered to be an absence of impact pathways.	No	No
Solent and Dorset Coast SPA (Marine Component), 6.9 km south	Article 4.1 Qualification During the breeding season the area regularly supports: <ul style="list-style-type: none"> <i>Sterna sandvicensis</i> - 4.01% of the GB breeding population (5 year mean 2010-2014, 441 pairs); <i>Sterna hirundo</i> - 4.77% of the GB breeding population (5 year mean 2009-2014, 492 pairs); <i>Sterna albifrons</i> - 3.31% of the GB breeding population (5 year mean 2009-2014, 63 pairs). 	<p>Maintain or restore the extent and distribution of the habitats of the qualifying features</p> <p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the populations of each of the qualifying features</p> <p>Maintain or restore the distribution of qualifying features within the site</p>	<p>There are no pathways for direct impacts on the SPA due to distance from the option and its location offshore in coastal/marine habitat. Although the SPA lies in proximity to the option drainage catchment (draining via the Aldingborne Rife waterbody, discharging at Bognor Regis⁶⁸) there will be no indirect effects as a result of groundwater abstraction. Furthermore, the supplementary advice on conservation objectives does not identify increased abstraction as a threat to the SPA.</p> <p>As there are no anticipated construction impacts, land take, indirect impacts on the SPA via disturbance of species or functionally linked land can be discounted.</p> <p>Therefore, there is considered to be an absence of viable impact pathways and there will be no effects on the SPA's qualifying features in light of the conservation objectives.</p>	No	No
Singleton and Cocking Tunnels SAC, 9.7 km north-west	Annex II species present as a qualifying feature, but not a primary reason for site selection: <ul style="list-style-type: none"> 1308 Barbastelle (<i>Barbastella barbastellus</i>); 1323 Bechstein's bat (<i>Myotis bechsteinii</i>). 	<p>Maintain or restore the extent and distribution of the habitats of qualifying species</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's and Barbastelle bats, which are generally considered to extend approximately 3 km and 6 km, respectively, from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.	No	No
Pagham Harbour SPA, 9.7 km south-west	Article 4.1 Qualification During the breeding season the area regularly supports:	Maintain or restore the extent and distribution of the habitats of the qualifying features	See assessment for Solent and Dorset Coast SPA above.	No	No

⁶⁸ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3534>

European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
	<ul style="list-style-type: none"> ▪ <i>Sterna albifrons</i> (Eastern Atlantic - breeding) 0.3% of the GB breeding population 5 year mean, 1992-1996; ▪ <i>Sterna hirundo</i> (Northern/Eastern Europe - breeding) % of the GB breeding population Count, as at 1996. <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Philomachus pugnax</i> (Western Africa - wintering) 1.4% of the GB population 5 year mean, 1995-1999. <p>Article 4.2 Qualification</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> ▪ <i>Branta bernicla bernicla</i> (Western Siberia/Western Europe) 0.6% of the population 5 year peak mean 1991/92-1995/9. 	<p>Maintain or restore the structure and function of the habitats of the qualifying features</p> <p>Maintain or restore the supporting processes on which the habitats of the qualifying features rely</p> <p>Maintain or restore the population of each of the qualifying features</p> <p>Maintain or restore the distribution of qualifying features within the site</p>			
Pagham Harbour Ramsar site, 9.7 km south-west	<p>Ramsar criterion 6 – species/ populations occurring at levels of international importance. Qualifying species/populations (as identified at designation):</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> ▪ Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, 2512 individuals, representing an average of 1.1% of the population (5 year peak mean 1998/9-2002/3). 	<p>Conservation objectives do not exist for Ramsar sites therefore in this case the conservation objectives for the Pagham Harbour SPA have been referenced.</p>	<p>See assessment for Solent and Dorset Coast SPA above.</p>	No	No
The Mens SAC, 16.9 km north-east	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> ▪ 9120 Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion roburi-petraeae</i> or <i>Illici-Fagenion</i>). <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ul style="list-style-type: none"> ▪ 1308 Barbastelle (<i>Barbastella barbastellus</i>). 	<p>Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>Given the distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Barbastelle bats, is generally considered to extend approximately 6 km from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.</p> <p>As the SAC lies in the Arun Upper operational catchment⁶⁹, it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.</p>	No	No

⁶⁹ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3486>



European Site and approximate distance from the Option	Qualifying Features	Conservation Objectives	Assessment (Operation Only)	Likely Significant Effect?	Take forward to HRA Stage 2 AA?
Ebernoe Common SAC, 18.7 km north	<p>Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> ▪ 9120 Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>). <p>Annex II species that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> ▪ 1308 Barbastelle (<i>Barbastella barbastellus</i>); ▪ 1323 Bechstein's bat (<i>Myotis bechsteinii</i>). 	<p>Maintain or restore the extent and distribution of qualifying natural habitats and habitats of qualifying species</p> <p>Maintain or restore the structure and function (including typical species) of qualifying natural habitats</p> <p>Maintain or restore the structure and function of the habitats of qualifying species</p> <p>Maintain or restore the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</p> <p>Maintain or restore the populations of qualifying species</p> <p>Maintain or restore the distribution of qualifying species within the site</p>	<p>Given the substantial distance between the proposed option and the SAC (the option lies well outside the core sustenance zones for Bechstein's and Barbastelle bats, which are generally considered to extend approximately 3 km and 6 km, respectively, from roost sites) and that only operational impacts are being assessed, it is considered that there are no viable impact pathways by which the option could affect the qualifying features of the SAC.</p> <p>As the SAC lies in the Arun Upper operational catchment⁷⁰, it is considered that there is no impact pathway for groundwater abstraction to affect the habitats of the SAC.</p>	No	No

⁷⁰ <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3486>



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