

Water Resources Management Plan 2019 Annex 14: Strategic Environmental Assessment Post Adoption Statement

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**Southern
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Appendix A Post Adoption Procedures

1. Introduction

1.1 Background to the Water Resource Management Plan

Water companies in England and Wales are required to produce a Water Resources Management Plan (WRMP) every five years. The plan sets out how the company intends to maintain the balance between supply and demand for water over the long-term planning horizon in order to ensure security of supply in each of the water resource zones (WRZs) making up its supply area. The process includes working out and forecasting how much water customers will need over the planning period (assessing demand) and how best to provide it (assessing options to reduce or constrain demand growth and/or augment reliable supplies of water) in an efficient, timely manner (programme appraisal). Companies seek to identify the preferred, 'best value' programme of demand management and water supply options to develop an overall strategy to maintain a balance between reliable supply and demand for their supply area.

Southern Water's draft WRMP19 was submitted to the Secretary of State on 1 December 2017 and approval was granted to issue the draft plan for public consultation. The draft WRMP19 was published for public consultation in March 2018, accompanied by an Environmental Report to document the Strategic Environmental Assessment (SEA) of the draft plan. In light of the consultation responses received, a revised draft WRMP19 was submitted to the Secretary of State along with a Statement of Response setting out how the consultation comments had been taken into account in revising the draft plan. The Statement of Response was published in September 2018.

In March 2019, a request for further information was received from Defra, relating to the company's Western area strategy (covering Hampshire and the Isle of Wight) and requesting additional information and assurances that the preferred plan can be delivered to the required timescales. An Addendum to the Statement of Response was published in June 2019 setting out the additional information requested by Defra.

The final WRMP was published on 4 December 2019 following approval by the Secretary of State in November 2019. The SEA Environmental Report was also updated to align with the final WRMP19. This SEA Post Adoption Statement refers to the final WRMP19.

1.2 The SEA process

The WRMP has been subject to SEA in compliance with the SEA Directive, as transposed in England by the SEA Regulations. This SEA Post Adoption Statement was produced in accordance with the provisions of Regulation 16.

Engagement with government, regulators, other licensed water suppliers and water companies, customers and a wide range of stakeholders is key to the WRMP process. Southern Water's consultation programme commenced in 2016 and included a wide range of stakeholders and the regulators. The SEA process for Southern Water's WRMP19 started in 2017 and ran in parallel with the development of the WRMP19. Formal consultation on the draft WRMP19 took place in early 2018 along with the SEA Environmental Report.

The assessment stage of the SEA process was repeated for each revision of the WRMP up to and including the final WRMP19 to ensure that the findings of the Environmental Report remained relevant to the plan. This is in accordance with the Government's SEA Guidance:

'It is important to keep the implications for the Environmental Report under review to ensure that it remains consistent with the plan or programme on which opinions are being sought.'

The SEA has been undertaken in parallel with the Habitats Regulations Assessment (HRA) and Water Framework Directive (WFD) assessment to ensure an integrated approach to environmental assessment of the WRMP19.

1.3 The purpose of the SEA Post Adoption Statement

The SEA Post Adoption Statement must describe:

- How environmental considerations have been integrated into the final WRMP19 (see Section 2)
- How the Environmental Report has been taken into account (see Section 3)
- How responses to the consultation have been taken into account (see Section 4)
- Reasons for choosing the final WRMP19 as adopted, and why other reasonable alternatives were rejected (see Section 5)
- The measures that are to be taken to monitor the significant environmental effects of implementation of the final WRMP19 (see Section 6).

Appendix A sets out the post-adoption requirements of the SEA Regulations.

2. How environmental considerations have been integrated into the final WRMP19

WRMPs are developed to ensure a reliable, secure water supply over the long-term and that the measures proposed to maintain the balance between supply and demand for water provide value for money to Southern Water's customers whilst taking account of environmental and social effects. The SEA, along with the findings of the HRA and WFD assessments, have been used to help inform the development of the WRMP19.

A staged environmental assessment approach has been followed in developing the WRMP19. A high level SEA (and HRA and WFD) screening review was applied initially to an 'unconstrained' list of a large number of potential options to balance supply and demand: this involved using the SEA topics as screening criteria to exclude any options that had unacceptable environmental impacts. More detailed SEA (and HRA and WFD assessment) screening using SEA topics as screening criteria was subsequently applied to the resulting 'constrained' list of potential options to help make decisions on the options to be retained in a 'feasible' list of options. This included screening out options where the SEA (HRA or WFD) assessment identified significant environmental effects for which mitigation was unlikely to be able to reduce the identified effects to an acceptable level. The findings from the constrained options screening process were shared and discussed with the Environment Agency and Natural England, along with key stakeholders at stakeholder meetings. Feedback from this engagement activity, along with the findings of the screening assessment, resulted in several options being excluded from the feasible options list due to the potential for unacceptable adverse effects on the environment and/or on society.

The feasible list of options was then subject to detailed assessment in accordance with the SEA methodology. The findings of the SEA feasible option assessments were initially used (alongside the HRA and WFD assessments) to evaluate the environmental and social performance of a range of alternative strategies for maintaining a supply-demand balance in each of Southern Water's operating areas, with each alternative strategy comprising a different mix of options and option types.

For each alternative strategy, the likely scale of adverse and beneficial environmental and social effects was considered, looking both at each individual option included in the strategy but also cumulative, in combination effects between the options included in that strategy. The potential for cumulative effects with any other relevant projects, plans or programmes (for example, any planned major infrastructure schemes that may be constructed and/or operated at the same time and affecting the same environment and/or communities) was also assessed. This appraisal of each alternative strategy included consideration of the potential for any regulatory compliance risks associated with the Habitats Regulations and WFD, as well as other statutory obligations (including effects on Sites of Special Scientific Interest (SSSIs), National Parks, Areas of Outstanding Natural Beauty (AONBs), heritage features and Marine Conservation Zones).

The environmental and social performance of each alternative strategy was used to help make decisions on which strategies to explore further through additional programme appraisal modelling and analysis, including further SEA, HRA and WFD assessment. A series of internal programme appraisal workshops were held to review the alternative programmes and consider their environmental performance alongside other key decision-making criteria. These workshops were attended by environmental assessment specialists, planners, engineers,

operational strategy managers, asset managers and water resource planners to ensure a wide cross-section of views were considered in the decision-making process.

These further assessments, together with the consultation responses to the draft WRMP19, helped determine the appropriate water resource strategies for each operational area for inclusion in the revised draft WRMP19. Several modifications to potential strategies were made as part of this review process to remove options where environmental and social effects were considered to be higher or unacceptable relative to the other alternative options available to meet the forecast supply deficit. In addition, further modifications were made to scheme designs for those options where material adverse environmental effects would otherwise preclude inclusion of the option in the strategy.

In accordance with the SEA Regulations, several reasonable alternative options and programmes were generated for each operational area to examine different combinations of options and their performance against environmental performance criteria, along with other key decision-making criteria (e.g. cost, resilience, customer preferences).

SEA of these alternative programmes was carried out for each of the options within the programmes individually and then cumulatively to inform decisions on the final preferred strategy for each operational area.

3. How the Environmental Report influenced the WRMP19

The SEA Environmental Report and the WRMP19 were developed in parallel so that the SEA process could actively inform the decision-making processes involved in producing the final WRMP19. Table 3.1 identifies the main findings and outputs of the SEA Environmental Report which informed the development of the WRMP19.

Table 3.1 SEA Environmental Report findings and consideration in the WRMP19

SEA Finding/Output	How Integrated into the WRMP19
Options and Programme Environmental Effects	
<p>Screening of options included consideration of SEA topics as well as risks to WFD water body status and the risk of any likely significant effects on European sites designated under the Habitats Directive.</p>	<p>High level screening assessment of the options in the ‘unconstrained’ list identified options with unacceptable adverse environmental effects which were rejected from the unconstrained list and not taken further in the option appraisal process. For example, the option of raising the Bewl Water reservoir top water level by over 1m was found to have the potential for major adverse effects on Ancient Woodland and was therefore rejected from the option set.</p> <p>More detailed environmental and social assessment was applied to the screening of the ‘constrained’ list of options. The intent of the screening was to reject options that performed poorly on environmental grounds. Options assessed as having unacceptable adverse environmental or social effects were removed from the options list; remaining options were included in a feasible list. For example, a desalination plant on the Test Estuary at the confluence of the River Test with Southampton Water was excluded at this stage due to the risk of adverse effects on biodiversity and the effects of poor dispersion of the hypersaline discharge from the treatment works. Following feedback on the draft WRMP19 feasible options list, the Pulborough reservoir option was removed from the feasible list due to concerns raised about its effects on the South Downs National Park and sensitive terrestrial habitat.</p> <p>There were significant issues highlighted for a number of other options in each of the operational areas. The SEA screening concluded that in general the issues were possible to overcome through option design modifications and/or mitigation measures, or that the scale of risk did not necessarily represent unalterable constraints – such options were retained for inclusion in the feasible list but the environmental risks were flagged in the</p>

SEA Finding/Output

How Integrated into the WRMP19

programme appraisal process and subsequent decision-making process.

The feasible options identified through the SEA screening process were taken forward into the programme appraisal process and individual option assessments were undertaken according to the full SEA appraisal framework.

Due to the scale of the forecast supply deficit in each operational area, it was not considered feasible to remove any option in the Feasible List from consideration for the final strategy. All options were therefore considered and the SEA findings (along with the HRA and WFD assessments) and were actively used in reaching a decision on the final WRMP19 strategy.

For each alternative strategy, the likely scale of adverse and beneficial environmental and social effects was considered (along with consideration of the potential for any regulatory compliance risks associated with the Habitats Regulations and WFD, as well as other statutory obligations). The environmental and social performance of each alternative strategy was used to help make decisions on which strategies to explore further through additional appraisal modelling and analysis, including SEA, HRA and WFD assessment. This assessment and decision-making process led to the development of the preferred strategy in each operational area.

Specific option-related recommendations for the final WRMP are identified below for each operational area.

Western area strategy

Due to the scale of the forecast supply deficit in the Western area, all feasible options were considered and the SEA findings (along with the HRA and WFD assessments) were actively used in reaching a decision on the final WRMP19 strategy.

Overall, the environmental assessment concluded that the final preferred programme has predominately minor to moderate adverse effects and negligible to minor beneficial effects. However, due to the scale of the forecast supply deficit and the relatively short period in which the deficit arises, it was not considered feasible to remove all options with the potential for material adverse environmental effects from inclusion in the preferred strategy. For these options, the SEA (and HRA and WFD assessments) were used along with consultation comments on the draft WRMP19, to refine the design of these options where feasible and incorporate mitigation measures.

In view of the challenges in the Western area, six strategic alternative options will also be further considered as part of the WRMP delivery programme for the Western area. These alternative options have been assessed and the SEA (alongside the HRA and WFD assessments)

The eleven supply-side options in the preferred strategy provide beneficial effects relating to the provision of additional reliable water supplies but are identified as having a number of adverse effects requiring further investigation and mitigation (e.g. re-routing pipelines or changing the location of new assets), as well as further developing the mitigation measures necessary to reduce the magnitude of the identified environmental effects. This includes the Fawley desalination plant, the import from Bournemouth Water and the Sandown WwTW indirect potable reuse options, all of which need to be delivered by 2027. These mitigation measures and the details of the further investigations are identified and documented in the Environmental Report.

As well as the adverse effects of options, the beneficial effects of options were considered to decide whether any options should be prioritised in view of the environmental or social benefits they may bring. This led to the decision to preferentially include the early implementation of further measures to reduce demand for water in the Western area.

SEA Finding/Output**How Integrated into the WRMP19**

concluded that these schemes have overall slightly greater adverse environmental effects (after consideration of mitigation measures) compared to the schemes that form the preferred programme.

Central area

All feasible options were considered and the SEA findings (along with the HRA and WFD assessments) were actively used in reaching a decision on the final WRMP19 strategy.

Overall, the SEA concluded that the final preferred strategy has predominately minor to moderate adverse effects and negligible to minor beneficial effects. The seven supply-side options include a strategic water reuse scheme and desalination scheme which both provide beneficial effects relating to the provision of additional reliable water supplies by reusing treated effluent and seawater, respectively, and thereby increasing resilience to the future effects of climate change. However, the SEA identified a number of adverse effects for these two schemes.

In view of the challenges in the Central area, four strategic alternative options will also be further considered as part of the WRMP delivery programme for the Central area: a larger coastal desalination option at Shoreham (up to 30MI/d), Tidal River Arun desalination (10MI/d), Brighton WwTW indirect potable reuse (10MI/d) and the Pulborough Winter Transfer Stage 1 scheme.

The strategic water reuse scheme (Littlehampton reuse) and desalination scheme (10MI/d Shoreham desalination plant) were identified by the SEA as presenting a number of adverse effects. A range of mitigation measures have therefore been identified to reduce the assessed effects on the environment and these will be further developed as part of the detailed planning and design of these two schemes. The mitigation measures and further investigations have been identified and documented in the Environmental Report.

The beneficial effects of options were considered to decide whether any options should be prioritised in view of the environmental or social benefits they may bring. This led to the decision to preferentially include the early implementation of further measures to reduce demand for water in the Central area.

River Adur offline reservoir was excluded from the Central area strategy due to its relatively greater adverse environmental effects compared to other alternative options.

The Brighton WwTW Indirect Potable Reuse option was initially removed as a strategic alternative option for the Central area due to significant concerns about impacts of the treated water pipeline route across the South Downs National Park and a sensitive terrestrial SAC. However, given the importance of ensuring a strategic alternative option was available for the Central area, the decision was taken to completely re-route the treated water pipeline along the same route as the treated effluent pipeline to avoid major adverse environmental effects.

Eastern area

All feasible options were considered and the SEA findings (along with the HRA and WFD assessments) were actively used in reaching a decision on the final WRMP19 strategy.

The strategy involves development of six water supply augmentation options. The Medway WwTW indirect potable water reuse scheme provides beneficial effects relating to the provision of additional reliable water supplies by reusing treated effluent, thereby increasing resilience to the future effects of climate change. However, the scheme has the potential for major

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Overall, the SEA concluded that the final preferred strategy has predominately negligible to minor adverse effects and negligible to minor beneficial effects. The Medway WwTW indirect potable water reuse scheme provides beneficial effects relating to the provision of additional reliable water supplies by reusing treated effluent, thereby increasing resilience to the future effects of climate change. However, the scheme has the potential for major adverse effects due to the pipeline construction work.

adverse effects relating to archaeology and cultural heritage due to the pipeline construction work – this will be addressed further in consultation with Historic England and local heritage asset owners and stakeholders through detailed planning, site surveys and detailed design/routing of the pipeline route. These activities will inform the development of any necessary mitigation measures to protect the heritage features and reduce the effects to acceptable levels.

One strategic alternative option will also be further considered as part of the WRMP delivery programme for the Eastern area: the Sittingbourne industrial water reuse scheme. The SEA (alongside HRA and WFD assessments) concluded that there may be moderate adverse effects during construction of this option after application of mitigation measures due to the proximity to important international wildlife sites, but mitigation would prevent any adverse effects on any European site.

The strategy includes an inter-zonal water transfer (to maximise the full existing transfer capacity from the Faversham area) and a bulk water import from South East Water, both of which were assessed as having potential moderate adverse effects to biodiversity, fauna and flora due to construction effects on sites of nature conservation interest, as well as to landscape and visual amenity within the Kent Downs Area of Outstanding Natural Beauty (AONB). These options will need to be further assessed during detailed design to develop appropriate mitigation measures to address these residual risks.

The River Stour desalination plant option in the Eastern area was removed from selection for the final strategy due to the risks identified in the SEA, HRA and WFD assessment about the effects on the Thanet Coast SAC and Thanet Coast and Sandwich Bay SPA and Ramsar site.

As well as the adverse effects of options, the beneficial effects of options were considered to decide whether any options should be prioritised in view of the environmental or social benefits they may bring. This led to the decision to preferentially include the early implementation of further measures to reduce demand for water in the Eastern area.

Effects on water quality and water resources, particularly in terms of WFD status

The West Chiltington groundwater abstraction option assessment indicated a potential for impacts on a surface water body and a groundwater dependent terrestrial ecosystem (GWDTE). The SEA concluded that the option would not result in any concerns about adverse effects on the SSSI or the River Chilt, subject to site specific investigations.

Further assessment of the hydrogeological connectivity between the groundwater source and these dependant ecosystems is required in order to confirm the SEA conclusion.

Effects on biodiversity, fauna and flora

Sandown WwTW indirect potable water reuse scheme, Pulborough winter transfer scheme Stage 2, Littlehampton WwTW indirect potable water reuse scheme and the South East Water to Canterbury scheme have all had amendments to pipeline routes to avoid adverse effects to sensitive habitats.

Further optimisation of the pipeline routes will be undertaken at the detailed planning stage to determine if residual effects on sensitive features can be avoided or reduced further. If not, a suitable mitigation and compensation package will need to be developed, and opportunities for

SEA Finding/Output

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The Fawley desalination scheme has had revisions to its outline design to reduce the risks of adverse effects and mitigation measures have been proposed. Further information was requested by Defra in March 2019, with regards the viability of the Fawley desalination option. Southern Water provided more details as to how it is addressing the uncertainties and environmental risks with this scheme, as set out in the Addendum to the Statement of Response published in June 2019 and included in the final WRMP19 SEA Environmental Report.

biodiversity enhancements will need to be explored.

With respect to the Fawley desalination scheme, it is identified that through closely working with Natural England and the Environment Agency a range of site surveys will be undertaken to inform the detailed design of mitigation measures through the proposed Western area WRMP19 Steering Group and scheme-specific Working Groups.

Effects on archaeology and cultural heritage

There are designated archaeological and cultural heritage assets that could be at risk in all the operational areas from delivery of WRMP19. For example, for the revised Pulborough winter transfer stage 2 option there are two Scheduled Monuments close to the proposed pipeline route. There are several areas with archaeological importance within 2km of the Littlehampton WwTW indirect potable water reuse option pipeline routes. The major adverse effects regarding the Medway WwTW indirect potable water reuse scheme relates to the fact that the outline scheme for the pipeline route passes through a Scheduled Monuments.

It is identified that further investigation and liaison with Historic England (and heritage asset owners) is required, as well as confirmation of appropriate mitigation measures such as amendment of some pipeline routes during the detailed design stage.

It may be the case that, due to the length of some of the proposed pipelines, there remains a risk of damaging undiscovered archaeological remains. A watching brief, surveys and investigation during construction activities would minimise risk of harm to unknown assets in dialogue with Historic England.

Effects on landscape and visual amenity

Some of the strategic schemes in the WRMP19 will involve construction within, or in close proximity to, designated landscapes (e.g. South Downs National Park, Kent Downs AONB).

Schemes that will result in permanent development within designated landscapes and outside of existing Southern Water sites, include parts of the Pulborough winter transfer stage 2 option scheme and parts of the Littlehampton WwTW indirect potable water reuse option (in relation to the South Downs National Park). The South East Water to Canterbury import scheme in the Eastern area would involve some pipeline construction within the Kent Downs AONB.

Effects on landscape and visual amenity would be mitigated as far as possible by further amendment of pipeline routes during the detailed design stage for avoidance of key landscape features such as veteran trees and hedgerows, as well as returning the visual and physical integrity of the landscape as closely as possible to its previous condition after construction has been completed. Where options would result in the development of permanent above ground features, these should be designed to blend with the existing landscape as far as possible with the careful selection of construction materials, although there are few proposed developments of permanent, above ground features outside of our existing operational sites.

Littlehampton WwTW indirect potable water reuse option includes large sections of the proposed transfer pipeline which would be sited in the South Downs National Park. Potential impacts of the pipeline will be during the construction phase and include excavation

Impacts could be mitigated through the detailed routing of the pipelines and use of construction best practice methods. Mitigation measures (such as avoidance of landscape features and screening) will lessen these adverse effects. Full consultation will be required with the National

SEA Finding/Output**How Integrated into the WRMP19**

works, temporary lighting and the presence of a workforce with associated transport (HGVs).

The South East Water to Canterbury import scheme would involve some pipeline construction within the Kent Downs AONB. The only permanent development within the AONB, outside of our existing sites, relates to two new booster pumping stations associated with the existing Faversham main that is within the AONB.

Park Planning Authority, AONB committee and Natural England to further discuss mitigation measures.

4. Consultation on the SEA

4.1 Introduction

The SEA Regulations require consultation at the SEA Scoping stage and on the assessments as documented in the SEA Environmental Report. Consultation with the statutory bodies defined by the Regulations is mandatory at both stages, although consultation with the public is only mandatory at the Environmental Report stage. The SEA Regulations define the statutory consultation bodies according to the spatial extent of the plan. If a plan will only affect England, the consultation bodies are the Environment Agency, Natural England and Historic England. If the plan may affect other parts of the UK, the consultation bodies are widened to reflect this. The Scoping Report was issued on 28 April 2017 to the Environment Agency, Natural England and Historic England as the WRMP19 options would not affect any other nation states of the UK. The Scoping Report was made available to the public via the Southern Water website and issued to a range of consultees as part of Southern Water's stakeholder engagement activities in developing the WRMP19.

The SEA Environmental Report was published and issued for consultation in March 2018 alongside the draft WRMP19, providing a useful reference point for consultees to express their views on the environmental aspects of Southern Water's draft plan. Comments relating to the SEA Environmental Report, the SEA process and on the draft WRMP19 were responded to by Southern Water in its Statement of Response published in September 2018, and sent to all respondees to the consultation. A revised draft WRMP19 was submitted to Defra in September 2018 alongside the Statement of Response which reflected the responses. Updates to the SEA, HRA and WFD assessment were made to reflect these updates. In March 2019, a request for further information was received from Defra relating specifically to the Western area strategy and requesting assurances that the preferred strategy can be delivered. A meeting was held with the Environment Agency in March 2019 to discuss and clarify the requirements for the further information requested by Defra. An Addendum to the Statement of Response was published addressing the questions posed by Defra in June 2019. Following these further updates, the Secretary of State gave permission for the plan to be published in November 2019 and the final WRMP19 was published on the Southern Water website in early December 2019. An updated version of the SEA Environmental Report was issued to accompany the final WRMP19, in particular to incorporate the additional information on the Western area included in the Addendum to the Statement of Response.

This SEA 'Post Adoption' Statement sets out how the SEA and any views expressed by the statutory consultation bodies or the public have influenced the final WRMP19. Table 4.1 lists the main documents relating to the WRMP19 environmental assessments and provides their publication dates.

Table 4.1 SEA consultation activities and consideration in the WRMP19

Document	Date	Purpose
SEA Scoping Report	April 2017	Issued to public and statutory bodies as a vehicle for consultation on scope and approach for SEA
Draft Water Resources Management Plan 2019 (WRMP19)	March 2018	Issued for formal consultation to understand the views and priorities of customers and stakeholders.

Document	Date	Purpose
SEA Environmental Report for the draft WRMP19	March 2018	Issued with the Draft WRMP19 to document the environmental assessments supporting the Draft Plan.
HRA Report for Draft WRMP19	March 2018	Issued to fulfil Habitats Directive requirements for the draft WRMP19.
WFD Compliance Assessment Report for Draft WRMP19	March 2018	Produced to fulfil WFD objectives and statutory requirements for the draft WRMP19.
Statement of Response (SoR)	September 2018	Responded to the comments received from consultation on the Draft WRMP19.
Revised draft Water Resources Management Plan 2019	September 2018	Issued to Defra, not published. Amended to take account of the changes made as a result of the public consultation.
SEA Environmental Report for the revised draft WRMP19	September 2018	Issued to Defra, not published. Amended to take account of the changes made as a result of the public consultation and also the changes made in the Revised Draft WRMP19.
HRA Report for revised draft WRMP19	September 2018	Issued to Defra, not published. Amended to take account of the changes made as a result of the public consultation and also the changes made in the Revised Draft WRMP19.
WFD Compliance Assessment Report for the revised draft WRMP19	September 2018	Issued to Defra, not published. Amended to take account of the changes made as a result of the public consultation and also the changes made in the Revised Draft WRMP19.
Defra letter requesting further details on Western area strategy	March 2019	Issued to Defra, not published. Instruction to provide further details on the Western area strategy and to publish these as an Addendum to the Statement of Response (SoR)
Addendum to the Statement of Response published	June 2019	Addendum to the Statement of Response (SoR) published setting out the further information requested by Defra
Secretary of State letter of approval for WRMP19	November 2019	Instruction to publish final WRMP19 in accordance with Regulation 6 of the Water Resources Management Plan Regulation 2007
Final Water Resources Management Plan 2019 (Final WRMP19)	December 2019	Final WRMP19 published, incorporating the further information requested by Defra in March 2019
SEA Environmental Report for the Final WRMP19	December 2019	Produced with the final WRMP19 to document the environmental assessments supporting the Final WRMP19, incorporating the further information requested by Defra in March 2019
HRA Report for the Final WRMP19	December 2019	Produced to fulfil Habitats Directive requirements for the final WRMP19 and incorporating the further information requested by Defra in March 2019
WFD Compliance Assessment Report for Final WRMP19	December 2019	Produced to fulfil WFD objectives and statutory requirements for the final WRMP19
SEA Post Adoption Statement	January 2020	Sets out how the SEA and any views expressed by the consultation bodies or the public have influenced the final WRMP19

4.2 Consultation on the draft WRMP19

The responses to the consultation on the draft WRMP19 which relate to the SEA, HRA and WFD are included in the Statement of Response published on Southern Water's website in September 2018 at:

<https://www.southernwater.co.uk/our-story/water-resources-planning/water-resources-management-plan>

The SEA Environmental Report, HRA Report and WFD Compliance Assessment Report for the final WRMP19 took account of the comments made by consultees and the Statement of Response, as well as the request from Defra in March 2019 for further information on the Western area strategy.

5. Rationale for selection of options for the final WRMP19

5.1 Option level alternatives

All feasible list options, including both demand and supply options, were subject to assessment against the SEA framework. In this way, viable alternatives were assessed at the option level. This in turn informed the evaluation and the development of a range of alternative WRMP strategies, and the assessment of potential cumulative effects between options in each of these alternative strategies. Applying the SEA framework to these alternative strategies helped to inform decision making on the draft and final WRMP19 strategies and the plan as a whole.

5.2 Programme level alternatives

The feasible list of options was taken forward into the investment model which was used to support the decision making processes and the development of the portfolio of schemes that comprise the WRMP19 strategy for each operational area.

As part of the SEA process, a review of Southern Water's existing water sources was undertaken to identify any sources that pose significant environmental risks, and which may need to be considered for reduced operation or even no operation in the future with new alternative source options developed to replace them. The findings of the SEA of existing water sources was also taken into consideration in making decisions on the WRMP strategies for each operational area.

The development of the WRMP strategies also included consideration of the environmental effects of the various Drought Order and Drought Permit options contained in Southern Water's Drought Plan 2019, drawing on the findings of the SEA of the Drought Plan. In this way, Southern Water was able to weigh up the relative environmental effects of developing new water sources to provide improved water supply resilience in drought conditions compared to reliance on Drought Orders or Permits to maintain essential water supplies in drought. This information was actively used to help support decisions on the role and frequency of use of Drought Orders and Permits in the WRMP strategies for each operational area over the planning period.

The alternative strategies considered for the WRMP19 were tested by, for example, modifying assumptions about availability of certain options such as Drought Orders, or factoring in potential delays to the delivery of options, to progress understanding of the impacts that different alternative strategies may have on the environment. The environmental and social performance of each alternative strategy was used to help make decisions on which strategies to explore further through the 'Real Options' modelling process and to finally determine the appropriate strategy for inclusion in the final WRMP19. Where appropriate, modifications to the potential strategy were made as part of this process where environmental and social effects were considered to potentially lead to substantive major adverse effects that would be challenging to promote.

Once the final strategy had been determined, a final SEA was carried out to examine whether there were any cumulative effects from construction and/or operation with other plans or programmes, and whether further mitigation measures may need to be adopted.

The programme appraisal process was undertaken for the three operational areas (Eastern, Central and Western) and is explained in full in Section 7 of the final WRMP19 Technical Overview.

By integrating environmental and social assessment into the development of the WRMP19, a long term sustainable water resource plan has been produced that in particular:

- maintains water supply reliability and resilience for Southern Water's customers without unacceptable adverse effects on the environment or local communities
- ensures the use of Drought Orders and Drought Permits to temporarily modify abstraction licence conditions is restricted to only extreme drought conditions in the longer term (beyond the 2020s).

As well as protecting the environment, the WRMP19 provides opportunities for environmental enhancement through various measures, in particular:

- reducing water abstraction from a number of existing water sources where there is a risk of adverse effects on the water environment
- actively pursuing further measures to reduce leakage from the water supply system and customer properties, reducing water abstraction from the environment
- extending water metering to more customers and helping customers reduce their demand for water to achieve Southern Water's long-term target of reducing water consumption to an average of 100 litres per person per day
- implementing catchment management measures that will enhance catchment land quality and water quality in local rivers and groundwater
- catchment and in-river restoration measures for the lower River Test and lower River Itchen to increase the environmental resilience of these two rivers to the effects of abstraction, particularly at times of low river flow.

6. Monitoring of the WRMP19

6.1 Role of SEA in programme appraisal and WRMP19 decision-making

The SEA Regulations require the responsible authority (in this case, Southern Water) to:

'monitor the significant environmental effects of the implementation of each plan or programme with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action.'

The natural, built and human receptors potentially impacted by the development and operation of the options included in the WRMP19 strategies and possible indicators of effects have been set out in Table 6.1. These proposed indicators form the core component of a monitoring programme to assess whether the identified effects in the SEA are occurring as anticipated, or whether it is giving rise to greater or lesser effects (adverse or beneficial). In turn, the monitoring may identify changes to the mitigation measures necessary to minimise adverse effects and/or modifications to scheme design or operation to further augment beneficial effects.

For biodiversity, flora and fauna, as the supply schemes move into the detailed design stage, a range of detailed surveys will be required for HRA, WFD and other environmental regulatory requirements. For example, Protected Species surveys will be carried out to confirm the presence or absence of Protected Species. Where Protected Species are identified, we will follow Natural England's Standing Advice for Protected Species and consult further with Natural England to discuss how the scheme design and operation can be optimised to avoid adverse effects on the relevant species.

Table 6.1 SEA monitoring indicators for WRMP19

Impacted receptor	Monitoring indicators
Water resources, water quality, biodiversity	Proportion of surface waters and groundwater waterbodies at 'Good' WFD status Specific species and habitats surveys for each new supply option Condition of European Sites and SSSIs according to Natural England condition assessments Progress against the Southern Water biodiversity action plan
Climate factors	Net greenhouse gas emissions per MI (million litres) of treated water (kg CO2 equivalent emissions per MI) reported annually by Southern Water
Transport	Transport fleet fuel consumption, emissions and mileage, as monitored routinely by Southern Water
Nuisance / community	Scheme level community disruption due to construction works / during operation (where applicable) would be monitored through an Environmental Management Plan agreed as part of the planning permission process Complaints logged with Southern Water and Local Authority Environmental Health Officers or equivalent Responses gauged through customer satisfaction surveys and reported in Southern Water's annual performance processes

Impacted receptor	Monitoring indicators
Air quality	Scheme-specific monitoring during construction works / during operation (where applicable) would be monitored through an Environmental Management Plan agreed as part of the planning permission process Changes in air quality as monitored by the Defra and/or local authorities, including using this data to establish the baseline conditions.
Landscape and visual amenity	Baseline, construction phase and operational phase Landscape and Visual Impact Assessments or equivalent assessment techniques of sensitive landscapes and visual amenity identified in the SEA (and subsequent planning application submissions) as being at a major or moderate adverse effect. Assessments to be carried out in consultation with appropriate bodies, such as the National Park Planning Authorities, relevant AONB committees and Natural England. These surveys will aid planning and evaluation of the success of proposed mitigation measures to reduce adverse effects on landscape and visual amenity.
Cultural heritage	Condition of buried archaeology would be monitored during construction works as part of a watching brief and associate response measures as set out in the Environmental Management Plan agreed as part of the planning permission process. Consultation with Historic England, heritage asset owners and other relevant stakeholders to ensure adverse impacts are minimised and opportunities sought for heritage discovery and/or maintenance. Reference to Historic England's monitoring of heritage assets such as Listed Buildings and Scheduled Monuments, Registered Battlefields, Registered Parks and Gardens, in particular the 'Heritage at risk' register.

Monitoring recommendations are based on the current understanding of the option design. As options are brought forward for development, further specific monitoring requirements will be set out in detailed designs and plans accompanying scheme development (including, where applicable, formal applications for any required environmental permits or abstraction licences, planning permission, as well as any scheme-specific HRA and WFD assessments). These will be discussed with relevant regulatory and statutory bodies and stakeholders to agree the appropriate scale and duration of such scheme-specific monitoring activities proportionate to the assessed environmental risks.

7. Availability of documents

The adopted final WRMP19 and accompanying final SEA Environmental Report is available on Southern Water website at:

<https://www.southernwater.co.uk/our-story/water-resources-planning/water-resources-management-plan-2020-70>

The documents are also available for inspection at:

Southern Water
Southern House
Yeoman Rd
Worthing
BN13 3NX

If you would like to request copies of the final WRMP19 or associated documentation, or book an appointment to review those available at Southern House, please email wrmp@southernwater.co.uk.

Appendix A – Post Adoption Procedures

Part 4 of the Environmental Assessment of Plans and Programmes Regulations 2004 requires Southern Water 'as soon as is reasonably practicable' after the adoption of the WRMP19 to:

1. Make a copy of the final WRMP19 and SEA Environmental Report available at its principal office for inspection by the public at all reasonable times and free of charge;
2. Notify the public and potentially affected parties of their availability;
3. Inform the statutory consultees and other parties who responded;
4. Issue a statement containing:
 - How environmental considerations have been integrated into the WRMP19;
 - How the environmental report has been taken into account;
 - How consultation responses have been taken into account;
 - The reasons for choosing the WRMP as adopted;
 - Measures to monitor the significant environmental effects of the WRMP.

Requirements 1 to 3 have been fulfilled by the publication of the final WRMP19 and SEA documents on Southern Water's website and informing all consultees of the publication.

The publication of this document fulfils Requirement 4.