



Ricardo  
Energy & Environment

# Strategic Environmental Assessment of Yorkshire Water's Final Drought Plan 2019

Post Adoption Statement

Report for Yorkshire Water

**Customer:**

Yorkshire Water Services Limited

**Customer reference:**

SEA of Drought Plan 2019: Post Adoption Statement

**Confidentiality, copyright & reproduction:**

This report is the Copyright of Yorkshire Water. It has been prepared by Ricardo Energy & Environment, a trading name of Ricardo-AEA Ltd, under contract to Yorkshire Water dated 28/10/2019. The contents of this report may not be reproduced in whole or in part, nor passed to any organisation or person without the specific prior written permission of Yorkshire Water. Ricardo Energy & Environment accepts no liability whatsoever to any third party for any loss or damage arising from any interpretation or use of the information contained in this report, or reliance on any views expressed therein.

**Contact:**

Anne Fairhead  
Bright Building, First Floor  
Manchester Science Park  
Pencroft Way  
Manchester M15 6GZ

t: +44 (0) 1235 75 3488

e: [anne.fairhead@ricardo.com](mailto:anne.fairhead@ricardo.com)

**Author:**

Leo Ingvorsen, Anne Fairhead and Ben Gouldman

**Approved By:**

Liz Baker

**Date:**

22/05/2020

**Ricardo Energy & Environment reference:**

Ref: ED13097 - Issue Number 3

---

## Table of Contents

<b>1</b>	<b>Introduction.....</b>	<b>1</b>
1.1	Background to the Drought Plan .....	1
1.1.1	The SEA Process .....	1
1.1.2	Purpose of the SEA Post Adoption Statement.....	1
<b>2</b>	<b>How Environmental Considerations have been integrated into the Drought Plan 2</b>	
<b>3</b>	<b>How the Environmental Report Influenced the Drought Plan.....</b>	<b>4</b>
<b>4</b>	<b>Consultation and Updates since the Draft Drought Plan .....</b>	<b>5</b>
4.1	Consultation on the SEA .....	5
4.2	Consultation Responses .....	5
<b>5</b>	<b>Mitigation and Monitoring of the Drought Plan.....</b>	<b>10</b>
5.1	Overview.....	10
5.1.1	Mitigation Measures.....	10
5.1.2	Monitoring Requirements .....	11
<b>6</b>	<b>Availability of Documents .....</b>	<b>12</b>
	<b>Appendix A SEA Post Adoption Procedures .....</b>	<b>13</b>

# 1 Introduction

## 1.1 Background to the Drought Plan

Under the Water Industry Act 1991, Yorkshire Water Services Limited ('Yorkshire Water') is required to prepare and update a Drought Plan for the approval of the Secretary of State for Environment, Food and Rural Affairs and to make the draft plan available for public consultation. The Drought Plan provides a comprehensive statement of the actions Yorkshire Water will consider implementing during drought conditions to safeguard essential water supplies to customers and minimise environmental impact. It is consistent with Yorkshire Water's Water Resources Management Plan (WRMP), the objective of which is to set the strategic plan for ensuring a supply-demand balance over a 25-year planning period.

Yorkshire Water produced a draft Drought Plan in 2017 and held consultations in accordance with the Environment Agency Drought Plan Guidelines (DPG)<sup>1</sup> in 2018. Following the period of public consultation and preparation of the Statement of Response, Yorkshire Water's revised draft Drought Plan 2018 was published in June 2018. However, in December 2018, Yorkshire Water applied for two new drought permits which were not previously options in the Drought Plan. This constituted a material change to the Drought Plan and consequently, YWSL issued a formal letter to the Environment Agency, Natural England and Historic England, with its proposed approach for updating the revised draft Drought Plan. Following preparation of the draft Drought Plan 2019, and its associated Strategic Environmental Assessment (SEA), a further period of public consultation was held between 15 August and 26 September 2019. A Statement of Response to the comments received during the consultation, and how they were addressed, was prepared and submitted at the end of November 2019. The Final Drought Plan 2019 was published on 22 May 2020.

### 1.1.1 The SEA Process

Yorkshire Water's final Drought Plan 2019 has been subject to Strategic Environmental Assessment (SEA) in compliance with the SEA Directive, as transposed in England by The Environmental Assessment of Plans and Programmes Regulations 2004 (referred to as the 'SEA Regulations'). The SEA Environmental Statement was issued for public consultation alongside the draft Drought Plan 2017 from 22 January to 19 March 2018 and alongside the draft Drought Plan 2019 plan from 15 August to 26 September 2019. The SEA Environmental Report was then finalised in December 2019 in light of comments received, as set out in the Drought Plan Statement of Response<sup>2</sup>. Following approval of the Drought Plan for publication by the Secretary of State, this SEA Post-Adoption Statement is being issued to accompany the published plan.

### 1.1.2 Purpose of the SEA Post Adoption Statement

This SEA Post Adoption Statement is produced in accordance with the provisions of Part 4 of the SEA Regulations (see **Appendix A**). In accordance with Regulation 16 of the SEA Regulations, this SEA Post Adoption Statement describes:

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

<sup>1</sup> Environment Agency (2017) *How to write and publish a drought plan*, April 2017. Available at <https://www.gov.uk/government/collections/how-to-write-and-publish-a-drought-plan>. Accessed 1 December 2019

<sup>2</sup> Yorkshire Water, 2019, Statement of Response to representations on the Yorkshire Water draft Drought Plan 2019. Available at: <https://www.yorkshirewater.com/resources>. Accessed November 2019.

## 2 How Environmental Considerations have been integrated into the Final Drought Plan

The DPG requires that a drought plan sets out what actions a company will take before, during and after drought to maintain a secure supply of water. It also sets out how a company will assess the environmental effects of its actions to maintain supply and what actions will be taken to mitigate for any damage. The drought plan must set out how to monitor the effects of the actions taken under the drought plan. The plan must also set out what mitigation and compensation measures will be carried out to minimise the impact of the actions on the environment.

Yorkshire Water's Drought Plan contains 64 drought options ranging from potential supply-side and demand-side drought management options available to Yorkshire Water. For example, these include bringing reserve water sources into use, enhancing the capacity of supply assets to maximise use of available supplies, implementation of drought permits or drought orders and imposing temporary use bans. Environmental considerations were incorporated into the development of Yorkshire Water's Drought Plan from the outset, in particular, carrying out drought contingency planning studies, and preparing environmental screening reports and Environmental Assessment Reports for a wide range of supply-side drought options.

The overall scope of the Environmental Assessment Reports met the requirements of the DPG, including information on likely changes in flow/level regime, assessment of likely impact on features that are sensitive to these changes and mitigation measures that may be required to prevent or reduce impacts on sensitive features. This work was carried out in consultation with the Environment Agency and Natural England, as well as a number of other interested parties and stakeholders.

SEA Screening confirmed that Yorkshire Water's Drought Plan required both SEA and Habitats Regulations Assessment (HRA). Information from the detailed environmental assessments was used to inform both the SEA and HRA.

The HRA of Yorkshire Water's Drought Plan was undertaken in parallel with the SEA and is reported separately in the HRA Screening Report. The HRA screening process identifies whether each drought option in the drought plan (either alone, in combination or with other plans or projects) is likely to have significant effects on European designated sites, i.e. sites of international conservation importance. The findings of both the SEA and HRA have fed into the revision of the Drought Plan in an iterative process.

The SEA reviewed all the environmental and social effects of the full range of drought options included in Yorkshire Water's draft Drought Plan. Due to the nature of the consenting system for drought actions, a Drought Plan must include all measures that the company may progressively need to take as the severity of a drought increases, including those that would only be needed in the worst possible drought. These measures will typically have very significant environmental effects, but are extremely unlikely to be required during the 5-year lifetime of the Drought Plan. As a result, Drought Plans generally encompass a basket of measures that will only be implemented when required because of the unpredictable occurrence of a drought event, and thus the actual impact of the plan over its life is subject to significant uncertainties. Yorkshire Water's Drought Plan therefore includes a range of possible measures to allow Yorkshire Water to respond to a drought in the most appropriate way.

Because of the differing nature of droughts and differing response of the range of available water sources to the characteristics of an ensuing drought, it is impossible to predict in advance which and how many of the measures will actually be required. However, there are numerous factors that help inform the anticipated priority of selection. For example, with respect to options requiring a drought permit or drought order, the potential for increased resource availability, raw water quality, network capability and likely environmental effects are taken into consideration.

The effects identified by the SEA were integrated into the draft Drought Plan 2019 issued to Defra in June 2019. Further consideration of environmental effects and prioritisation of options were made in response to consultation responses as described in the Statement of Response. The outputs of the

---

SEA provided a comparative assessment of the environmental effects of implementing each drought option. Yorkshire Water would use these along with operational factors, to determine the order of implementation of each drought action for each particular drought event. For example, the SEA assists in the identification of the likely significant environmental effects of Yorkshire Water's drought options and determines how any adverse impacts might be mitigated. The SEA also provides information on the relative environmental performance of alternatives, and is intended to make the decision-making process more transparent. The SEA can, therefore, be used to support the timing and implementation of drought options within the Drought Plan.

### 3 How the Environmental Report Influenced the Drought Plan

The findings of the SEA Environmental Report (and associated HRA Screening) have been used by Yorkshire Water to help inform the development of its Drought Plan. The scale and magnitude of adverse and beneficial effects identified by the SEA for each potential drought management measure have been used to determine the phasing and timing of the implementation of each measure against a series of drought management triggers based on reservoir storage levels. Measures identified by the SEA as having mostly negligible or minor adverse effects have been selected by Yorkshire Water to be implemented ahead of those measures identified with more significant adverse effects (as identified in Section 2.6 of the Final Drought Plan 2019).

As stated in Section 2, the Drought Plan does not define specific programmes of measures which the SEA can influence (as is the case with WRMPs). However, information from the Environmental Report and the HRA Screening Report was used, together with operational considerations, to assist in assigning order of implementation in a drought as well as the inclusion and exclusion of options. This information comprised effects of the individual options and cumulative effects within and between relevant Environment Agency's local and national drought plans; with existing Yorkshire Water abstractions; and with neighbouring water company Drought Plans.

When deciding long-term options to implement (of which there are currently nine in total), a range of criteria would be considered, including the location of the option and drought, cost and supply benefit as well as the environment. The environmental assessment of long-term options would be completed in time to allow informed selection. The SEA flagged the potential for environmental impacts as a result of the implementation of the Tees to Swale Transfer option and enabled Yorkshire Water to address the concerns raised in the consultation feedback. Through undertaking a comparison of the nine alternative long-term drought options, this strengthened the resilience of measures available.

Therefore, in the event of a drought, the SEA provides an additional information source and a comparative assessment of the environmental effects of implementing each drought option, including the potential for cumulative effects. When the Drought Plan is implemented during an actual drought event, Yorkshire Water will monitor its effects on the environment, helping to ensure that the potential impacts identified in the SEA are considered in practice.

## 4 Consultation and Updates since the Draft Drought Plan

### 4.1 Consultation on the SEA

The SEA process comprised several consultation stages, as follows:

- An SEA Scoping Report was issued on the 26 August 2016 to statutory consultees and opinions were sought on the proposed scope and level of detail proposed for the SEA until 30 September 2016.
- The SEA Environmental Report was published for both statutory and public consultation with the draft Drought Plan 2017 on Yorkshire Water's website from 22 January to 19 March 2018 and alongside the draft Drought Plan 2019 from 15 August to 26 September 2019. A draft HRA Screening Report and the non-technical summary were published at the same time.
- A Statement of Response, including responses to comments on the 2017 SEA Environmental Report and the HRA Screening Report, was published on Yorkshire Water's website in May 2018. A Statement of Response, including responses to comments on the 2019 SEA Environmental Report and the HRA Screening Report, was published on Yorkshire Water's website in November 2019.
- The SEA Environmental Report and SEA Post Adoption Statement will be published with the Final Drought Plan 2019 on Yorkshire Water's website in May 2020. The final HRA Screening Report is included as Appendix 6, within Yorkshire Water's Drought Plan 2019.

Changes to the Drought Plan made as a result of consultation are described in the Statement of Response and changes to the SEA made as a result of consultation are summarised in Section 4.2.

### 4.2 Consultation Responses

Yorkshire Water published its Draft Drought Plan in August 2019 and received a number of responses during the consultation period, which ran from 15 August to 26 September 2019. In November 2019, Yorkshire Water published a Statement of Response setting out how representations have been taken into account and the amendments to the Drought Plan made as a result.

**Table 4.1** lists a summary of the representations that relate to the SEA and the resulting changes as set out in the 2018 Statement of Response and 2019 Statement of Response.

**Table 4.1 Extract from Statement of Response (SoR): Summary of Drought Plan Representations Relating to the SEA and Changes Made**

SoR	From	Comment	Yorkshire Water's response	Changes Made in Environmental Report
2018	Environment Agency	<p>Recommendation 2 - Provide further clarity on changes to the Strategic Environmental Assessment (SEA) and clearly identify any resulting implications.</p> <p>Issue 2.1 - To identify clearly key environmental effects that will result from implementation of actions within the draft drought plan.</p> <p>YWS need to explain what has changed in the assessments to cause such large-scale changes in the SEA outcomes and justify the decisions reached with regard to the Environment Agency's long-held concerns regarding cross-catchment river transfers and INNS risks.</p> <p>The draft Drought Plan (s3.10 p43) should be reviewed in line with this work.</p>	<p>For the latest SEA, certain objectives have been modified slightly to better reflect best practice guidelines; this includes the biodiversity category, which has been split into two sub-categories. Therefore, some individual impact criteria and objective assessments may have changed slightly, although this should be viewed in the context of the overall SEA, for which the overall messages remain the same. The long-term drought options have only been subject to environmental screening (rather than full EAR). In the event of a long-term drought, these options would be subject to detailed environmental assessment (including Environmental Impact Assessment, where necessary). which would incorporate mitigation measures for adverse impacts, where possible.</p> <p>In the draft plan, minor impacts on biodiversity were</p>	<p>Assessment outcome for objective 1.2 'To avoid introducing or spreading INNS' been changed to major for the Tees – Swale transfer long-term option.</p>

SoR	From	Comment	Yorkshire Water's response	Changes Made in Environmental Report
			<p>identified in the SEA for the Tees to Swale river transfer option. The screening assessment did identify potential impacts on NERC species due to Crayfish plague. With specific reference to the concerns regarding river transfers/INNS, on reflection, we agree the bio-diversity category should be amended to major and the final Drought Plan will reflect this. This should be viewed in the context of the SEA overall and the adverse/beneficial impacts across all categories. For the Tees-Elvington pipeline, we consider the major adverse impact regarding resource use, is appropriate given the requirement to construct a 50km pipeline to implement this option.</p> <p>We do not consider the SEA to definitively prioritise one of the Tees options above the other in our Drought Plan, as factors other than the SEA would be considered when making decisions on significant</p>	

SoR	From	Comment	Yorkshire Water's response	Changes Made in Environmental Report
			<p>infrastructure investments in a drought situation. The INNS objective, mentioned above, for the Tees to Swale river transfer would influence our decision but we would also take into account possible mitigation measures. The purpose of SEA is to provide high level and strategic overview of potential environmental effects, and options involving significant infrastructure (including the river-transfers) would likely be accompanied by regulatory engagement/consultation and with detailed Environmental Impact Assessments at the time of implementation.</p> <p>We have not made any changes to Section 3.10 of the final Drought Plan in regard to Issue 2.1. Both Tees options remain as drought options in our final Drought Plan.</p>	
2018	Natural England	Potential assessment errors - The assessments identifying 'moderate adverse impacts' i.e. for lamprey or level of detail is	Moderate impacts on river lamprey and sea lamprey were identified for some river abstractions in the Environmental Assessment	None required.

SoR	From	Comment	Yorkshire Water's response	Changes Made in Environmental Report
		so coarse (NERC fish species) in the SEA screening tables, but the assessment can't conclude anything though for the HRA screening concluded no LSE, the two don't reconcile with each other. There may be a subtle differentiation that may need to be clearly defined.	Reports and the SEA. These impacts, however, were identified as short-term and reversible. As such, in undertaking the HRA screening, the impacts were not considered to be of a magnitude that will result in LSE on European sites. This includes the assessment of the long-term options which are associated with the Humber Estuary.	
2019	Environment Agency	Comments were received on other aspects of the draft Drought Plan 2019 environmental assessment (e.g. drought permit Environmental Assessment Reports) however there were no comments of relevance to the SEA.	N/A	N/A

## 5 Mitigation and Monitoring of the Drought Plan

### 5.1 Overview

Consideration of mitigation measures and monitoring of potential effects has been an integral part of the SEA process. Key stages of the SEA process include Task B5: *Mitigating adverse effects*, Task B6: *Proposing measures to monitor the environmental effects of plan or programme implementation* and Stage E: *Monitoring the significant effects of the plan or programme on the environment*. The SEA Directive also requires the significant environmental effects of implementing a plan to be monitored. The sections below describe:

- how these tasks have been addressed;
- how Yorkshire Water intend to ensure that the mitigation measures and monitoring plans are implemented for any adverse effects that are identified; and
- the means by which the environmental performance of the Final Drought Plan 2019 can be assessed.

#### 5.1.1 Mitigation Measures

Mitigation may be defined as a measure to limit the effect of an identified significant impact or, through the most successful application, avoid the adverse impact altogether, the latter being the preferred option.

Consideration of mitigation measures has been an integral part of the SEA process. The SEA appraisals have been based on residual impacts, i.e. those impacts likely to remain after the implementation of reasonable mitigation. Certain assumptions have been made regarding this:

- Where suitable mitigation measures are known and identified (e.g. as informed through environmental assessment reports, where available, or Yorkshire Water's drought management option forms, within the Drought Plan, these have been taken into account, such that the resultant residual impact has been determined.
- In line with recommendations made in the UKWIR SEA Guidance<sup>3</sup>, the SEA appraisals have assumed the implementation of reasonable mitigation, such as the use of good construction practice. This is particularly applicable to stood down supply-side options which are currently non-commissioned and which do not operate as 'business as usual', and would require recommissioning in the event of use as a drought option.
- Mitigation is an implicit component of abstraction licences which are issued and reviewed by the Environment Agency based on an assessment of the potential impacts on the environment. This is applicable to all supply-side options which are actions within existing abstraction licence limits which have been subject to the Environment Agency's Review of Consents process.

During implementation of a specific drought option, appropriate monitoring will be undertaken to track any potential environmental effects which will, in turn, trigger deployment of suitable and practicable mitigation measures.

However, no mitigation is proposed for abstraction licences which are issued by the Environment Agency based on an assessment of the potential impacts on the environment. These licences already contain flow constraints at low flows or conditions associated with an operating agreement. This is

---

<sup>3</sup> UKWIR (2012) *Strategic Environmental Assessment and Habitats Regulations Assessment of Drought Plans* (UKWIR Project WR/02/A). Prepared by Cascade Consulting.

---

applicable to all supply-side options which would operate with existing abstraction licence limits which have been subject to the Environment Agency's Review of Consents process.

### 5.1.2 Monitoring Requirements

Monitoring is required to track the environmental effects to show whether they are as predicted, to help identify any adverse impacts and trigger deployment of mitigation measures.

Drought Plans encompass a basket of measures that will only be implemented if and when required because of the unpredictable occurrence of a drought event, and thus the actual impact of the plan over its life is subject to very significant uncertainties.

Yorkshire Water's final Drought Plan 2019 includes a range of possible measures to allow Yorkshire Water to respond to a particular drought in the most appropriate way. It is impossible to predict in advance which and how many of the measures will be required, and in which order of priority, to respond to each particular drought event. Correspondingly, it is therefore difficult to prescribe monitoring for the effects of the Drought Plan as a whole, and more appropriate to consider monitoring for drought options with significant environmental effects should these options be implemented during an actual drought.

Environmental assessment reports have been produced alongside detailed Environmental Monitoring Plans (EMPs). Monitoring requirements are also summarised in the Drought Plan drought management action forms (see Appendix 5 of the final Drought Plan). The DPG requires the environmental assessment and EMPs to be updated regularly. Yorkshire Water are currently reviewing baseline monitoring requirements in collaboration with the Environment Agency and the EMP will be assessed and revised accordingly through this process. As described in the Drought Plan, in the event of a drought requiring the implementation of drought option(s), Yorkshire Water will review the requirement for environmental monitoring in consultation with the Environment Agency and Natural England.

## 6 Availability of Documents

The adopted final Drought Plan and accompanying SEA documentation will be available on Yorkshire Water website at:

<https://www.yorkshirewater.com/resources>

The documents are also available for inspection at:

c/o Asset Strategy Manager – Supply and Demand  
Yorkshire Water Services Limited,  
Yorkshire Water  
Western House  
Halifax Road  
Bradford  
BD6 2SZ.

---

## Appendix A SEA Post Adoption Procedures

Part 4 of The Environmental Assessment of Plans and Programmes Regulations 2004 (referred to as the "SEA Regulations") requires Yorkshire Water, 'as soon as is reasonably practicable' after the adoption of the Drought Plan, to:

1. Make a copy of the Final Drought Plan and 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 Drought Plan;
  - How the environmental report has been taken into account;
  - How consultation responses have been taken into account;
  - The reasons for choosing the Drought Plan as adopted;
  - Measures to monitor the significant environmental effects of the Drought Plan.

Requirements 1 to 3 have been fulfilled by the publication of the Drought Plan and SEA documents on Yorkshire Water website, and informing all consultees of the publication. In addition, with respect to 1, a hardcopy will be available for inspection on request.

The publication of this SEA Post Adoption Statement fulfils Requirement 4.



Ricardo  
Energy & Environment

The Gemini Building  
Fermi Avenue  
Harwell  
Didcot  
Oxfordshire  
OX11 0QR  
United Kingdom

t: +44 (0)1235 753000  
e: [enquiry@ricardo.com](mailto:enquiry@ricardo.com)

[ee.ricardo.com](http://ee.ricardo.com)