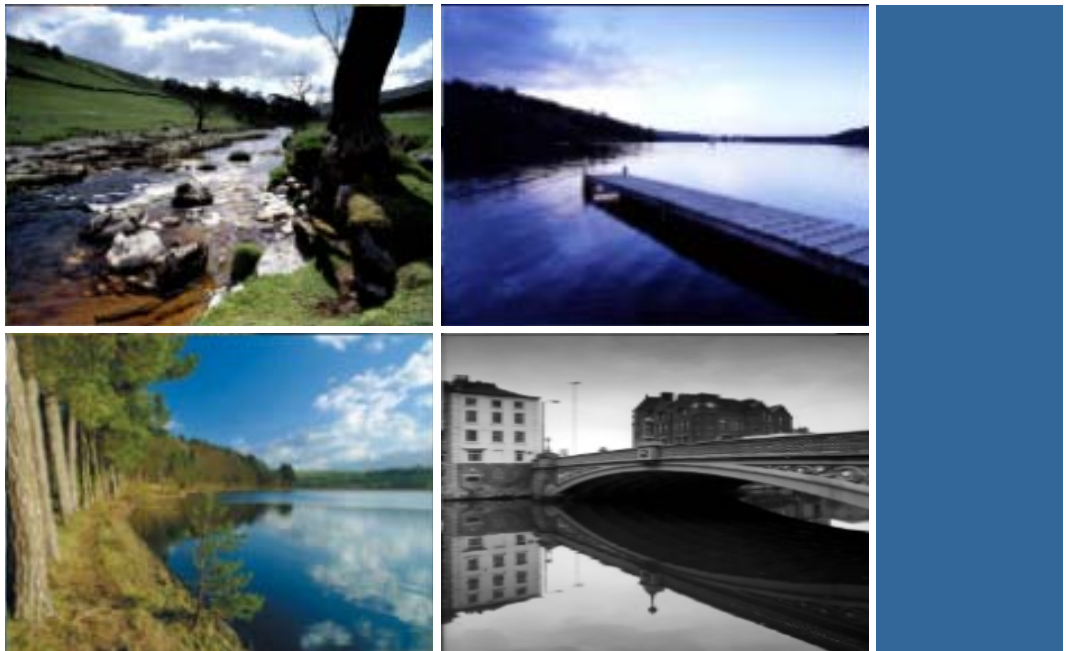




# **Yorkshire Water Services Ltd**

## **Water Resources Management Plan: Strategic Environmental Assessment**

### **SEA Statement**



April 2009

## Revision Schedule

### Strategic Environmental Assessment Environmental Report April 2009

Rev	Date	Details	Prepared by	Reviewed by	Approved by
01	27 Oct 2008	First Draft	<b>Colin Bush</b> Principal Environmental Specialist		
02	March 2009	Second Draft	<b>Kerry Armitage</b> Associate	<b>Kirsty Cobb</b> Principal Environmental Specialist	

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# 1 Introduction

## 1.1 Background

- 1.1.1 In August 2007 Scott Wilson was commissioned by Yorkshire Water Services Ltd to undertake the Strategic Environmental Assessment (SEA) of the Water Resources Management Plan (WRMP).

## 1.2 Strategic Environmental Assessment

- 1.2.1 SEA involves the systematic identification and evaluation of the environmental impacts of a strategic action (e.g. a plan or programme). In 2001, the European Union (EU) legislated for SEA with the adoption of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the 'SEA Directive'). The aim of the SEA Directive is "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes, with a view to promoting sustainable development".
- 1.2.2 The Directive was transposed into English legislation by the Environmental Assessment of Plans and Programmes Regulations 2004 (the 'SEA Regulations'), which came into force on 21st July 2004. The SEA Regulations apply (with some specific exceptions) to plans and programmes subject to preparation and / or adoption by a national, regional or local authority or those prepared by an authority for adoption through a legislative procedure by Parliament or Government and are required by legislative, regulatory or administrative provisions.
- 1.2.3 A letter from the Water Supply and Regulation Division of the Department for Environment, Food and Rural Affairs (Defra) dated 16<sup>th</sup> August 2004 placed the onus on water companies to decide whether their WRMPs required SEA. Having considered the requirements of the SEA Regulations, Yorkshire Water decided that it should undertake an SEA of its WRMP.
- 1.2.4 In September 2005 the Government published guidance on undertaking SEA known as the Practical Guide to the SEA Directive (ODPM<sup>1</sup> Guidance). This guidance advocates a five-stage approach to undertaking SEA. Four of the five stages have been completed and this SEA Statement is the outcome of the fifth:
- **Stage A** involved gathering an evidence base, identifying environmental problems and defining SEA Objectives. The findings of this stage were documented in an SEA Scoping Report published in January 2008;
  - The appraisal of the WRMP and possible alternatives to it was undertaken during **Stage B**;
  - The outcome of Stage B was recorded in the Environmental Report during **Stage C**;
  - Following statutory consultation at **Stage D**, the Environmental Report was updated to reflect changes made in response to representations; and
  - The current stage, **Stage E**, requires Yorkshire Water to provide information on the outcomes of the SEA and also on measures to be put in place to monitor any identified significant effects.

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<sup>1</sup> ODPM – Office of the Deputy Prime Minister: replaced by the Department for Communities and Local Government (DCLG) in May 2006

- 1.2.5 This SEA Statement has been prepared in accordance with Regulation 16 (3) and (4) of the SEA Regulations, which require that a statement be produced on adoption of a plan or programme. The statement must show:
- how environmental considerations have been integrated into the plan or programme;
  - how the environmental report has been taken into account;
  - how opinions expressed and results of public consultation have been taken into account;
  - the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and
  - the measures that are taken to monitor the significant environmental effects of the implementation of the plan or programme.
- 1.2.6 In the following chapters this SEA statement will examine these points in turn.

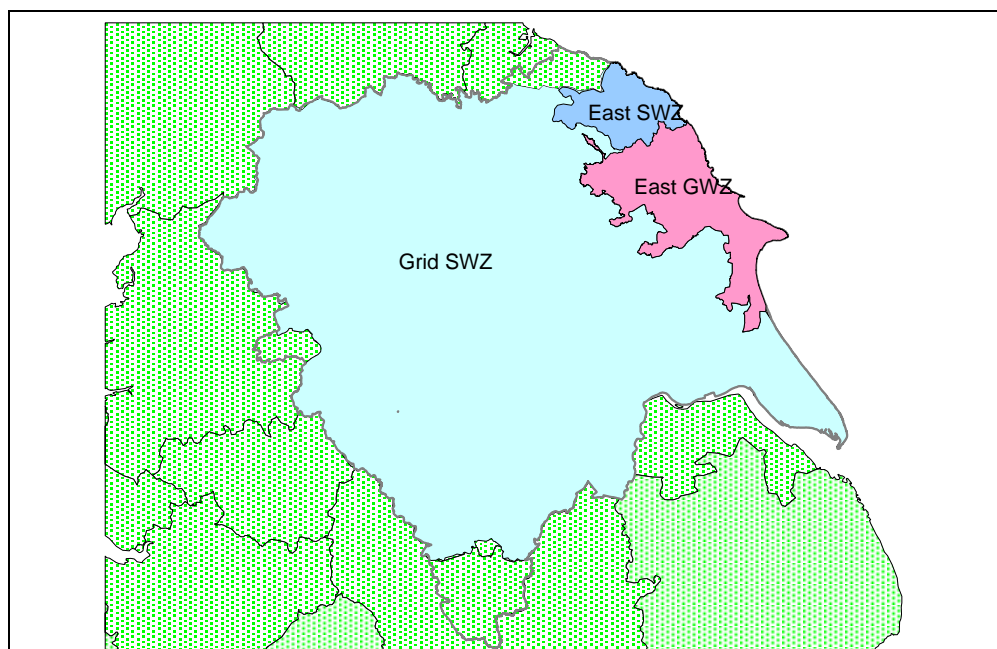
## 1.3 Water Resources Management Plan

- 1.3.1 Legislative changes brought about by the Water Act 2003 have made it a statutory requirement for water companies to prepare, maintain and publish WRMPs. These are long term (25 year) strategies showing how demand for and supply of water will be managed within the companies' operating boundaries. WRMPs have been produced by water companies since 1999, however the current round of plans will be the first prepared on a statutory basis.
- 1.3.2 The WRMP is Yorkshire Water's long-term planning strategy and compares forecasts of customer demand for water with the water available from the company's resources system, with a margin between demand and supply to allow for uncertainties.
- 1.3.3 Yorkshire Water currently supplies water to 1.9 million households and 131,000 business customers. The Yorkshire Water Region generally coincides with the governmental region of Yorkshire and the Humber<sup>2</sup>, which had a population of 5,064,000 in 2004. The draft WRMP showed that over the next 25 years or so, there would be a slight increase in household demand for water due to rising population, new housing and shrinking household sizes. However non-household demand from industry was predicted to fall over this period, and the net change was expected to be an overall reduction in demand. However despite this reduction, the predicted impact of climate change on the available supply forecasted a deficit in the supply:demand balance in the draft WRMP.
- 1.3.4 The WRMP has been updated to take account of representations made during the consultation period, and also new information and evidence that has become available subsequent to publication of the draft WRMP. This new evidence (a combination of revised climate change predictions, and a reduction in likely future demand due to the current and future economic climate) have led to the revised draft WRMP showing no predicted deficit between supply and demand (known as the supply/demand deficit). No investment is therefore predicted to be required during the plan period (to 2034/35).
- 1.3.5 The WRMP is regularly reviewed and updated to take account of changes in the supply/demand balance, for example revised leakage targets agreed with Ofwat or improvements to the supply system. Revised plans are submitted and agreed with Ofwat and the Environment Agency (EA).

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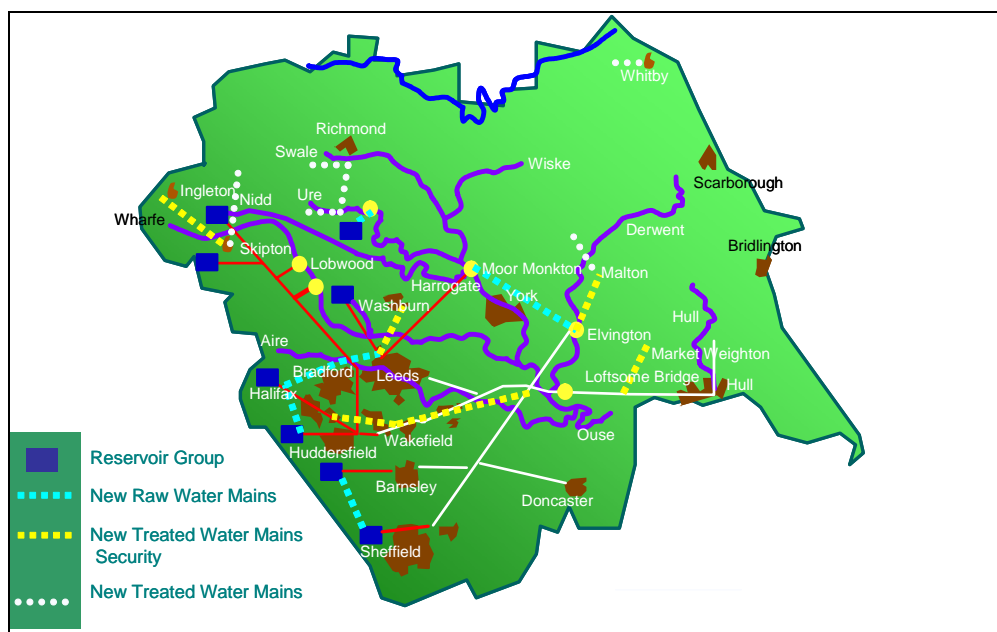
<sup>2</sup> The Yorkshire Water region differs from the Yorkshire and Humber region in that it excludes North Lincolnshire and North East Lincolnshire, and includes an area around Barnoldswick in the North West.

- 1.3.6 Yorkshire Water's draft WRMP was divided into three Resource Zones (Fig. 1.1). In the revised draft plan the East Ground Water Zone is incorporated into the Grid Surface Water Zone from 2011/12 onwards. This will be made possible through the construction of the "east coast pipeline". Therefore, from 2011/2012 onwards Yorkshire Water will be operating with two water resource zones instead of three, and the East Ground Water zone supply:demand components are to be included in the Grid Surface Water Zone water resource plan tables.



**Figure 1.1: Yorkshire Water Resource Zones**

- 1.3.7 Each zone represents a group of customers who receive the same level of service from either groundwater or surface water sources. The Grid Surface Water Zone, which covers most of the Yorkshire Water region, represents a highly integrated surface/groundwater zone that is dominated by the use of rivers and operation of reservoirs. The other zones comprise smaller sources and are independent. Within the WRMP each zone is investigated separately with solutions produced for each zone. The Resource Zones are illustrated in Figure 1.1.
- 1.3.8 Yorkshire Water manages its water resource by using available river resources in the winter and spring to preserve upland or groundwater storage until the summer, when releases from storage can offset the lower availability of river resources. The combined yield of water resources used conjunctively (i.e. by maximising river abstraction during high winter river flows) is greater than the sum of the yields from the resources operated independently from each other. Yorkshire Water has operated this principle for many years, especially in relation to the conjunctive use of reservoirs and river sources.



**Figure 1.2: The Yorkshire Grid, showing major pipelines and reservoirs**

1.3.9 Yorkshire Water maintains a water grid, as shown in Figure 1.2, to ensure sufficient water is available to supply its customers all year round. The infrastructure includes 120 reservoirs and more than seven hundred water and sewage treatment works. In addition to natural water courses, Yorkshire Water utilises some 40,000 miles of water mains and sewers.

## 1.4 SEA of the WRMP

- 1.4.1 In order to achieve the aim of the WRMP, a set of 68 feasible water resource management projects (or ‘schemes’) were modelled using the Inter-temporal Resource Planning (IRP) tool to produce a full “econometric” appraisal of solutions for meeting the supply demand gap. Broadly speaking, econometrics is an analytical tool that can define and quantify benefits, factors influencing those benefits, and the timescales over which benefits will be realised.
- 1.4.2 At the same time, each of the 68 schemes was assessed individually by the SEA project team to determine their likely significant effects upon the environment, using methodologies developed following consultation with the Environment Agency, English Heritage and Natural England. A seven-point assessment scale was used, and the effect categories were: major adverse, moderate adverse, minor adverse, neutral / negligible, minor beneficial, moderate beneficial and major beneficial.
- 1.4.3 As a result of the updates to the WRMP, no options are required for the plan period, however, information is provided in this statement, where relevant, setting out the approach that was taken for future reference and for future updates of the WRMP.

## 2 Integrating Environmental Considerations

### 2.1 Introduction

2.1.1 The SEA Regulations require the responsible authority to explain how environmental considerations have been integrated into the plan or programme following its adoption. Therefore this section of the SEA Statement sets out the way in which Yorkshire Water ensured that the adopted WRMP took account of environmental factors.

### 2.2 Integration of Environmental Considerations in the WRMP

2.2.1 Yorkshire Water has prepared its WRMP in accordance with the Environment Agency water resources planning guideline. The plan takes into account future pressures on supply and demand driven by potential changes to the climate. It also takes into account future changes to the Yorkshire population, its housing and future water use and metering trends. The plan also takes into account the Company's aspirations from its Strategic Direction Statement and the potential environmental impacts of schemes, by reference to our SEA (as discussed in Chapter 3).

2.2.2 The priorities set out in the Strategic Direction Statement are as follows (non-environmental priorities are also included for completeness):

- ensuring there is never a need for restrictions on water supply;
- delivering the very best drinking water quality;
- stopping sewers flooding homes and businesses;
- reducing leakage;
- providing a customer experience second to none;
- mitigating and adapting to climate change;
- going beyond environmental compliance;
- providing tailored services for customers;
- keeping customers' bills as low as possible; and
- delivering attractive returns.

2.2.3 The WRMP will provide a response to development and growth within Yorkshire that is balanced and sustainable whilst maintaining a minimum level of service of one hosepipe ban per twenty-five years. It takes into account future greenhouse gas emissions, the potential impact of abstraction on the environment and the volume of water lost through leaks.

2.2.4 The potential for changes in demand and supply due to climate change have been taken into consideration.

2.2.5 An extensive list of potential solutions was produced and included in the IRP computer model. Due to software limitations only the most feasible solutions were initially built into the model. Sensitivity tests were then undertaken by removing and then inserting alternative options. This approach produces alternative strategies which were then appraised in the Environmental Report (Table 1.1).

## 3 Taking Account of the Environmental Report

### 3.1 Introduction

- 3.1.1 Following adoption of the plan or programme, the SEA Regulations require the responsible authority to explain how the Environmental Report was taken into account during the development of the plan or programme. This section of the SEA Statement sets out the way in which Yorkshire Water took account of the Environmental Report in developing the WRMP. It should be noted that this is stated as a record of the approach adopted. However, the revised draft WRMP demonstrates that no options will need to be implemented as there is no deficit in the predicted supply/demand balance for the plan period.

### 3.2 How the Environmental Report was taken in to account

#### Possible adverse effects on biodiversity

- 3.2.1 The Environmental Report identified that certain dam raising schemes could have had significant adverse effects on biodiversity, in particular on the South Pennine Moors Site of Special Scientific Interest / Special Area of Conservation; the South Pennine Moors Phase 2 Special Protection Area; and the South Pennine Moors Important Bird Area.
- 3.2.2 Although these adverse effects were identified with a low level of certainty, Yorkshire Water took the view that alternative schemes could provide the necessary resource elsewhere without the risk to biodiversity. Therefore, in keeping with the precautionary principle, dam raising schemes were excluded from further consideration.

#### Uncertainty

- 3.2.3 It was noted within the Environmental Report that the actual effects of the WRMP cannot be determined with certainty and will depend on factors unknown at this stage, such as the design and exact location of proposed schemes. Where such uncertainty exists, it is important to monitor the actual behaviour of environmental assets in relation to defined targets. Monitoring will help determine whether or not the WRMP is having a significant adverse effect so corrective actions can be taken if necessary. This approach is recommended in the Environmental Report, though will not be required if none of the options appraised are to be implemented (as predicted by the revised draft WRMP).

## 4 Taking Account of Consultation

### 4.1 Introduction

4.1.1 The SEA Regulations require the responsible authority to explain how opinions expressed by the public and statutory consultees were taken into account, following the adoption of the plan or programme. This section of the SEA Statement sets out the way in which Yorkshire Water responded to the issues that arose during consultation.

### 4.2 Consultation on the Environmental Report

4.2.1 YWS has carried out extensive consultation on the SEA process and subsequently the Environmental Report, comprising:

- presentations have been delivered about the SEA and the WRMP to Yorkshire Water's independent Environmental Advisory Panel, comprising 22 environmental stakeholders;
- Natural England, the Environment Agency and English Heritage were invited to comment on methodologies to be used within the SEA;
- a scoping report was produced and made available for comment to statutory consultees; and
- the draft Environmental Report was published alongside the draft WRMP for public consultation and stakeholder consultation, and comments were received from statutory consultees, Yorkshire Wildlife Trust and the Woodland Trust.

4.2.2 The table in Appendix A sets out the opinions expressed during consultation on the Environmental Report and how Yorkshire Water has responded to them.

## 5 Reasons for Choosing the WRMP

### 5.1 Introduction

- 5.1.1 Following adoption of the plan or programme, the SEA Regulations require the responsible authority to explain the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with.
- 5.1.2 The revised draft WRMP demonstrates that no deficit in the supply/demand balance is predicted over the life of the WRMP (to 2034/35), therefore no options have been selected.

## 6 Monitoring the WRMP

### 6.1 Introduction

- 6.1.1 The SEA Regulations state that *“the responsible authority shall 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”*.
- 6.1.2 As no options will be implemented as a result of the WRMP, due to the predicted lack of deficit in the supply/demand balance, there is no requirement for monitoring of significant effects.

## Appendix A: Consultation and Responses

Number	Consultation Issue	Yorkshire Water Response
<b>Environment Agency</b>		
EA1	Current operations (as per the Directions for the WRMP) environmental impacts	We believe we have covered this in the appropriate level of detail in the 'Baseline & Environmental Problems' section of chapters 5 - 11. (See also responses to 16 & 19 below).
EA2	The consequences of doing nothing compared to the preferred option	This has already been covered in the 'Likely Future Conditions' section of each chapter. (See also responses to 16 & 19 below).
EA3	The work done to consider the in-combination impacts	This has already been covered in the 'Other Effects or Relationships' section of each chapter.
EA4	How the plan links to other plans and strategies, particularly the intrinsic link between the draft WRMP and recent drought plan	We believe this has already been covered in the 'Context Review' section of each chapter. However where relevant we will provide a more explicit reference to the DP in a revised Environmental Report.
EA5	Those on the website were limited by storage/hosting capacity and therefore excluded some diagrams and schematics which were integral to the understanding of the report.	Comment accepted - will address for next SEA (note that statutory consultees & EAP were sent copies on CD which contained all relevant figures)
EA6	The report would have benefited from providing an interpretation of the text and an indication of how it relates specifically to the WRMP	Comment accepted - following a review of the SEA Regulations and the independent UKWIR guidance, YW decided it would be beneficial to conduct a SEA of the WRMP. We will revise s.1.3 of the Environmental Report to clearly demonstrate the link between SEA and the WRMP.
EA7	The relationship with other plans could also be embellished. Within the context sections of the component chapters, good lists of plans and documents are presented but too much is left to be inferred for us to be confident that the WRMP has included the links or considered the policies identified. It would be useful to incorporate an additional section devoted to the other plans and the associated links. In particular the significant work that YWS did on the statutory drought plan which is intrinsically linked with the WRMP might have been embellished upon	We believe the relationship with other plans has been covered off at a level which is appropriate to the SEA. However, as suggested we will introduce a new section to specifically address the relationship with other plans and strategies, including our Drought Plan.
EA8	Of particular concern in its apparent omission is the reference to the company Strategic Direction Statement. This is included as one reference in Section 4. The preferred solution should be influenced by the SEA but it is evident that the SDS aspirations	Comment accepted - the extent to which the IRP, SEA and SDS interacted to determine the preferred solution will be discussed in the SEA Statement. However to provide a quick summary:- An econometric appraisal (via IRP) of all 68 individual schemes was carried out, which resulted in the 4 feasible

Number	Consultation Issue	Yorkshire Water Response
	are a determining factor. There needs to be a greater clarity on the extent to which the IRP, SEA and SDS interacted to determine the preferred solution.	options for meeting the supply:demand gap as set out in Table 3.5. Each of the 4 options was then assessed against the following criteria: 1) whether it meets the supply:demand deficit 2) whether it is cost efficient 3) whether it minimises environmental impacts and 4) whether it aligns with the Company's Strategic Direction Statement aspirations.
EA9	The chapter sections outlining the baseline conditions would benefit from providing additional information on whether there is a direct link between the SEA, WRMP and the particular component. For instance presenting information on soil types within the Yorkshire operating area is of interest but there is limited cause/effect link made. Where the WRMP has no impact, then this should be stated.	Comment accepted - we will provide further information to clarify the links between the SEA, WRMP and the particular component in a revised ER.
EA10	More detail on catchment description would be beneficial. Particularly with regards the wider impacts of the WRMP including transfers from NWL and STW. A greater emphasis of the impact of the current and proposed infrastructure (and options) on the landscape incorporate within a fuller description of the text would be beneficial. Within the landscape section, there is reference to numerous designation types which might be relevant to the plan but again no links to why or how these would link are incorporated. Improved references to the appendices might help the clarity of interpretation.	We believe we have already provided as detailed a catchment description as is appropriate to the scope of the assessment, delving into more detail with the specific impact of the preferred option. The impact of current infrastructure on the landscape is not appropriate to SEA, and this type of information is typically only made available on a project-by-project basis rather than the regional level. With regard to the links between the WRMP and landscape, we agree that these could be made clearer and as such these will be addressed along with our response to comment 9 above.
EA11	The results of the recent Habitats Directive investigations and current projects were absent from the SEA report and are likely to be a consideration. For example the works to upgrade the Ouse abstraction also has the potential to realise a required solution from the review of consents process.	Comment accepted - we will revise section 8 of the ER to outline these investigations and the resulting solutions.
EA12	With screening, the company has identified at risk designated sites. The SEA does not go far enough in defining why these sites might be at risk, what the likelihood is and what mitigation measures could be adopted. This is an area of the SEA report which would benefit from greater clarity and detail. This would allow other statutory consultees to fully comment on the SEA report.	Comment accepted - in the revised ER we will include more clarification on this, especially with regards to amending the Baseline section to include groundwater dependent sites and the extensive screening process employed in the recent Drought Plan (details of this screening process will be added to the ER for clarity).
EA13	Air has been screened out. We have seen there are significant build 'carbon equivalents' to the Ouse treatment works upgrade in particular. We would therefore question whether this should	We believe there are no likely significant effects on a strategic scale from air pollution as was agreed during the scoping phase. This is more of a project-level issue, and not appropriate to SEA. We will therefore ensure that any

Number	Consultation Issue	Yorkshire Water Response
	feature not only in a climate change capacity but also a localised air quality issue during the construction period as a minimum. As with any works there is also the risks of the gases stored on site being leaked. Increase capacity at the works might increase the likelihood or magnitude. This would also be true for human health impacts.	impacts are discussed and mitigated during construction of the scheme.
EA14	CAMS in 6.4.3 identifies Skelton as over-licensed. Increasing abstraction to the proposed average of 49MI/d could mean an over-abstracted status. It would be worth the company considering including further comments (or cross reference) to the effect that the HD RoC work assessed the fully licensed abstraction and identified that a licence amendment would not be needed.	Our understanding regarding the status of the Swale, Ure, Nidd & Upper Ouse CAMS at Skelton is that there is 'no water available'. In addition, as per our response to EA11 above, in the revised ER we will refer to the investigations conducted as part of the Habitats Directive RoC and that no licence amendments are required.
EA15	It is surprising that no monitoring or mitigation relating to climate are presented. The main impetus for the development of the Ouse abstraction and other options is to meet a deficit driven by climate change. A regular assessment of climate change, through the WRMP annual review, would be expected. The selection of options and therefore the potential for environmental impact could be modified in light of monitored effects.	The process employed to address climate change impacts is water resource planning. SEA only requires monitoring of significant effects of the plan assessed, and as there are no significant effects identified under climate change, none is proposed. We will update our hydrological time series twice in each AMP planning period to ensure that we have the latest data for the analysis of deployable output. During each of these updates we will also update our climate change trends.
EA16	The company have also missed an opportunity to comment on its levels of service now, without options in the future and with the options in the future. The comparative environmental impacts and the potential mitigation measures could be compared. Also the extensive mitigation detailed within the company drought plan could be referenced.	We believe that this is beyond the scope of what is required, and the baseline conditions have already been covered. We have not assessed the impacts of a 'no option' scenario as we have a legal obligation to ensure an adequate supply:demand balance to our customers. A 'no option' scenario would lead to a deficit in the WRMP which is unacceptable.
EA17	Through the chapters and more detailed information later in the appendices there is an extensive amount of information on each option. There is the potential for the SEA to list all the options and present the impact (positive, neutral or negative) independently from the WRMP options. The 'best' environmental options could then be used to influence the plan. The current presentations suggests the SEA of each option was undertaken then the IRP model produced preferred options which were assessed using the SEA to help inform the preferred solution. This is clearly from a resource bias starting point rather than an environmental view.	Appendix E lists all the options and their impacts independently of the WRMP preferred option. We are uncertain as to what is meant by resource bias comment as the primary objective of the WRMP is to maintain a supply:demand balance and thus provide adequate water resources for our customers. We gave considerable thought as to how the SEA could best be incorporated into the WRMP option selection, and we believe we have achieved the appropriate balance between considering environmental, social and economic impacts, together with aligning the plan to our Strategic Direction Statement (SDS). As a result, we selected option 4 (not the cheapest) as opposed to options 1 & 2, which whilst least cost, were found to have some detrimental

Number	Consultation Issue	Yorkshire Water Response
		environmental effects.
EA18	We would expect 3.1.4 to suggest the extent to which the assessed options would be influenced by the SEA.	This will be covered in the SEA Statement, to be published on adoption of the final WRMP (July 2009). See also responses to 8 & 17 above.
EA19	The Directions for the draft Water Resource Management Plan covers the impact of future and current operation. The SEA would also need to consider this. Therefore, more information on current impacts and the impacts of doing nothing should also be presented (e.g. climate change causes a deficit which results in failure of levels of service (public health issue?) and more frequent drought permit applications (environmental impacts)).	We have partially addressed this in the 'likely future conditions' section. Also see response to 15 above.
EA20	The cumulative impact of the preferred option could be more clearly defined. Within the appendices for instance the assessment of WRMP options are carried out but there is no obvious summary presentation of the relative merits of each option compared to the other without reading extensive volumes of text.	This has been provided in table 3.5, where the cumulative impacts of each of the four options considered have been assessed and presented side-by-side. We believe that the cumulative effects have been evaluated in the appropriate level of detail pertaining to the SEA. In addition, the bulk of the ER involves a detailed appraisal as to the environmental effects of the preferred option (option 4). We would welcome any suggestions as to how this could be improved further.
EA21	Many of the context sections reference the 2004 annual review of the Water Resources for the Future document. The company will need to consider Defra's Future Water Strategy and the imminent Environment Agency Water Resources Strategy and therefore update the SEA report. As a progression from this, it is not clear how the SEA report will be kept up to date. The WRMP progress and evolution will be reported within annual reviews. We would like to see a commitment to include a brief assessment of the out-turn data against the SEA report to cover those areas identified as needing monitoring and mitigation.	The ER represents the position at a point in time, and is therefore based on the information available at the time of preparation. As there is no requirement under the SEA to review annually, it will be reviewed in line with the WRMP in five years time. However, we do appreciate your concerns and as such we will review any associated monitoring and mitigation on a regular basis in collaboration with relevant stakeholders.
EA22	The scale of the impact of a given option is difficult to assess based on the presented information e.g. to what extent does the Ouse option influence the downstream river?	Whilst we understand that the scale of impacts is important, we are mindful that this is SEA and not EIA. Therefore we have avoided detailed hydrological evaluation and discussed impacts in the context of CAMS. We believe that this is appropriate to SEA as CAMS does give an indication as to the scale of impact.
EA23	Increased demand will mean increased waste water and potential impacts on receiving waters (riverine/coastal). There seems to be limited reference to water quality programmes.	It is population growth which drives increased discharges. The WRMP focus is on water resource options which will ensure an adequate supply:demand balance, and so it is the environmental effects of these options which have been considered in the SEA. For this WRMP the increase in demand is not

Number	Consultation Issue	Yorkshire Water Response
		significant, and any effects will be negated in part through the leakage control proposed. The impacts of discharges will be reviewed by our Environmental Business Unit to ensure they have no impact.
EA24	Health Baseline conditions. Graph of life expectancy only extends to 1998 and presents no forecasts for the plan period.	We can confirm that from the source referred to in the ER, the data series ends in 1998. The reason for selecting this data source was because it contained both the life expectancy and healthy life expectancy data side-by-side. No forecasts have been presented, although based on past performance the steady upward trend is likely to continue. On revision of the ER we will check the availability of alternative sources for which the trends may extend beyond this date.
EA25	6.2.1 Habitats Directive is not listed as an Environmental Objective and therefore there is no mention of DO/entrainment. This is mentioned in the Biodiversity section (8.6) however, it concludes that no adverse impact was found which is incorrect (8.6.2). This is no mention of increased abstractions volumes requiring screening and monitoring. This text is consistent with that in the WRMP and both need amending.	Comment accepted - we will amend the ER to cover the issue of DO/entrainment, and that whilst our licences have been affirmed, an impact was identified in terms of the entrainment of lamprey at Elvington and Acomb, which will be mitigated through the installation of fish screens in AMP5.
EA26	No reference to the forthcoming EA WR strategy nor to Defra's Future Water.	The ER represents the position at a point in time, and is therefore based on the information available at the time of preparation.
EA27	Likely significant effects - implications for increased abstraction in the Swale area which will impact upon other potential future abstractors as YW would be taking up the water available under the CAMS. There will also be a link to population and property numbers as available resource may be a limiting factor in the future expansion of local population centres.	Comment accepted in that we acknowledge a potential impact on water resources (see also appraisal of this option in Appendix E which concludes a minor adverse effect).
EA28	Biodiversity Baseline conditions have narrowed the list of SSSI's to those listed in the Drought Plan. This is a more appropriate list than in scoping. Further explanation of the methodology used within the drought plan and therefore for screening of the designated sites would be beneficial.	Comment accepted - see response to 12 above.
EA29	8.4.2 suggests that other site information relating to current transfers from Northumbria and Severn Trent was not available. This therefore means the full scope of impact is not considered.	Comment accepted - we will consider the effects of these transfers in a revised ER and list the relevant sites.
EA30	8.4.4 addresses adverse impacts to Natura 2000 and RAMSAR sites due to abstraction particularly in drought years. There is however no mention of screening solutions required on the Rivers Derwent and Ouse.	Comment accepted - we will revise the relevant sections of the Environmental Report accordingly (i.e. Ch. 8 Context & Environmental Problems). See also response to 11 & 25.

Number	Consultation Issue	Yorkshire Water Response
EA31	8.6 Narrows down the impacts of preferred option on biodiversity to five designated sites - no mention of entrainment - see comment under 6.2.1.	Entrainment of lamprey was identified as an impact under the Habitats Directive (from which a solution had already been identified) and not the SEA. See also response to 11 & 25.
EA32	8.8 Mitigation and Monitoring of Ouse WTW development refers to WQ issues, not to entrainment.	See response to EA31 above.
EA33	9.4.2 identifies significant effects of the WRMP being a net reduction in Carbon (equivalent) emissions. Although overall a further 808 tones will be produced annually up to 2025, the leakage reduction (45Ml/d) should offset Ouse construction, although extra pumping in Swale GW scheme will be an increase, the net effects will be a decrease representing -0.01% of Yorkshire and Humber production. There is no detail as to how the leakage reduction will be undertaken therefore it is assumed the only carbon equivalent have come from the eventual reduction in demand.	The ER will be revised to include more detail with respect to how leakage reduction reduces operational carbon emissions, though we can confirm that the rationale behind this was that leakage reduction options incorporate both emissions from vehicles in order to transport staff to areas of the network to be repaired and a reduction in emissions from the reduced energy required to pump water through mains/pipes.
EA34	10 Heritage - although there are little impacts with the options chosen there is no mention of currently unknown heritage. There is mention that this will be considered on a project by project basis and highlights known heritage including Roman military and civil settlements and communications that existed in the York, Southern Pennines and Pennine Dales fringe areas. This may be an implication for leakage repairs, or at the Ouse construction site. In the context review 10.3 however, it does state "early consideration should be given to the question whether archaeological remains exist on a site where development is planned and the implications for the development proposal." (Planning Policy Guidance 16: Archaeology and planning)	The approach to heritage issues was agreed with English Heritage during SEA Scoping and specifically aimed at addressing unknown archaeology. Any effects will be considered and addressed at the project level to ensure early consideration of potential impacts. However, we will elaborate on this text in a revised ER.
<b>Natural England</b>		
NE1	A Habitats Regulations Assessment (HRA) on effects on European sites needs to be completed before any plans or projects are implemented.	As discussed at the meeting with yourselves on 2nd July, an HRA is only required if likely significant effects are identified during the SEA or project level EIA. No significant effects were identified via the SEA process, though we acknowledge that more detail should be provided to convey this. The ER will be amended to reflect the level of screening which was employed to ascertain that there were no significant effects.
NE2	An HRA must accompany the WRMP or its SEA, and the outcomes of these tests should clearly be used to inform the	We believe our meeting on 2nd July addressed these concerns. See also response to NE1 & NE5.

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	<p>decisions made in the final WRMP. The HRA will need to make a statement on any Likely Significant Effect on European sites, and, where there is a Likely Significant Effect an Appropriate Assessment needs to be carried out to inform final decisions in the WRMP.</p>	
NE3	<p>Relating to the WRMP Preferred Option 4, the report does not provide sufficient information about the schemes for Natural England to comment on in detail or make any conclusions upon. It is not clear whether or not the Habitats Regulations assessment process has been carried out, particularly, but not exclusively, in relation to the proposed Swale Groundwater Source increase in abstraction.</p>	<p>See response to NE1 &amp; NE5 above.</p>
NE4	<p>We need to understand, and the report needs to set out what the effects on sites would be from the proposed schemes. In relation to the proposed Swale Groundwater source increase for example, how much of an increase is the proposed increase in abstraction? The SEA document, pg 20 Section 4.2.2 states it is an increase yield of 2Ml/d, but without knowing what the current yield is, it is hard to assess the scale of that increase in a meaningful way. Also without knowing the exact location or possible radial/drawdown effects of the abstraction, it is hard to assess how many/which sites it may affect.</p>	<p>Comment accepted re. current abstraction levels - this will be amended in the Environmental Report. Due to security limitations, there is a requirement to keep the locations of schemes vague. However, at our meeting with yourselves on 2nd July, we were able to discuss these schemes in more detail.</p> <p>As per the response to NE1 &amp; NE5 above, we will revise the ER to provide more information on the designated sites located in the vicinity of the Swale Borehole and our rationale behind the assessment of any impacts.</p>
NE5	<p>There are sites within the area of the proposed scheme [Swale Groundwater resource] that are sensitive to water level changes and water utilization (including abstraction from boreholes), for example, Swale Lakes SSSI, Richmond Meadows SSSI (part of North Pennine Dales Meadows SAC) &amp; Various areas of BAP Priority Habitat type wet woodland</p>	<p>We believe that our meeting on 2nd July addressed most of these concerns, though we will amend the ER accordingly to provide further clarification. For example:- The extensive protected sites screening process employed in preparation of our recent Drought Plan involved identifying any SSSIs or SACs/SPAs that could be affected by any of the drought measures. Richmond Meadows SSSI was removed from the screening process because whilst the Natural England citation includes species or habitats that are dependent on water, the site is not groundwater or spring dependent, and is also upstream from the abstraction. Therefore we can conclude that the site does not have the potential to be affected by the increased Swale Groundwater abstraction.</p> <p>In terms of the Swale Lakes SSSI, this is downstream of the Swale Groundwater abstraction point. However, analysis of the geology of the area indicates that the Swale Lakes SSSI is situated in an area of worked ground</p>

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		<p>that is underlain by River Terrace deposits. The River Terrace deposits are likely to be in direct hydraulic continuity with the River Swale. However, the recent investigative work undertaken at the Swale sources indicates that the Swale Groundwater abstraction is separate from the River Swale and therefore any abstraction would not impact water levels within the river and hence the SSSI. See also response to NE1 &amp; NE4 above.</p> <p>As agreed at our meeting on 2nd July, UK BAP Priority Habitat wet woodland was not considered as part of the SEA as the requirement is to consider national and international designations only. The wet woodland situated in the vicinity of the Swale Groundwater source is also situated upstream of the abstraction and therefore cannot be affected.</p>
NE6	<p>It is therefore strongly recommended that a Habitats Regulations Assessment be carried out and that this is clearly detailed within the SEA document so that compliance with the Habitats Regulations can be demonstrated.</p>	<p>See response to NE1 above.</p>
NE7	<p>Section 28G of the Wildlife and Countryside Act 1981, as inserted by section 75 of and Schedule 9 to the Countryside and Rights of Way Act 2000, places a duty on public authorities, including water companies, to take reasonable steps consistent with the proper exercise of their functions to further the conservation and enhancement of SSSIs.</p> <p>Section 40 of the Natural Environment and Rural Communities Act 2006 every public authority, including statutory undertakers, must in the exercise of its functions have regard so far as is consistent with the proper exercise of those functions to the purpose of conserving biodiversity. Conserving biodiversity in this context includes restoring or enhancing a population or habitat. Also, YW should included this duty under S.40 within the list of Environmental Protection Objectives (SEA ER, S.8.2)</p> <p>Again, specifically in relation to the Option 4 Proposed Swale Groundwater source increase in abstraction, it is not set out clearly in the report how Yorkshire Water have adhered to the above duties. The report does not provide sufficient information about the above scheme for Natural England to comment on in</p>	<p>We are aware of our duties under this legislation and they are embedded within our day to day activities. We acknowledge the benefit in adding these Acts to our Environmental Protection Objectives and will amend the ER accordingly.</p>

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	detail or make any conclusions upon.	
NE8	<p>We need to understand, and the report needs to set out what the effects on sites would be from the proposed schemes. In relation to the Swale Groundwater proposal for example, how much of an increase is the proposed increase in abstraction? The SEA document, pg 20 Section 4.2.2 states it is an increase yield of 2M/d, but without knowing what the current yield is, it is hard to assess the scale of that increase in a meaningful way. Also without knowing the exact location or possible radial/drawdown effects of the abstraction, it is hard to assess how many/which sites it may affect.</p>	<p>See response to NE4 &amp; NE5 above.</p>
NE9	<p>Relating to the Option 4 River Ouse Water Treatment Works Extension Option 1:- Natural England would agree with the assessment of a low impact relating to the five SSSI sites downstream of the above scheme. However, we also agree with the recommendation in Section 8.8.2 that potential water quality issues associated with this scheme should be kept under scrutiny/review as appropriate. SEA document, pg 38, Section 8.6.1 – it would also be useful here to add in a paragraph explaining how the five SSSI's were identified as having the potential to be affected – background processes that led to these being identified? This would then help to demonstrate that impacts have been properly assessed.</p>	<p>Comment accepted - further clarity with regards to this process will be provided in a revised ER (refer to extensive screening process employed in recent Drought Plan &amp; provide additional information for groundwater dependent sites).</p>
NE10	<p>We are however, disappointed at the lack of mitigation that is proposed. We do not consider it sufficient to aim at achieving 'net neutral effects to landscape' across all projects. Rather, opportunities should be sought to protect, restore and enhance landscape character when planning and undertaking projects. Enhancement should be the aim in all instances, in line with the Regional Spatial Plan policy, and not simply where adverse impacts have arisen. The aim of enhancing the landscape where possible should be accepted as a target throughout, rather than being perceived as 'a more ambitious target'. In some instances, mitigation may involve relatively minor steps to be taken. Where they exist, local landscape character assessments, prepared by the local authorities, should be referred to for more detailed</p>	<p>The SEA Regulations require that the ER describe "measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment", but there is no requirement for enhancement. Monitoring and mitigation will be elaborated on in more detail in the SEA Statement. Where the benefits exceed the costs, opportunities for enhancement could be considered at the individual project level and we would welcome your engagement and input at the time.</p>

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	guidance on local landscape character and guidance for landscape enhancement and management.	
NE11	In the particular case of the River Ouse WTW extension, impacts will only be temporary and neutral / negligible if steps are taken to ensure the replacement of any features lost through the works. Thus we would expect positive steps to be taken to ensure that landscape features, such as hedgerows, hedgerow trees, copses and woodlands, are replaced in appropriate locations, and to a scale and style that enhances the local landscape character.	See response to NE10 above.
NE12	<p>It is also to be noted that current legislation requires that, in exercising or performing any functions in relation to, or so as to affect land within designated landscapes, all relevant authorities (and this includes water companies as Statutory Undertakers), shall have regard to the statutory purposes of designation. The relevant Acts are:</p> <p>National Parks -Section 11A of the National Parks and Access to the Countryside Act 1949, as amended by Section 62 of the Environment Act 1995</p> <p>AONBs - Section 85 of the Countryside and Rights of Way Act 2000. Natural England therefore expects Yorkshire Water to take this duty into account when carrying out any works within the designated landscapes in the region.</p>	We are aware of our duties under this legislation and they are embedded within our day to day activities. We acknowledge the benefit in adding these Acts to our Environmental Protection Objectives and will amend the ER accordingly. See also response to 10 above.
NE13	Section 82 of the Water Act 2003 places a additional environmental duty on the water undertakers 'to further water conservation', above those already in the Water Industry Act (section 3(2)(a) 1991). We strongly recommend that the decision making within the water management plan, should demonstrate evidence that this duty has been taken fully into account and that this should be pursued as far as possible through demand management within the plan rather than increasing supply.	Our approach to this has been covered in the response to the WRMP Representations.
NE14	We advise that water efficiency should be a key driver behind the whole philosophy of the plan. We support leakage reduction, metering, promotion of Sustainable Urban Drainage Systems (SUDS), use of extensive water efficiency measures, promotion and awareness raising measures with the consumer. We would	Our approach to this has been covered in the response to the WRMP Representations.

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	support a per capita consumption that is at an average of 130 litres/person/day by 2030, or below in line with Defra's strategy Future Water.	
NE15	The WRMP is a 25 year long term vision stretching well beyond the current round of Regional Spatial Strategies and Local Development Frameworks. Water companies should ensure that the WRMP is used to influence options on proposals for development/growth points in the Regional Spatial Strategies. Water companies should consider using their water resources plan to influence future planning decisions.	Our approach to this has been covered in the response to the WRMP Representations.
NE16	SEA document, pg 20, Section 4.1.1 – Option 4 is made up of three individual schemes rather than the four stated here – Leakage reduction, Swale Groundwater source and River Ouse WTW extension?	Comment accepted - this will be amended in the revised ER.
NE17	SEA document, pg 31, Section 6.7.2 and 6.7.3 – these two paragraphs are confusing. Does the Swale groundwater source have hydraulic connectivity with the Morton-on-Swale unit? Is there a contradiction within the quoted CAMS document, as to whether water is available or not? Is it the case that the CAMS document says both that there is no water available AND that there is licensable quantity available (under HOF)? This should be clarified within these sections, as it is ambiguous as read currently.	The status of the Swale, Ure, Nidd and Upper Ouse CAMS is defined as being 'no water available'. This means that there is no water available for further licensing at low flows (i.e. at certain 'Hands Off Flows') although water may still be available at higher flows with appropriate restrictions. We will review this section and amend the wording to avoid ambiguity in the revised ER.
NE18	SEA document, pg 37, Section 8.4.3 and Appendix B – This paragraph related to Appendix B, the condition of SACs and SPAs, however it should be noted that there is no date attached to Appendix B, nor any reference source for the information listed. These are vital for such a table. It would also be helpful to include a short definition of Favourable and Unfavourable recovering etc. for anyone not familiar with the terminology.	Comment accepted - we will revise Appendix B accordingly.
NE19	Section 82 of the Water Act 2003 places a additional environmental duty on the water undertakers 'to further water conservation', above those already in the Water Industry Act (section 3(2)(a) 1991). We strongly recommend that the decision making within the water management plan, should demonstrate evidence that this duty has been taken fully into account and that this should be pursued as far as possible through demand	Our approach to this has been covered in the response to the WRMP Representations.

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	management within the plan rather than increasing supply.	
<b>Yorkshire Wildlife Trust</b>		
YWT1	Para 4.2.2 mentions that the preferred option involves increasing abstraction from the Swale. It would appear that further research is needed into the effects of this & the connectivity of the Swale with other abstraction areas. It would be useful to have clarification of the potential negative effects of increased abstraction in this area, potential connectivity with other areas and what mitigation would be proposed.	A discussion of the potential negative effects is to be provided in a revised Environmental Report, however in general the impacts are considered to be insignificant. In terms of connectivity with other abstraction areas - again elaboration on this could be provided in the ER. Where relevant, appropriate mitigation and monitoring will be put forward in the SEA Statement and consideration given to the precise biodiversity implications of the increased groundwater abstraction could be addressed at the project scale. See also response to NE4 & NE5 above.
YWT2	Para 8.4.4 mentions that in some areas of the Yorks & Humber region abstraction has exceeded the ability of surface & groundwaters to be replenished & that some sites in the area are suffering as a result. It would be helpful to have more details of exactly what is happening in the present & what plans are in place to mitigate against damage to SSSIs in the area.	This is a general comment about SSSIs, but significant work carried out concludes that there are no impacts. Again, we will elaborate on this in the revised ER.
YWT3	Para 8.6.3 goes on to say that there are no particular conflicts with areas of importance for nature conservation but this is only a conclusion of 'low certainty'. This statement would appear to conflict with para 8.4.4. It is important to know why this conclusion is 'low certainty'. also if the certainty is low, & in fact effects of the plan damage important sites what is proposed in terms of monitoring? Will there be sufficient baseline information available & how will changes in the baseline be checked? In the situation where damage does occur what plans are in place for mitigation?	This is a general comment and not specifically related to the sites we are discussing in the ER. We acknowledge in the ER that there is an impact, and the SEA does recommend that for effects determined as having a significant impact or no impact with low certainty, that monitoring should be carried out to conclude greater certainty. As a result, suggested monitoring is proposed in s.8.8. Monitoring and mitigation is also covered in more detail in the SEA statement and will be discussed with relevant authorities.
YWT4	In 8.2.1 & 8.3.1 a number of references are quoted which mentioned safeguarding & improving habitats & conditions for wildlife. There needs to be a stronger policy within the SEA showing how YW plan to actually improve the environment in their area. River banks & wetland areas are vital habitats & corridors for wildlife & in the future there will be many opportunities for enhancing them. It is important that YW take this part of their work very seriously & put in place policies to enhance biodiversity & connectivity whenever there is a possibility of this.	We believe that this is outside the scope of the SEA. The Regulations require that the ER describe "measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment", but there is no requirement for enhancement/improvement.

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<b>Woodland Trust</b>		
WT1	The Woodland Trust is concerned that developments for water resources could impact upon ancient woodland and other semi-natural habitats. Ancient woodland is an irreplaceable habitat and our richest habitat for wildlife.	This will be considered when developing proposed monitoring for the River Ouse WTW Extension in the SEA Statement, which will ensure that direct impacts are avoided.
WT2	We understand that boreholes, reservoirs, water treatment works and other infrastructure are dependant upon the location of water sources however when considering the options in the Water Resource Management Plans we believe more emphasis needs to be placed on protecting habitats, particularly irreplaceable ones such as ancient woodland. This includes both direct loss from development and indirect impacts to the habitat through increasing pollution, changing water table or disturbance, for example.	We acknowledge the value of this UK BAP priority habitat and that localised effects to habitats are assessed through planning applications and project-level assessments. We will thus ensure that any appropriate mitigation is in place and the development of the scheme takes full regard of your comments.