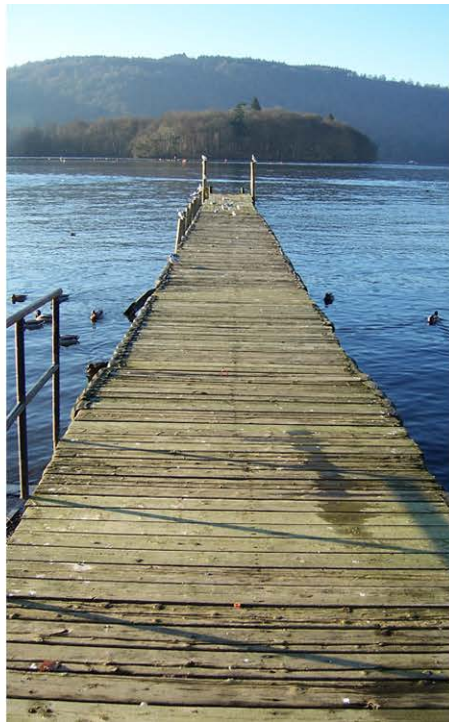


United Utilities Strategic Environmental Assessment for the Water Resources Management Plan

Post Adoption Statement



Amec Foster Wheeler Environment & Infrastructure UK Limited

March 2015

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United Utilities

Strategic Environmental Assessment for the Water Resources Management Plan

Post Adoption Statement

Amec Foster Wheeler Environment &
Infrastructure UK Limited

March 2015

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1. Introduction

1.1 Purpose of this Post Adoption Statement

This report forms the Post Adoption Statement to accompany the final version of United Utilities' Water Resources Management Plan (WRMP). The report describes the way in which United Utilities has taken environmental considerations and the views of consultees into account in the adopted WRMP and fulfils the plan and programme adoption requirements of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the SEA Directive) and the Environmental Assessment of Plans and Programmes Regulations 2004 (SI2004/1633).

Article 9 of the SEA Directive and regulation 16 (3) and (4) of the SEA Regulations require that when a plan or programme is adopted, the consultation bodies, the public and any other Member States consulted on the Environmental Report are informed and the following specific information is made available:

- the plan as adopted;
- a statement summarising:
 - how environmental considerations have been integrated into the plan (**Section 2** of this document)
 - how the Environmental Report has been taken into account (**Section 3**)
 - how opinions expressed in response to the consultation on the Environmental Report have been taken into account (**Section 4**)
 - the reasons for choosing the plan, as adopted, in the light of the other reasonable alternatives dealt with (**Section 5**)
 - the measures that are to be taken to monitor the significant environmental effects of the implementation of the plan (**Section 6**)

A table demonstrating how this Post Adoption Statement complies with the SEA Regulations is included in **Appendix A**.

1.2 Background

1.2.1 United Utilities' Water Resources Management Plan

Overview

United Utilities provides water and sewerage services to customers throughout the North West of England. United Utilities' supplies come primarily from upland reservoirs and lowland rivers but are supported from groundwater and upland streams. Many water sources are located in environmentally important areas that are designated for their ecology, landscape or other environmental features.

Since 2007, all water companies have had a statutory duty to prepare, maintain and publish WRMPs under the Water Industry Act 1991, as amended by the Water Act 2003 (although informal water resources planning has been a fundamental activity for water companies for decades). A WRMP sets out how the water company intends to maintain the balance between water supply and demand to ensure the security of supply over the coming 25 years in a way that is economically, socially and environmentally sustainable. WRMPs are reviewed annually and fully updated every five years.

United Utilities' WRMP describes in detail the company's assessment of the availability of water supplies in its supply area and the demand for water by its customers over the 2015 – 2040 period. The WRMP also sets out United Utilities' proposed strategy for water resources and demand management to ensure adequate water supplies are available to serve its customers.

The draft WRMP (dWRMP) was published on 14th May 2013 for public consultation. Representations on the dWRMP were received from a total of 55 consultees. In November 2013, United Utilities published a Statement of Response (SoR). This described the consultation and how United Utilities had taken account of the comments received in preparing the revised draft WRMP that was submitted to the Secretary of State for Environment, Food and Rural Affairs (Defra) in November 2013.

On 2nd April 2014, United Utilities were notified that the Secretary of State had decided to exercise his power to call for an examination in public (EiP) in connection with the revised draft WRMP. The EiP subsequently took place between 16th and 17th September 2014 and on 17th November 2014 the Inspector issued his report¹ to the Secretary of State. On 9th December 2014, the Secretary of State issued her decision to accept the conclusions and recommendations contained in the Inspector's report, directing United Utilities to amend the revised draft WRMP. The 2015 revised WRMP, including changes directed by the Secretary of State, was submitted to Defra on 2nd February 2015.

¹ Report to the Secretary of State for Environment, Food and Rural Affairs by Stephen Roscoe (2014) *Examination in Public into the United Utilities Revised Draft Water Resources Management Plan November 2013*. Available from <http://www.hwa.uk.com/site/wp-content/uploads/2014/06/WRMP+United+Utilities+EiP+2014+.pdf> [Accessed February 2015]

United Utilities' Final WRMP was published on 20th March 2015 following the granting of permission to publish received on 25th February 2015 from the Secretary of State.

Key WRMP proposals

The supply-demand balance for a water resource zone (WRZ) is calculated by taking the water available for use and subtracting the dry weather demand and target headroom. Where the supply-demand balance in a WRZ is positive, then there is adequate water supply capacity to meet forecast water demand in that zone and achieve the target level of service. Where this is negative then there is a need to either increase the supply or reduce the demand to maintain an adequate supply-demand balance. In United Utilities' supply area, the only area identified in the WRMP with a water deficit was the West Cumbria WRZ.

Where a deficit is identified, a wide range of supply and demand options are considered including reducing leakage from water mains, reducing demand through water efficiency promotions and finding new supplies, either within the zone or through transfers from another zone. As part of the preparation of the United Utilities' WRMP, these options were subject to a detailed process called the Economics of Balancing Supply and Demand methodology (EBSD) which assessed the viability of the initial list of options, 'the unconstrained' list.

Those options considered to be feasible (i.e. options that could realistically be implemented in the next 25 years) were then subject to Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA) to assess in detail the likely effect they would have on the receiving environment. These assessments were accompanied by further analysis to assess (amongst other things) environmental and social costs and benefits and the sustainability of benefits. The environmental, social and economic implications of each of these options were determining factors in the identification of the preferred option which forms the basis of the WRMP.

United Utilities identified three alternative plans to meet the challenges in West Cumbria. These were as follows:

- WC01: Thirlmere Transfer into West Cumbria;
- WC14d: Kielder Water Transfer to West Cumbria; and
- Lowest Cost Option, comprising the collective implementation of **all** of the following options: Wastwater (negotiate part abstraction licence) (WC04); Development of New Boreholes in West Cumbria Aquifer (10 MI/d) (WC05a); Development of Boreholes in North Cumbria Aquifer (WC09); Crummock Automated Compensation Control (WC19); and Treated Water Link (WC24).

These alternatives were presented in the dWRMP and, following consultation and assessment including SEA and HRA, Option WC01: Thirlmere Transfer into West Cumbria was taken forward as the preferred option contained in the revised draft WRMP. The preferred option would dedicate a greater proportion of the water available in Thirlmere reservoir to meet the needs of Cumbria. This would require a new water treatment works and a pipeline to transfer the water into West Cumbria, thus linking the population of West Cumbria to the UK's largest interconnected WRZ.

Following the EiP and in accepting the conclusions and recommendations in the Inspector's report, the Secretary of State directed United Utilities to make the following changes to the revised draft WRMP:

- to include the new project in use date for the Thirlmere Transfer into West Cumbria option (March 2022) and to update the Plan to reflect the further work that has been undertaken by United Utilities on this option since November 2013;
- to prepare and include a contingency plan based on the Lowest Cost Option and to make clear at what point United Utilities would begin progressing the contingency plan instead of the preferred option (Thirlmere Transfer in West Cumbria); and
- to include information on the interim abstraction reduction measures that are already underway (relating to four boreholes at South Egremont, works at Summergrove and tankering).

The 2015 revised draft WRMP included these changes and was subsequently approved by the Secretary of State on 25th February 2015.

1.2.2 Strategic Environmental Assessment and the Water Resources Management Plan

Overview

SEA is a statutory requirement² for plans and programmes that could have significant environmental effects. The SEA process identifies, describes and evaluates potential effects; proposing where appropriate, mitigation and/or enhancement measures. Government, industry and regulator guidance indicates that there is a requirement for water companies, as responsible authorities, to determine whether their WRMPs fall within the scope of the SEA Regulations and whether an SEA must be undertaken.

United Utilities concluded that an SEA of the dWRMP would be required based on the scope of the potential effects that could arise, particularly given the number and area covered by European designated conservation sites in the North West.

SEA of United Utilities' dWRMP

The SEA of United Utilities' dWRMP was undertaken by AMEC Environment and Infrastructure UK Limited, now Amec Foster Wheeler Environment and Infrastructure UK limited (hereafter referred to as 'Amec Foster Wheeler') on behalf of United Utilities. The SEA has been undertaken to be in compliance with the requirements of the SEA Directive and The Environmental Assessment of Plans and Programmes Regulations 2004 (hereafter referred to as the 'SEA Regulations').

The findings of the SEA of the dWRMP were recorded in the Environmental Report that was published alongside the dWRMP for consultation and which followed consultation on the scope of assessment undertaken in October and November 2012. The Environmental Report presented the findings of the assessment of all feasible options and the resulting three alternatives put forward to address the deficit in the West Cumbria WRZ (Thirlmere Transfer into West Cumbria, Kielder Water Transfer to West Cumbria and the Lowest Cost Option).

² *Statutory Instrument 2004 No 1633 – The Environmental Assessment of Plans and Programmes Regulations 2004.*

The assessment contained in the Environmental Report was informed by ongoing engagement with the statutory SEA consultation bodies. United Utilities also published an Addendum to the SEA Environmental Report (and draft HRA report) alongside the revised draft WRMP that was submitted to Defra in November 2013. Prepared by Amec Foster Wheeler, the Addendum presented the findings of the further assessment of the preferred option and alternatives (based on revised option scopes) that were identified to address the deficit in the West Cumbria WRZ following the consultation on the dWRMP. The Addendum also included an assessment of additional supply-side feasible options that came forward following the completion of consultation on the dWRMP and the SEA Environmental Report. Once the Addendum was completed, no further assessment on the effects of options for the dWRMP was undertaken or reported upon for the purposes of consultation.

This Post Adoption Statement represents the conclusion of the SEA process and fulfils the plan and programme adoption requirements of the SEA Directive and SEA Regulations.

The timetable for the WRMP and SEA process is summarised in **Table 1.1**. The WRMP and SEA documents have been published on United Utilities' website at: <http://corporate.unitedutilities.com/Water-Resources-Management-Plan.aspx>.

Table 1.1 WRMP and SEA timetable

Date	Development of the WRMP	SEA Stages
June 2012	Formal pre-consultation with statutory consultees.	
March & September 2012	Consultee workshops.	Preparation of the SEA Scoping Report.
5 October 2012		Scoping Report for the SEA issued to key stakeholders for comment.
25 October 2012		Scoping meeting attended by the Environment Agency and Natural England.
31 January 2013		Meeting attended by the Environment Agency and Natural England to discuss the assessment of feasible options.
1 March 2013		Meeting attended by the Environment Agency and Natural England to discuss the assessment of the preferred option and alternatives.
14 May 2013	dWRMP published for consultation.	Environmental Report published for consultation.
6 August 2013	Consultation on the dWRMP closes. 55 responses received.	Consultation on the Environmental Report closes. 3 responses received.
11 November 2013	Statement of Response published.	
11 November 2013	Revised Draft WRMP submitted to the Secretary of State.	Addendum to the SEA Environmental Report submitted to the Secretary of State.
2 April 2014	Secretary of State issues decision to 'call in' the Revised Draft WRMP.	

Date	Development of the WRMP	SEA Stages
16 June 2014	Defra confirms Examination in Public process and provides list of questions for the process to consider.	
16/17 September 2014	Examination in Public into the revised draft WRMP.	
17 November 2014	Inspector issues report to Secretary of State.	
9 December 2014	Secretary of State issues direction to accept the conclusion and recommendations contained in the Inspector's report.	
2 February 2015	2015 revised WRMP submitted to Defra.	
25 February 2015	Secretary of State grants United Utilities permission to publish Final WRMP.	
20 March 2015	Final WRMP published.	Post Adoption Statement published.

2. How environmental considerations have been integrated into the WRMP

2.1 Environmental considerations in the WRMP

2.1.1 WRMP Aims

Environmental considerations have been integral to the development of United Utilities' WRMP. The WRMP has been built on the principles set out in United Utilities' strategy document "Playing Our Part", with consideration of legislative, social and environmental issues. The aims of the WRMP are aligned with United Utilities' future long-term priorities and are expressed as three promises to customers. Importantly, one of the aims concerns the protection and enhancement of the environment, as follows:

- **We promise to protect and enhance the environment**
 - The natural environment is protected and improved in the way we deliver our services
 - A business fit for a changing climate and our carbon footprint is reduced.

2.1.2 Supply-demand forecasting

The 2012 Water White Paper and draft Water Bill outline the Government's intention to increase environmental responsibility and for all water abstractions to be sustainable by 2027. Reduction in abstraction from environmentally sensitive sites has the potential to significantly reduce the quantity of water that can be reliably abstracted from some water sources and result in the need for significant expenditure to enhance water supply capability and/or reduce demand for water.

In this context, the environmental sensitivity of the West Cumbria WRZ has been a key consideration in the development of the WRMP. Much of the WRZ lies within the Lake District National Park whilst all the main surface sources of water in West Cumbria contain rare legally protected species including Atlantic salmon, charr and England's only viable population of the internationally protected freshwater mussel. Reductions in surface water abstractions are necessary to meet the Habitats Directive and Water Framework Directive and the Environment Agency's Restoring Sustainable Abstraction programme.

In preparing the WRMP, modelling of supply availability has therefore taken into account sustainability reductions at Ennerdale (abstraction licence revocation), which constitutes a significant change to the WRZ. The modelling process including how United Utilities has taken sustainability changes into account is described in detail in Chapter 4 of the Final WRMP³.

³ <http://corporate.unitedutilities.com/Water-Resources-Management-Plan.aspx>

2.1.3 Option identification and selection

The identification, assessment and selection of options to address the supply demand deficit within the West Cumbria WRZ has been informed by detailed consideration of their potential environmental effects. United Utilities has followed the Environment Agency's Water Resources Planning Guidelines to identify and appraise potential supply-demand options⁴. Within the guideline is a detailed process called the Economics of Balancing Supply and Demand methodology (EBS⁵), which provides a structured, consistent approach that all water companies can follow to identify, assess and compare a range of options to balance supply and demand.

To ascertain which schemes would be best placed to restore the supply demand balance in the West Cumbria WRZ, United Utilities first considered an 'unconstrained' list of options. These options were deliberately selected to cover as wide a range of measures as possible and represent all of the ways in which United Utilities could manage supply and demand. The type of unconstrained option considered is shown **Table 2.1**. Further details are set out in the WRMP.

Table 2.1 Unconstrained list of options

Production Management Options	Examples
Diagnostic studies	Verification of metered flows on major water supply pipes. This is considered a business as usual activity and no specific options have been developed.
Improved leakage detection and reduction on raw water mains	Leakage on raw water pipes that feed water treatment works.
Reduce treatment works losses	Changes that make our water treatment works more efficient. We have not considered this option specifically as this is a business as usual activity.
Customer Management Options	Examples
Water use audit and inspection/identification of household and non-household water efficiency opportunities	Checks of water usage and fitting of water saving devices, such as retro-fit dual flush toilets.
Targeted water conservation information	Working with our customers so that they can become more water efficient. We will continue to implement extensive water conservation and education programmes and therefore no specific options have been developed.
Promotion of water saving devices	Showerheads, save-a-flushes, waterless car washing kits given away at customer events.
Water recycling	Rainwater harvesting systems in domestic properties.
Water efficiency enabling activities	Offering free and subsidised water butts to customers.

⁴ Environment Agency (2012) *Water resources planning guideline: The technical methods and instructions June 2012*.

⁵ UK Water Industry Research (2002) *The Economics of Balancing Supply and Demand (EBS⁵) Main Report*. UKWIR: London.

Advice and information on direct abstraction and irrigation techniques	There is negligible use of drinking water for irrigation in our region. No specific options have been developed.
Advice and information on leakage detection and fixing techniques	We already provide such advice and information and will continue to provide such information. No specific options have been developed.
Change in level of service to enhance water available for use	Reducing the level of service to impose more frequent water use restrictions (e.g. hose pipe ban).
Compulsory metering	Household and non-household compulsory metering has not been considered as a specific option as this is not considered appropriate.
Enhanced/smart metering	We have considered promotion to all customers who would benefit financially from having a meter.
Meter installation policy	This has not been considered as a specific option.
Metering of sewerage flow	This has not been considered as a specific option.
Introduction of special fees	We do not charge special fees to customers, e.g. those that use swimming pools and we have no plans to implement. No specific options have been developed.
Changes to existing measured tariffs	Changes to existing measured tariffs have been considered and are either not feasible or are already implemented as fully as practicable at the present time. No specific options have been developed.
Introduction of special tariffs for specific users	We already consider such tariffs and will continue to consider them for some of our commercial customers to better service their requirements. No specific options have been developed.
Other options (e.g. use of non-potable water, improving the enforcement of water regulations)	We have included extra options for: -metering on change of occupier; -blanket promotion to all customers about metered supply benefits; and -water efficiency visits to customers with free meter options being promoted each time a customer contacts us we will offer them a new meter to be installed.
Distribution Management Options	Examples
Customer supply pipe leakage reduction	Identification and fixing of water supply pipe leaks. This is an on-going activity and so no specific options have been developed.
Leakage reduction	Fixing of reported leaks on water mains and pipes to customers. This is an on-going activity and so no specific options have been developed.
Leak detection	Data collection and analysis of metered flows in water mains to detect leaks.
Pressure reduction programmes	Understanding whether reducing the pressure in water mains can reduce leakage.
Advanced replacement of infrastructure for leakage reasons	Understanding the condition of our water mains and whether these should be replaced proactively.
Distribution capacity expansion	The increase of the capacity of the water mains on their own do not provide any water resources benefit and therefore no specific options have been developed. However, some supply options include an element of capacity expansion in order to deploy the new source/s effectively in the water resource zone.
Resource Management Options	Examples
Direct river abstraction	New abstraction sites on rivers.
New reservoir storage	New impounding reservoirs or pumped-storage reservoirs.
Reservoir raising	Increasing the height of dams to provide more water storage.
Groundwater wells (boreholes)	New abstraction sites or utilising existing sources.

Infiltration galleries	These systems have no additional benefit above and beyond direct river abstractions and groundwater wells and so no specific options have been developed.
Artificial storage and recovery wells	Pumping water into aquifers during the winter for re-abstraction in the summer. No specific options have been developed.
Aquifer recharge	Pumping water into aquifers during the winter for re-abstraction in the summer. No specific options have been developed.
Desalination	Removal of sea water and treating to supply to customers.
Reclaimed water	Effluent reuse from waste water treatment works.
Bulk transfers	Transfers from sources both inside and outside the United Utilities supply area.
Tankering of water	No specific options have been developed as this would not satisfy operational requirements and customers' expectations.
Improved/sophisticated conjunctive management	Consideration of further improvements in the connectivity within our supply system.

Source: United Utilities (2015) *Final Water Resources Management Plan*

These unconstrained options were screened to identify a list of feasible options, i.e. options that could realistically be implemented in the next 25 years.

Once the feasible list of supply and demand options was identified, environmental considerations remained central to the subsequent stages of options assessment. The EBSD approach requires water companies to assess the capital, operating and environmental and social costs and benefits of the feasible options to enable a least-cost programme to balancing supply and demand to be determined. For each feasible option, environmental and social costs and benefits were determined using the Environment Agency's Benefits Assessment Guidance (BAG)⁶, which was updated in March 2012 for use in 2014 WRMPs⁷. This approach uses best available cost-benefit valuations to describe, quantify and where appropriate monetise, the environmental and social effects of each option. The issues considered within the assessment include:

- Environmental impacts of water supply schemes, during construction and/or during scheme operation. Examples of impacts considered include those on aquatic flora and fauna, informal recreation activities such as walking, cycling or bird watching, in-stream recreational activities such as boating, canoeing or rowing, other water abstractors, heritage, archaeology and landscape.
- Social impacts of water supply schemes, during construction and/or during scheme operation. Examples of impacts considered include those of noise, dust, odour, or time delays to people's journeys as a result of work in highways to lay or repair pipelines.
- Increases or reductions in carbon emissions that could result from the abstraction, treatment and distribution of water. Examples of impacts considered include: fuel consumption of vehicles used in construction, leakage management, installation of water meters or water efficiency devices, energy use

⁶ Environment Agency (2003) *Assessment of Benefits for Water Quality and Water Resources Schemes in the PR04 Environment Programme*. Bristol: Environment Agency.

⁷ Eftec (2012) *Benefits Assessment Guidance User Guide*. Submitted to the Environment Agency for England and Wales, January 2012. London: Eftec.

at work sites, emissions from road traffic as a result of diversions or disruptions, embodied carbon in materials used, changes in water use (and thus changes in energy use) within the home.

The assessments of environmental and social costs and benefits are combined with the capital and operating costs to derive an Average Incremental Social Costs (AISC) value for each option in accordance with the EBSD methodology.

Alongside this process, the selection and refinement of options has taken into account the findings of the SEA and HRA. The SEA and HRA assessed the likely economic, social and environmental effects of proposed water management options and identified the ways in which adverse effects could be minimised and positive effects enhanced. Further information in respect of the influence of the SEA on the development of the WRMP is provided in **Section 3** of this report.

2.1.4 Consultation

United Utilities has undertaken extensive stakeholder and customer engagement during the preparation of the WRMP. Importantly, this has included ongoing engagement with the statutory SEA consultation bodies (Natural England, the Environment Agency, English Heritage, Natural Resources Wales, Cadw and the Welsh Government). In particular, United Utilities has liaised closely with the Environment Agency to agree abstraction licence changes and other environmental improvements to be included in WRMP to comply with the requirements of the Habitats Directive, Water Framework Directive and the Environment Agency's Restoring Sustainable Abstraction programme. Where there remains uncertainty with the environmental impacts of abstraction, United Utilities has agreed scenarios for further abstraction licence changes, should these be required. Natural England and Natural Resources Wales have also been involved in this process.

Chapter 2 of the WRMP provides a comprehensive overview of the consultation undertaken during the production of the Plan.

2.1.5 Examination in Public

As set out in **Section 1.2**, the Secretary of State directed United Utilities to make three principal changes to the revised draft WRMP that was subject to EiP. Importantly, these changes included a direction to prepare and include a contingency plan in the WRMP to be implemented should the preferred option (Thirlmere Transfer into West Cumbria) become undeliverable (due to, for example, risks associated with obtaining planning consent for the scheme). The main purpose of the contingency plan, which was subsequently included in the Final WRMP, is to ensure that the abstraction licence at Ennerdale Water is revoked as soon as practicable in order to meet the Habitats Directive and Water Framework Directive and the Environment Agency's Restoring Sustainable Abstraction programme, should the Thirlmere transfer prove undeliverable. A number of actions have already been implemented to reduce demand and others are planned in order to reduce the abstraction from Ennerdale Water. These are outlined in section 13 of the Final WRMP.

The contingency plan comprises the Lowest Cost Option that was consulted upon as part of the dWRMP and subject to assessment including SEA. The contingency plan would also utilise, and retain any existing, sources not covered by the compensatory measures package and/or developed as interim measures.

United Utilities is continuing work to reduce the future uncertainty on the viability of the Lowest Cost Option should this be required as a contingency at a later date. Additionally, should the contingency plan be triggered then further assessment and analysis including SEA (and HRA) of any new (or enhanced) schemes would be undertaken as appropriate in order to refine the alternative plan and appraise any wider application of contingency options.

Section 12 of the Final WRMP provides a detailed overview of the contingency plan including triggers.

2.2 Environmental considerations in the Strategic Environmental Assessment

To provide the context for the SEA, and in compliance with the SEA Directive, the relevant aspects of the current state of the environment and its evolution without the WRMP were considered, along with the environmental characteristics likely to be significantly affected.

The key environmental, social and economic issues (summarised as sustainability issues) identified in the United Utilities supply area (and, where appropriate, source areas) and linkages to the SEA Objectives that guided the assessment of the WRMP options are summarised in **Table 2.2**.

Table 2.2 Environmental issues considered in the Strategic Environmental Assessment

Topic Area	Key Economic, Social and Environmental Issues	SEA Objective
Biodiversity	<ul style="list-style-type: none"> The need to protect and enhance the protected sites designated for nature conservation. The need to protect and enhance non-designated sites. The need to reverse the fragmentation of biodiversity in the lowlands of the North West region, especially in the south. The need to continue to improve the condition of priority habitats to support increases in wildlife, biodiversity and important protected species. The need to maintain/enhance ecological connectivity. The need to work within environmental limits and capacities. 	To protect and enhance biodiversity, key habitats and species, working within environmental capacities and limits
Geology and Soils	<ul style="list-style-type: none"> The need to maintain or improve the quality of soils/agricultural land. The need to protect and enhance sites designated for their geological interest. The need to protect peatlands in the North West. The need to make use of previously developed land, and to reduce the prevalence of derelict land in the region. The need to maintain soil function. 	To ensure the appropriate and efficient use of land and protect soil quality

Topic Area	Key Economic, Social and Environmental Issues	SEA Objective
Water – Quantity and Quality	<p>The need to maintain and improve water quality.</p> <p>The need to maintain seasonal flows in groundwater and surface water.</p> <p>The need to improve the ecological status of water bodies.</p>	To protect and enhance the quantity and quality of surface and groundwater resources and the ecological status of water bodies
Water – Flood Risk	The need to ensure the continued risk of flooding is mitigated effectively.	To reduce the risk of flooding
Air Quality	<p>The need to minimise emissions of pollutant gases and particulates and enhance air quality.</p> <p>The need to reduce the need to travel and promote sustainable modes of transport.</p>	To minimise emissions of pollutant gases and particulates and enhance air quality
Climate Change	<p>The need to reduce greenhouse gas emissions arising from implementation of the WRMP.</p> <p>The need to take into account and where possible adapt to the potential effects of climate change.</p> <p>The need to increase environmental resilience to the effects of climate change.</p>	To limit the causes and potential consequences of climate change
Human Environment - Health	<p>The need to ensure that water resource requirements of people and visitors can be met at all times, in a sustainable way.</p> <p>The need to ensure that water resources remain affordable.</p> <p>The need to ensure that vulnerable people are not affected by implementation of the WRMP measures.</p>	To ensure the protection and enhancement of human health
Human Environment - Social and Economic Well-Being	<p>The need to ensure that the WRMP measures do not impact on the health and well-being of all members of the community.</p> <p>The need to ensure that WRMP measures do not have an adverse economic impact.</p> <p>The need to avoid disruption through effects on the transport network.</p> <p>The need to ensure resilience of water supply/treatment infrastructure against climate change effects.</p>	To maintain and enhance the economic and social well-being of the local community
Material Assets and Resource Use - Water Resources	<p>The need to promote water efficiency measures (including metering).</p> <p>The need to ensure that leakage is managed at a sustainable economic level.</p> <p>The need to maintain the balance between supply and demand for water.</p>	To ensure the sustainable and efficient use of water resources
Material Assets and Resource Use - Resource Use	<p>The need to reduce energy consumption.</p> <p>The need to ensure the sustainable and efficient use of resources such as construction materials.</p> <p>The need to minimise waste arisings, promote reuse, recovery and recycling and minimise the impact of wastes on the environment and communities.</p>	To promote the efficient use of resources
Cultural Heritage	The need to protect or enhance features, landscapes and sites of archaeological importance and cultural heritage interest.	To protect and enhance cultural and historic assets
Landscape	<p>The need to protect the natural beauty of the area, especially within designated sites such as National Parks and AONBs.</p> <p>The need to protect and maintain the landscape distinctiveness of the area.</p>	To protect and enhance landscape character

All the environmental topics listed in the SEA Directive and Regulations were found to be relevant for the assessment of the WRMP. The issues were reflected in the objectives and guide questions that comprises framework used to assess the WRMP (see **Table 2.3**).

Table 2.3 Assessment Framework for the dWRMP

Topic Area	SEA Objective	Guide Questions
Biodiversity	To protect and enhance biodiversity, key habitats and species, working within environmental capacities and limits	<i>Will the option protect and enhance where possible the most important sites for nature conservation (e.g. internationally or nationally designated conservation sites such as SACs, SPAs, Ramsar and SSSIs)?</i>
		<i>Will the option protect and enhance non-designated sites and local biodiversity?</i>
		<i>Will the option provide opportunities for new habitat creation or restoration and link existing habitats as part of the development process?</i>
Geology and Soils	To ensure the appropriate and efficient use of land and protect soil quality	<i>Will the option lead to a change in the ecological quality of habitats due to changes in groundwater/river water quality and/or quantity?</i>
		<i>Will additional land be required for the development or implementation of the option or will the option require below ground works leading to land sterilisation?</i>
		<i>Will the option utilise previously developed land?</i>
		<i>Will the option protect and enhance protected sites designated for their geological interest and wider geodiversity?</i>
		<i>Will the option minimise the loss of best and most versatile soil?</i>
Water – Quantity and Quality	To protect and enhance the quantity and quality of surface and groundwater resources and the ecological status of water bodies	<i>Will the option minimise conflict with existing land use patterns?</i>
		<i>Will the option minimise land contamination?</i>
		<i>Will the option minimise the demand for water resources?</i>
		<i>Will the option protect and improve surface, groundwater, estuarine and coastal water quality?</i>
		<i>Will the option result in changes to river flows?</i>
Water – Flood Risk	To reduce the risk of flooding	<i>Will the option result in changes to groundwater levels?</i>
		<i>Will the option affect the ecological status of water bodies?</i>
		<i>Will the option have the potential to cause or exacerbate flooding in the catchment area now or in the future?</i>
Air Quality	To minimise emissions of pollutant gases and particulates and enhance air quality	<i>Will the option have the potential to help alleviate flooding in the catchment area now or in the future?</i>
		<i>Will the option be at risk of flooding now or in the future?</i>
		<i>Will the option adversely affect local air quality as a result of emissions of pollutant gases and particulates?</i>
		<i>Will the option exacerbate existing air quality issues (e.g. in Air Quality Management Areas)?</i>
		<i>Will the option maintain or enhance ambient air quality, keeping pollution below Local Air Quality Management thresholds?</i>
		<i>Will the option reduce the need to travel or encourage sustainable modes of transport?</i>

Topic Area	SEA Objective	Guide Questions
Climate Change	To limit the causes and potential consequences of climate change	<i>Will the option reduce or minimise greenhouse gas emissions?</i>
		<i>Will the option have new infrastructure that is energy efficient or make use of renewable energy sources?</i>
		<i>Will the option contribute positively to adaptation to climate change?</i>
		<i>Will the option increase environmental resilience to the effects of climate change?</i>
Human Environment - Health	To ensure the protection and enhancement of human health	<i>Will the option ensure the continuity of a safe and secure drinking water supply?</i>
		<i>Will the option affect opportunities for recreation and physical activity?</i>
		<i>Will the option maintain surface water and bathing water quality within statutory standards?</i>
		<i>Will the option adversely affect human health by resulting in increased nuisance and disruption (e.g. as a result of increased noise levels)?</i>
Human Environment - Social and Economic Well-Being	To maintain and enhance the economic and social well-being of the local community	<i>Will the option ensure sufficient infrastructure is in place for predicted population increases?</i>
		<i>Will the option ensure sufficient infrastructure is in place to sustain a seasonal influx of tourists?</i>
		<i>Will the option help to meet the employment needs of local people?</i>
		<i>Will the option ensure that an affordable supply of water is maintained and vulnerable customers protected?</i>
		<i>Will the option improve access to local services and facilities (e.g. sport and recreation)?</i>
		<i>Will the option contribute to sustaining and growing the local and regional economy?</i>
		<i>Will the option avoid disruption through effects on the transport network?</i>
		<i>Will the option be resilient to future changes in resources (both financial and human)?</i>
Material Assets and Resource Use - Water Resources	To ensure the sustainable and efficient use of water resources	<i>Will the option lead to reduced leakage from the supply network?</i>
		<i>Will the option improve efficiency in water consumption?</i>
Material Assets and Resource Use - Resource Use	To promote the efficient use of resources	<i>Will the option seek to minimise the demand for raw materials?</i>
		<i>Will the option reduce the total amount of waste produced and the proportion of waste sent to landfill?</i>
		<i>Will the option encourage the use of sustainable design and materials?</i>
Cultural Heritage	To protect and enhance cultural and historic assets	<i>Will the option conserve or enhance historic buildings, places, conservation areas and spaces that enhance local distinctiveness, character and the appearance of the public realm?</i>
		<i>Will the option avoid or minimise damage to archaeologically important sites?</i>
		<i>Will the option affect public access to, or enjoyment of, features of cultural heritage?</i>
Landscape	To protect and enhance landscape character	<i>Will the option avoid adverse effects on, and enhance where possible, protected/designated landscapes (including woodlands) such as National Parks or AONBs?</i>

Topic Area	SEA Objective	Guide Questions
		<p><i>Will the option protect and enhance landscape character, townscape and seascape?</i></p> <p><i>Will the option affect public access to existing landscape features?</i></p> <p><i>Will the option minimise adverse visual impacts?</i></p>

In accordance with the Office of the Deputy Prime Minister (now Department for Communities and Local Government) Practical Guide to the SEA Directive, the assessment process predicted the significant environmental effects of the WRMP against all of the objectives listed in **Table 2.3**. This was done by identifying the likely changes to the baseline conditions as a result of implementing, in the first instance, the feasible options for the WRMP. Following completion of this assessment, more detailed assessment was undertaken of the preferred option and alternatives. These changes were described (where possible) in terms of their geographic scale, the timescale over which they could occur, whether the effects would be temporary or permanent, positive or negative, likely or unlikely, frequent or rare. Where quantitative information was not available, the assessment was based on professional judgement and with reference to relevant legislation, regulations and policy.

The designated consultation bodies for SEA in England (the Environment Agency, English Heritage and Natural England) and in Wales (the Welsh Government, Cadw and Natural Resources Wales) were consulted on the scope and level of detail to be included in the Environmental Report for a five week period beginning the 5th October 2012. Ongoing consultation with these bodies was undertaken during the preparation of the Environmental Report to test the emerging findings of the assessment. The Environmental Report (published in May 2013) documented the findings of the assessment of feasible options, the preferred option and alternatives, outlining where any likely significant effects were identified and proposing, where appropriate, mitigation measures. This too was subject to consultation for 12 weeks from 14th May 2013 to 6th August 2013.

Further assessment of the preferred option and alternatives, in addition to additional feasible options identified by United Utilities since the publication of the Environmental Report, was also undertaken with the findings recorded in an Addendum to the Environmental Report that was submitted to the Secretary of State in November 2013 alongside the revised draft WRMP.

3. How the findings of the Environmental Report have been taken into account

3.1 Overview

The SEA Environmental Report and United Utilities’ WRMP have been developed in tandem. **Table 3.1** details the key stages of the SEA and its relationship with the development of the WRMP.

Table 3.1 Key stages in the development of the Environmental Report and its relationship with the WRMP

Strategic Environmental Assessment	WRMP	Relationship
Scoping		
<p>The scoping stage of the SEA identified other relevant plans, programmes and environmental protection objectives which could be affected by, or which could affect, the WRMP.</p> <p>The scoping stage also characterised the relevant aspects of the current state of the environment in United Utilities’ supply area (and source areas) and its evolution without the WRMP.</p>	<p>The WRMP used the plans and programmes identified to ensure that it was fully in compliance with local, national and international policy and legislation.</p> <p>Baseline information supported early optioneering.</p>	<p>The links between the other relevant plans, programmes, policies and strategies that were applicable to the WRMP and its Environmental Report were outlined. These included plans and programmes at an international, European or national levels covering a variety of topics.</p> <p>Information on environmental issues helped determine constraints on the suitability of certain options.</p> <p>The SEA objectives ensured that the full range of social, economic and environmental issues were considered in the WRMP development.</p>
Assessment		
<p>Testing the plan or programme objectives against the SEA objectives</p> <p>The SEA assessed feasible options comprising 20 supply-side options (including desalination, development of new boreholes, new river abstractions and 3rd party transfers into the WRZ) and 32 demand management options (ranging from leakage reduction, metering, distributing water butts and fitting devices to toilets, showers, etc). Consultation was undertaken with the statutory SEA bodies on the findings of the assessment.</p> <p>The SEA included a detailed assessment of the preferred option and alternatives for</p>	<p>The Environment Report and the WRMP strategy were developed together.</p> <p>The WRMP considered a list of unconstrained water management options. These were screened, taking into account social and environmental costs. Feasible options were taken forward for further assessment.</p> <p>The feasible options were ranked based on their combined costs, their environmental effects and the outcomes of the SEA and HRA were considered.</p> <p>Along with ongoing discussion with stakeholders, this information was used to identify potential preferred options. Three options were identified to help address the deficit in the West Cumbria WRZ (WC01: Thirlmere Transfer into West Cumbria, Option WC14d Kielder Water Transfer to West Cumbria (Cumwhinton Treated) and the Lowest Cost Option)).</p> <p>Consultation was undertaken on the WRMP options. The opinions of</p>	<p>The environmental and option appraisals were jointly used to derive the strategy.</p> <p>The feasible options were subject to a range of assessments including the SEA and HRA as well as assessment of environmental and social costs and benefits. The findings of the SEA (and HRA) helped to identify the preferred option and reasonable alternatives.</p> <p>The findings of the detailed assessment supported the selection of the preferred option</p>

Strategic Environmental Assessment	WRMP	Relationship
<p>balancing water supply and demand in the West Cumbria WRZ. Consultation was undertaken with the statutory SEA bodies on the findings of the assessment.</p> <p>Further assessment of the preferred option and alternatives (alongside additional feasible options) was undertaken with the findings documented in an Addendum to the Environmental Report.</p>	<p>stakeholders and customers on economic, customer and financial aspects of the options were a significant factor in the determination of the preferred option.</p> <p>The long and short term risks of each option were also taken into account.</p> <p>More detailed (Level 2) engineering estimates/scopes were prepared for the preferred option (WC01: Thirlmere Transfer into West Cumbria) and the two alternative options (Option WC14d and the Lowest Cost Option). These refined scopes included more detailed information concerning infrastructure requirements, such as further consideration of pipeline routes or treatment processes, that would be required if they were to be implemented.</p>	<p>and rejection of alternatives. The findings of the detailed assessment included mitigation measures that were incorporated into the dWRMP.</p> <p>The findings of the assessment contained in the Addendum further supported the selection of the preferred option. Additional mitigation measures were also identified to address potential adverse effects arising from the implementation of the scheme.</p>
Reporting		
<p>The key findings of the Environmental Report are presented along with the United Utilities' responses in Table 3.2 below. The extent to which the findings have informed the final WRMP is detailed in Section 5 of this Post Adoption Statement.</p>		
Consultation		
<p>Responses to the consultation on the Environmental Report are presented along with the United Utilities' responses in Table 4.1 and Table 4.2 in Section 4. The extent to which the consultation has informed the final WRMP is detailed in Section 5 of this Post Adoption Statement.</p>		
Monitoring		
<p>Proposals for monitoring identified in Section 6 and Appendix D of this Post Adoption Statement will be implemented by United Utilities.</p>		

3.2 Key findings of the SEA

As demonstrated in **Table 3.1** above, the SEA process has played an important role in the development of the WRMP and, more specifically, in informing the selection of the preferred option (and rejection of alternatives). The key findings of the Environmental Report (and its Addendum) are summarised in **Table 3.2** together with United Utilities' response and how these have been taken into account in the WRMP.

Table 3.2 Key findings of the Environmental Report and Addendum

No	Key Findings	Response
1.	<p>The preferred option would generate significant negative effects on climate change and resource use SEA objectives during construction from carbon emissions associated with the use of plant on-site, transportation of materials by road and the embodied carbon in materials used for construction as well as resource use and waste. However, emissions associated with Option WC14d and the</p>	<p>Whilst greenhouse gas emissions and resource use associated with the construction of the preferred option would be significant, it is noted that emissions under any of the alternatives would also be significant (and in the case of Option WC14d, substantially greater).</p> <p>Measures to reduce greenhouse gas emissions during construction will be considered including, for example, the use of low emission plant, reused/recycled materials during construction and minimisation of waste.</p>

No	Key Findings	Response
	<p>Lowest Cost Option would also be significant and, in the case of Option WC14d, substantially greater.</p>	
2.	<p>Under the preferred option the majority of development sites, and sections of pipeline, would be located within the Lake District National Park. In consequence, there is considered to be the potential for substantial landscape effects associated with construction activity.</p>	<p>The findings of the assessment are noted. United Utilities also note that the assessment also concludes that the construction of Option WC14d could have significant negative effects on landscape owing to the requirement for construction in the Lake District National Park and Northumbrian National Park as well as the need for the construction of a large scale water treatment works at Cumwhinton, although landscape effects associated with the construction of the Lowest Cost Option would be likely to be minor.</p> <p>Where possible, United Utilities will seek to reduce the landscape and visual impacts associated with the construction of the preferred option through the implementation of mitigation (e.g. screening). Landscape and visual impacts will also be fully considered at the project stage and in this respect it should be noted that the exact location of development sites has not yet been determined. This would be established at the project stage when the location of all components of the scheme including pipelines would be determined through a site selection exercise as part of the Environmental Impact Assessment (EIA) process. In this context, any proposal would be subject to full landscape and visual impact assessment whilst landscape and visual impact would be a key consideration in the determination (by the relevant local planning authority) of any Town and Country planning application(s) related to the scheme. Should residual construction-related landscape and visual impacts prove to be unacceptable, then alternative locations for above ground infrastructure may need to be considered.</p>
3.	<p>Construction of the preferred option would result in largely negative environmental effects across a number of other SEA objectives associated in particular with:</p> <ul style="list-style-type: none"> ▪ the loss of greenfield land; ▪ works in areas at risk of flooding; ▪ emissions to air, dust and noise from construction plant and HGV movements; ▪ disruption to recreational activities; and ▪ works in close proximity to cultural and historic assets. <p>However, negative effects would be similar to those associated with Option WC14d and the Lowest Cost Option and in most cases these effects would be minor and may be lessened through the implementation of appropriate mitigation.</p>	<p>These effects would occur as a result of most construction programmes and are temporary. The effects of most of these elements can be reduced through effective mitigation. These issues would also be considered further at the project stage as part of the EIA process.</p>
4.	<p>Significant positive effects on the local economy and community are anticipated as a result of construction. This reflects the large capital investment associated with this scheme which is likely to generate a number of employment opportunities and supply chain benefits. However, there may be disruption to local highway networks as a result of construction works and associated HGV movements.</p>	<p>The findings of the assessment are noted. Reflecting the mitigation measures identified in the Environmental Report (and Addendum), United Utilities will seek, where possible, to enhance positive effects on the local economy and communities further through:</p> <ul style="list-style-type: none"> • utilising local labour; and • appointing local contractors/sub-contractors and utilising locally sourced materials. <p>In order to minimise potential disruption to local highways networks during construction, United Utilities will undertake a Transport Assessment at the project stage to support the identification of mitigation measures which may include, for example, avoiding works and HGV movements during peak traffic periods.</p>
5.	<p>The preferred option would have significant adverse effects on climate change during operation due to energy use and related greenhouse gas emissions associated with the ongoing treatment and pumping of water and associated vehicle movements. However, emissions would be in part</p>	<p>United Utilities note that, whilst the preferred option would have a significant negative effect on climate change, greenhouse gas emissions associated with the operation of this option would be lower than those related to Option WC14d and the Lowest Cost Option.</p> <p>Reflecting the mitigation measures identified in the Environmental Report (and Addendum), United Utilities will consider measures to reduce emissions</p>

No	Key Findings	Response
	offset by the closure of five existing water treatment works and would be substantially lower than those associated with the operation of Option WC14d and the Lowest Cost Option.	associated with the operation of the preferred option including: <ul style="list-style-type: none"> • use of low energy equipment; • use of energy efficient materials and building techniques; and • incorporation of renewable energy and low carbon technologies.
6.	The operation of the preferred option could have minor negative effects on flood risk (owing to the location of assets within Flood Zones 2/3) and landscape (principally reflecting the requirement for new above ground infrastructure within the Lake District National Park).	The findings of the SEA are noted. United Utilities will seek to implement appropriate mitigation measures to address flood risk during operation (e.g. bunding and locating power and electrical equipment above flood level where possible). Flood risk will also be fully considered at the project stage and it would be expected that any proposal would be subject to flood risk assessment. Flood risk would be a key consideration in the determination (by the relevant local planning authority) of any Town and Country planning application(s) related to the scheme. Landscape effects are considered above.
7.	The operation of the preferred option would have a significant positive effect on biodiversity and water quantity and quality, although effects would be similar to those associated with Option WC14d.	The findings of the SEA are noted. The preferred option is designed to relieve pressure on the River Ehen Special Area of Conservation (SAC). Abstraction from Ennerdale Water, which discharges into the Ehen, has been identified for amendments under the Review of Consents (RoC) programme due to the impact of abstraction on interest features in the SAC (primarily fresh water pearl mussels). The decommissioning of Ennerdale water treatment works and associated abstraction from Ennerdale Water under this option may therefore generate benefits in respect of these features due to increased flows. Furthermore, there are ancillary benefits from delivery of the preferred option due to the revocation of other abstraction licences in West Cumbria, in particular that at Crummock Water, which has a positive environmental effect on the Derwent and Bassenthwaite SAC.
8.	The additional supply associated with the preferred option would have a significant positive effect on health (in helping to ensure the continuity of a safe and secure drinking water supply) and economic and social well-being (given the potential for additional supply to support economic/population growth and help sustain the seasonal influx of tourists to the area).	The findings of the assessment are noted. The preferred option would meet all the demand for the West Cumbria WRZ and brings a number of benefits for the region, such as: <ul style="list-style-type: none"> • increased confidence in long term supplies in meeting changing demands; • support for the developing Britain's Energy Coast economic strategy as it would allow for more water to be available than is currently forecast; and • removes the vulnerability to short duration droughts.
9.	Under the Lowest Cost Option, the operation of the new West Cumbria aquifer boreholes, Wastewater transfer and Crummock automated compensation ⁸ control would have an uncertain effect on several European designated sites including Wastwater SAC, River Ehen SAC and River Derwent and Bassenthwaite Lake SAC. Furthermore, new borehole abstractions at Waverton and Thursby have the potential to impact on the nearby River Waverley and River Wampool and may affect water dependent SSSIs downstream of the borehole sites, although no readily available flow data could be found for the River Waverley or Wampool to contextualise the abstraction volumes and current flow.	United Utilities note that the potential for adverse effects on Natura 2000 sites is uncertain. Should the need to bring forward the Lowest Cost Option be triggered (as the contingency plan to the preferred option), then further assessment and analysis including SEA (and HRA) of any new (or enhanced) schemes would be undertaken as appropriate in order to refine the alternative plan and appraise any wider application of contingency options.

⁸ Note: Option WC19 (Crummock automated compensation control) was removed from the lowest-cost plan at the revised draft WRMP as the scheme was not required

4. How the opinions expressed in response to the consultation on the Environmental Report have been taken into account in preparing the final Plan

4.1 Overview

Consultation has been an integral part of the SEA of United Utilities' WRMP. This has included the following main activities:

- consultation with the statutory SEA bodies on the scope of the SEA;
- consultation with the statutory SEA bodies on the emerging findings of the SEA; and
- formal public consultation on the Environmental Report.

A summary of the activities listed above and outcomes at each stage is provided in the sections that follow.

4.2 Consultation

4.2.1 Scoping consultation

The first stage of the SEA was the production of a Scoping Report. This reviewed plans and programmes that could affect the WRMP or be affected by it, outlined baseline information for the plan area and set out the proposed framework for assessing potential environmental effects. The SEA Scoping Report was issued for consultation to statutory consultees (Natural England, the Environment Agency, English Heritage, Environment Agency Wales and the Countryside Council for Wales [now Natural Resources Wales], Cadw and the Welsh Government) for a five week period beginning 5th October 2012.

Responses were received to the consultation from the following organisations:

- Environment Agency;
- Environment Agency Wales;
- Natural England;
- Countryside Council for Wales;
- English Heritage; and
- Cadw.

In support of the consultation, a meeting attended by the Environment Agency and Natural England was also held on 25th October 2012. The purpose of this meeting was to seek initial feedback on the content of the Scoping Report.

Detailed responses to the consultation on the Scoping Report are included in **Appendix B** to this report. A brief summary of the areas commented on is set out in **Table 4.1** below.

Table 4.1 Issues raised at the scoping stage by statutory consultees

	NTS	Plans and Programmes	Baseline	SEA Objectives	SEA Guide Questions	WRMP	Definitions of Significance	Presentation	Errors/ Inconsistencies	Integration of WRMP, SEA and HRA	Other
Environment Agency			X		X			X		X	
Environment Agency Wales		X	X	X			X				
Natural England		X	X	X	X	X			X	X	
Countryside Council for Wales		X	X		X	X	X				
English Heritage			X								
Cadw											X

4.2.2 Consultation on the emerging findings of the SEA

The assessment contained in the Environmental Report was informed by on-going engagement with the statutory SEA consultation bodies. This engagement included meetings with the Environment Agency and Natural England that were held on 31st January and 01st March 2013 to present and discuss the emerging findings of the assessments of both the feasible options and preferred option and alternatives. More specifically, the meetings provided an opportunity to:

- sense check and refine the emerging findings of the assessments, with particular focus on significant (positive and negative) effects;
- gain specialist input into the assessment process;
- identify and discuss mitigation measures to address negative effects; and
- consider the selection (and rejection) of dWRMP alternatives.

Those statutory consultation bodies that were unable to attend meetings were also able to provide written comments on the emerging findings of the assessment.

Comments received during the meetings or via written correspondence were considered in finalising the Environment Report.

4.2.3 Public consultation on the Environmental Report

Public consultation on the Environmental Report ran from 14th May 2013 to 6th August 2013. The Environmental Report indicated that United Utilities welcomed, in particular, views on:

- whether the assessment set out in the Environmental Report described the likely significant environmental effects of the feasible and preferred options;
- whether there were other likely significant environmental effects that should have been identified and that would have affected the choice of preferred option included in the dWRMP; and
- whether the likely significant effects on the environment from the dWRMP were identified, described and assessed.

Following consultation on the Environmental Report and dWRMP, United Utilities prepared a Statement of Response setting out how representations had been taken into account and the amendments made to the dWRMP as a result.

Three responses were received during the consultation specifically in relation to the Environmental Report from the following bodies:

- Natural England;
- Natural Resources Wales;
- Friends of the Lake District.

A summary of the comments received on the Environmental Report and United Utilities' response is presented in **Table 4.2** below. Comments are structured by issues raised. Details of the comments are set out in **Appendix C**.

Table 4.2 Summary of consultation responses to the Environmental Report

Issue	Summary of Consultation Responses to the Environmental Report	Response
SEA process and selection of the preferred WRMP option.	Natural England felt that the extent to which the SEA had influenced United Utilities' choice of its preferred option was not clear.	Section 5.5 of the Environmental Report and Section 3.5 of the Environmental Report Addendum (as well as Section 5.1 of this Post Adoption Statement) set out the reasons for the selection of the preferred option. The preferred option was chosen using a standard industry method that includes consideration of technical feasibility, financial costs and benefits, and quantified impacts on the environment and community, taking into account the findings of the SEA and HRA as well as input from key stakeholders.

Issue	Summary of Consultation Responses to the Environmental Report	Response
<p>Landscape effects associated with the construction and operation of new above ground infrastructure in the Lake District National Park.</p>	<p>Both Natural England and Friends of the Lake District raised concerns with respect to the potential landscape impacts associated with the construction and operation of new above ground infrastructure in the Lake District National Park.</p> <p>Friends of the Lake District felt that no weight had been attached to the potential landscape harm of the option in the assessment and stated that more information was required to support a detailed landscape assessment of the relative impacts of the preferred option and the Kielder option (Option WC14d). Further, Friends of the Lake District felt that there was a lack of a comparative assessment of the two options.</p> <p>Natural England requested further information to substantiate the conclusion of the assessment that there would be only minor landscape effects related to the construction and operation of new above ground infrastructure.</p>	<p>The approach undertaken to the assessment of landscape effects as part of the SEA is considered to be robust and proportionate to the strategic nature of the assessment and in accordance with Government guidance. The SEA framework used contained a specific objective related to landscape (SEA Objective 12: To protect and enhance landscape character). A detailed assessment of the preferred option and alternatives including Option WC14d during construction and operation against this objective is provided at Appendix E to the Environmental Report and Appendix C to the Environmental Report Addendum.</p> <p>Reflecting the potential requirement for construction of a number of new assets in the Lake District National Park, the preferred option was assessed as having a significant negative effect on landscape during construction. With regard to the operational effects of the preferred option on landscape, the assessment acknowledged that the new water treatment works in the vicinity of the existing Bridge End facility would constitute a relatively large scale development in the Lake District National Park and that there would be the potential for significant negative effects on landscape. However, with mitigation, the assessment concluded that it would not be expected that effects on landscape would be significant in this instance.</p> <p>United Utilities appreciate that Natural England wish to understand further the effects associated with the operation of the proposed new water treatment works at Bridge End. Whilst it is not within the scope of the SEA to undertake a detailed landscape impact assessment, further assessment of the landscape effects associated with the preferred option and alternatives was undertaken with the findings presented in the Environmental Report Addendum. This assessment was based on additional information made available relating to the scale and design of new above ground infrastructure. The Addendum re-affirmed the conclusions of the original assessment in respect of the preferred option, i.e. that there would be the potential for significant negative effects on landscape.</p> <p>Based on revised proposals, Option WC14d (Kielder Transfer into West Cumbria (Treated near Carlisle)) was also assessed as having a significant negative effect on landscape. This reflects the location of the development sites near Cornhow and Ennerdale being within the Lake District National Park and pipelines which would cross the Lake District and Northumberland National Parks. The Lowest Cost Option, meanwhile, was assessed as having a minor negative effect on landscape.</p> <p>It should be noted that the exact location of development sites has not yet been determined. This would be established at the project stage when the location of all components of the scheme would be determined through a site selection exercise as part of the EIA process. In this context, any proposal would be subject to full landscape and</p>

Issue	Summary of Consultation Responses to the Environmental Report	Response
<p>Landscape effects associated with the additional draw-down of Thirlmere reservoir.</p>	<p>Natural England raised concerns with respect to the landscape impacts of additional draw-down of Thirlmere reservoir.</p>	<p>visual impact assessment whilst landscape and visual impact would be a key consideration in the determination (by the relevant local planning authority) of any Town and Country planning application(s) related to the scheme. Should residual landscape and visual impacts prove to be unacceptable, then alternative locations for the proposed new water treatment works and other above ground infrastructure would need to be considered.</p> <p>The detailed assessment of the preferred option contained at Appendix E to the Environmental Report highlighted that the operation of the preferred option would result in additional draw-down of Thirlmere which may be perceptible to users.</p> <p>Following the response from Natural England, the Addendum to the Environmental Report considered this issue further. It highlighted that analysis of reservoir levels by United Utilities shows that once operational, this option would result in a reduction in the average annual minimum storage levels in Thirlmere under both normal and dry year conditions compared to minimum storage under current operation. However, the scale of this difference is considered to be limited and less severe than has been historically observed (i.e. due to significantly reduced demands). This option would not substantially affect landscape character or visual amenity.</p>
<p>Effects of the preferred WRMP option on the local economy.</p>	<p>Friends of the Lake District commented that the potential adverse effects of construction of the preferred option on tourism and businesses had not been fully recognised in the Environmental Report.</p>	<p>The SEA framework used to support the assessment of the dWRMP contained a specific objective related to the economy (SEA Objective 8: To maintain and enhance the economic and social well-being of the local community).</p> <p>The assessment contained in the Environmental Report and Addendum identified that construction of the preferred option may cause traffic disruption, particularly during peak tourist periods. In this regard Section 3.2.1 of the Environmental Report states:</p> <p><i>“HGV movements and pipeline works of the proposed scale may cause traffic disruption, particularly if works are undertaken during peak tourist periods when the influx of visitors to the area causes congestion.”</i></p> <p>The assessment also identified that construction activity and the presence of new above ground infrastructure may affect the amenity of recreational users and, in-turn, tourism. For example, the detailed assessment of the operational effects of the preferred option against SEA Objective 8 contained in Appendix C to the Environmental Report Addendum states:</p> <p><i>“New above ground infrastructure would (with the exception of that near Bothel Moor) be located within the Lake District National Park which may affect the tourist economy (due to associated visual amenity impacts).”</i></p> <p>It is also important to note that the assessment</p>

Issue	Summary of Consultation Responses to the Environmental Report	Response
Monitoring the effects of the implementation of the WRMP.	Friends of the Lake District felt that the proposed monitoring indicator for landscape is inadequate and ignores the concept of landscape character being made up of a number of different factors and facets and overlooks the importance of non-designated landscapes.	<p>identified the potential for significant positive effects on SEA Objective 8 associated with the generation of employment opportunities and supply chain benefits as well as increased spend in the local economy by contractors and construction workers. Under operation, the assessment also highlighted that additional supply associated with the preferred option may support economic and population growth in the West Cumbria area and help sustain the seasonal influx of tourists to the area.</p> <p>The commentary provided in Table 6.1 to the Environmental Report provides an indication of the type of data that could be used to monitor the effects of the WRMP's implementation. The monitoring framework as been developed further as part of the preparation of this Post Adoption Statement (see Section 6 and Appendix D).</p> <p>The monitoring framework includes the following indicator: Loss or damage to landscape character and features of designated site.</p> <p>It is considered that this indicator is sufficiently robust for monitoring the effects of the implementation of the WRMP on landscape.</p> <p>To inform United Utilities' monitoring of this indicator, the following sources of information will be used:</p> <ul style="list-style-type: none"> ▪ Number and floor space of new buildings that are built within the designated landscape sites; ▪ The findings of detailed landscape and visual impact assessment and EIA (and in particular the identification of likely significant effects on landscape and visual amenity).

4.2.4 Public consultation on the Water Resources Management Plan

Chapter 2 of the WRMP provides a comprehensive overview of the consultation undertaken by United Utilities during the production of the Plan. This included the following activities:

- Customer preference survey, 2012/13;
- Willingness-to-pay surveys, January 2013 and August 2013;
- Acceptability testing, June to August 2013;
- Customer focus groups, August 2013;
- Involvement of the Customer Challenge Group;
- Ongoing liaison with the Environment Agency, Natural England, Natural Resources Wales, Ofwat and other key stakeholders;

- Formal pre-consultation on the WRMP, June 2012.

The dWRMP was published for consultation on 14th May 2013. Representations on the dWRMP were received from a total of 55 consultees with respondents including (inter-alia) Government departments, water industry bodies, environmental bodies, local authorities (including National Park authorities), parish councils, campaign bodies, local interest groups, landowners and individuals.

In November 2013, United Utilities published a SoR describing the consultation and how the comments received had been taken into account in preparing the revised draft WRMP. A summary of the main issues raised and Unities Utilities' response is provided in **Table 4.3**.

Table 4.3 Main issues raised in representations on the dWRMP

Summary of Issue	Number of respondents raising the issue	United Utilities' Response
Some respondents questioned why abstractions at Ennerdale need to change at all, especially as any alternative will be costly to implement, and questioned whether there was sufficient evidence to justify the investment.	5	It is the Environment Agency's role to review the evidence, advised by Natural England, relating to abstraction licences and determine what changes are required to comply with legislation. The proposed licence revocation at Ennerdale are based on evidence from leading international experts and are required to comply with the requirements of the Conservation of Habitats and Species Regulations. The Environment Agency is also conducting its own consultation on significant water management issues in the North West. United Utilities has supported a significant number of studies and investigations relating to Ennerdale, the Ehen and the freshwater mussels. We have also commissioned a peer review, which concluded that the licence revocation was required. We accept the view that it would be helpful to set out more evidence in the water resources management plan, and have therefore included this in Section 2.6 of the revised draft plan.
Many respondents expressed a preference in relation to the alternative plans for West Cumbria.	16	We have considered these views carefully. We have carried out more detailed engineering assessments of the three alternatives. We have carried out further water resources modelling of the impact of the West Cumbria transfer on our Integrated Resource Zone. We have also carried out further customer research: focus groups to understand how customers view the three alternatives and quantitative research to understand the value customers place on different options. We have reviewed our SEA and HRA in light of the representations received. Due to the fact that the majority of representations that expressed a clear preference supported the Thirlmere option, we have retained this as our preferred plan. The consultation process is an important part of our decision-making process which considers a wide range of factors. We have set out further details of this process in Section 10 of the revised draft plan.
Some respondents raised concerns over abstractions from Windermere due to effects on the environment, tourism and other businesses in the area.	3	We have undertaken further water resources modelling to test the effect of the transfer on Windermere, Ullswater and other sources in our Integrated Zone. No change to our existing rules of operation are required to enable the transfer to West Cumbria. The effects on abstraction from Windermere and Ullswater as a result of the transfer are insignificant.
Some respondents raised issues about the effects of our plans on Thirlmere flood risk and on opportunities for alleviation measures.	5	We confirm that flood management and flood releases form a critical part of the operation of Thirlmere reservoir. No changes to the flood management operational rules are required to enable the transfer of water to West Cumbria. We will consider infrastructure changes to enable greater releases to reduce flood risk as part of the detailed design work for the West Cumbria transfer.

Summary of Issue	Number of respondents raising the issue	United Utilities' Response
Some respondents said that we should consider more ambitious demand management, including meter uptake and leakage reduction.	5	Looking only at the supply demand balances there is no benefit to further demand management and therefore it is difficult to justify the cost of further demand management, which would increase the bills paid by our customers. However, we have identified ways of further increasing meter uptake that will help our customers reduce their bills. We have included these in our revised plan and, as a result, forecast demand is lower than in the draft plan.
Some respondents raised concerns regarding using our land by shale gas companies, effects on tap water quality, availability of water to support the shale gas industry and pollution risk to groundwater.	15	We have a statutory duty to provide water and wastewater services to those who request them. We do not consider provision of such services for shale gas companies would impact on our resources. The strong regulatory framework to grant the licence for shale gas exploration to proceed will take into account environmental concerns and risks to water supplies.

Source: United Utilities (2015) *United Utilities Water Resources Management Plan*

5. The reasons for choosing the WRMP as adopted, in light of the other reasonable alternatives dealt with

5.1 Reasons for the selection of the preferred option

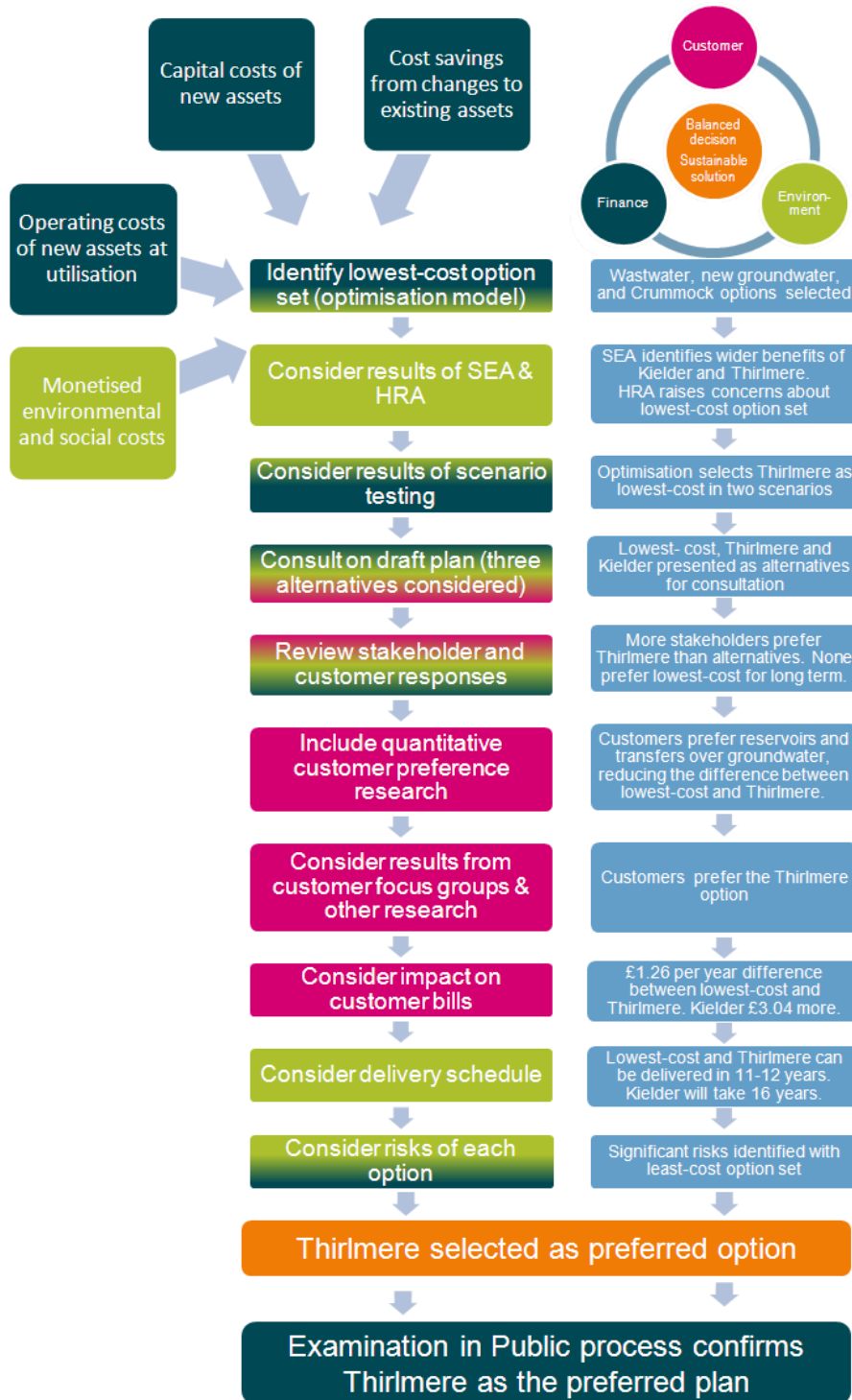
United Utilities chose the preferred option using a standard industry method that includes consideration of technical feasibility, financial costs and benefits, and quantified impacts on the environment and community, taking into account the findings of the SEA and HRA as well as input from key stakeholders and customers.

Since the publication of the dWRMP and Environmental Report, further consideration was given to customer and stakeholder views about the three alternatives put forward in the dWRMP. More detailed engineering assessments of the cost and delivery time of the options were also undertaken which informed the re-assessment of the options as part of the Environmental Report Addendum (and the HRA). Both the delivery timescales and the risks/uncertainties of the options were considered in detail by United Utilities in conjunction with the Environment Agency. Later, in September 2015, this analysis formed a key part of the Examination in Public process. In particular, a number of key uncertainties were identified on the viability of the lowest-cost plan and these were reflected in the revised draft WRMP (section 10.2.1).

Importantly, the preferred option has been tested as part of the Examination in Public and approved by the Secretary of State (subject to the revisions set out at Section 1.2 of this Post Adoption Statement).

In selecting the preferred WRMP option, a comprehensive decision making process has been applied consistent with the Water Resources Planning Guidelines, as summarised in **Figure 5.1**.

Figure 5.1 United Utilities’ decision making process



Source: United Utilities (2015) Final Water Resources Management Plan

United Utilities consider that Option WC01: Thirlmere Transfer into West Cumbria is the only way demand can be confidently met in the West Cumbria WRZ. It also comprises the most flexible solution for the West Cumbria WRZ which will be able to meet the requirements of the people, the economy and the environment over the next 25 years. Customers' opinions have also heavily influenced the selection of the preferred option. Of the three alternative options put forward, focus group work identified that building a new pipeline from Thirlmere reservoir to serve the West Cumbrian region was the most popular.

The preferred option would dedicate a greater proportion of the water available in Thirlmere reservoir to meet the needs of Cumbria. This would require a new water treatment works and a pipeline to transfer the water into West Cumbria, thus linking the population of West Cumbria to the UK's largest interconnected water resource zone. This transfer would be of sufficient size to meet all the demand for West Cumbria and brings a number of benefits for the region, such as:

- Increased confidence in long term supplies in meeting changing demands;
- Support for the developing Britain's Energy Coast economic strategy as it would allow for more water to be available than is currently forecast;
- Allows abstraction from existing sources in West Cumbria to cease and return the habitats to more natural conditions. This has allowed United Utilities to include revocation of abstractions from the Sites of Special Scientific Interest and Special Areas of Conservation in West Cumbria within a compensatory measures package (Appendix 13 of the Final WRMP);
- Protects internationally important Special Areas of Conservation;
- Future climate change resilience;
- Removes the vulnerability to short duration droughts;
- Longer-term cost savings as the existing treatment works can be closed; and
- Removes the vulnerability of West Cumbria to future sustainability reductions.

The implementation of this option would result in removal of the supply-demand deficit for the West Cumbria resource zone and a reduction in the supply-demand surplus in the Integrated Resource Zone with a significant surplus remaining. Table 32 of the revised draft WRMP outlines these changes and Section 11 of the revised draft WRMP outlines the testing of the plan that United Utilities has completed to ensure it can meet any changes to assumptions made.

5.2 Reasons for the rejection of alternatives

Two alternative options were considered during the preparation of the WRMP, Option WC14d: Kielder Water Transfer to West Cumbria (Cumwhinton Treated) and the Lowest Cost Option.

The Kielder alternative has the same benefits as the preferred option. However, United Utilities has decided not to pursue this option as it is estimated to take 16 years to complete the scheme which would not be compatible with

the aim of complying with United Utilities' legal obligations under the Conservation of Habitats and Species Regulations as fast as practicable. Also, United Utilities cannot justify the considerable additional cost of this option given the lack of widespread customer and stakeholder support.

The Lowest Cost Option was considered to have the following benefits:

- having local solutions can be one of the most environmentally friendly solutions in the short term due to the lower levels of construction required;
- the surface water components are within existing licences and would not need new licences; and
- it is the lowest cost set of options, resulting in the smallest relative increase in customer bills.

However, the implementation of the option also raised a number of concerns:

- It is reliant on the agreement of a third party abstraction licence holder. In their consultation response to the dWRMP, the licence holder stated that their future water needs were uncertain and that it would not be sensible for United Utilities to assume that this could be a preferred option. This leaves significant uncertainty about the viability of a major component of this option set. Further discussions between United Utilities, the Environment Agency and the third party took place in August and September 2014 to discuss the viability of various water resource supply options. The outcome of these discussions was that these options could form part of a long-term water supply solution. However, there remains uncertainty about delivery timescales and whether any of these options could be utilised before completion of the Thirlmere transfer in March 2022.
- The HRA identified that the operation of the Wastewater component could have a significant negative effect on biodiversity whilst groundwater components had the potential for adverse effects on protected sites. This creates uncertainty as to the viability of the option which cannot be resolved without significant further investigation. In their representation on the dWRMP, Natural England stated that the current uncertainty regarding impacts of the groundwater option could have excluded this option from the plan. These abstractions would require Habitats Regulations appropriate assessments which introduce considerable uncertainty and potential delays to delivery of the option.
- There remains uncertainty about the availability of groundwater resources in the West Cumbria aquifer. A current Environment Agency led study will seek to understand this in more detail and there is a requirement to understand the effects of groundwater abstraction from the current South Egremont scheme before further resource development can proceed.
- If there are further sustainability changes in West Cumbria the option would no longer meet future demand; one more sustainability change has been confirmed by the Environment Agency following publication of the dWRMP. Following further discussion with the Environment Agency, United Utilities estimate that the likelihood of, as yet unknown, future sustainability reductions in West Cumbria is around 25%.
- The option would not solve West Cumbria's reliance on abstraction from environmentally sensitive sites, including SACs.
- This option would not solve West Cumbria's vulnerability to short droughts and limited drought options. This vulnerability has caused United Utilities to start revising its Drought Plan for West

Cumbria only three months after publishing a final plan. Under this alternative, drought orders from Crummock Water would be the only supply side drought option available. Crummock Water is part of a SAC.

- No consultation respondents stated that they preferred the option as a long-term solution to meeting water supply needs in West Cumbria.
- In customer focus group research, once the relative costs and benefits of the alternatives were explained, fewer customers favoured this alternative.

On the basis on these concerns, United Utilities consider that the Lowest Cost Option cannot be taken forward as the preferred option. United Utilities has considered whether it would be in customers' and the environment's best interest to continue working on this option set in parallel with the preferred option. There are high levels of uncertainty as to whether the solution could be delivered, because of the third party licence holder's concerns, the potential for new licences not becoming available due to Habitats Directive concerns and lack of stakeholder support. The long-term viability of the option is also uncertain, as shown by scenario testing. There is also a significant probability of inefficiently using customer's money to pursue an ultimately unviable option.

However, although United Utilities has a high confidence in the deliverability of the preferred WRMP option, following the EiP and in accordance with the direction of the Secretary of State, a contingency plan has been developed. The Lowest Cost Option forms the basis for the contingency plan and, as detailed in Section 12 of the final WRMP, United Utilities is therefore continuing work to reduce the future uncertainty on the viability of this option set should this be required as a contingency at a later date. Additionally, should the contingency plan be triggered then further assessment and analysis including SEA (and HRA) of any new (or enhanced) schemes would be undertaken as appropriate in order to refine the alternative plan and appraise any wider application of contingency options.

6. The measures decided concerning monitoring

6.1 Requirement for monitoring

The SEA Directive requires the significant environmental effects of implementing a plan to be monitored. Monitoring of the effects of the implementation of the WRMP will focus on:

- the significant effects identified in the assessment that may give rise to irreversible damage; and
- uncertain effects where monitoring would enable preventative or mitigating measures to be undertaken.

6.2 Monitoring framework

United Utilities expect to monitor the effects of the WRMP alongside the other impacts of their operations, and as such, are likely to rely on existing sources of information that are collected either by United Utilities or by other relevant organisations such as the Environment Agency. For example, United Utilities already collects information for a robust annual review process (the June Return) that is submitted to the Office of Water Services (Ofwat). United Utilities updates their WRMP and Drought Plan every five and three years respectively and there are a number of statutory controls which must be monitored.

Consistent with the proposals of the Environmental Report, potential effects against all the SEA objectives have been included in the monitoring framework, which is set out in **Appendix D**. Progress on the implementation of the WRMP and identification of any issues arising will be reported in the water resources plan review that is part of Ofwat's annual June Return process. Furthermore, as part of the construction of the preferred option, project specific EIA and HRA will be completed that will build on the evidence collected thus far as part of the SEA for the WRMP process.

Appendix A

Compliance with the SEA Regulations

Table A.1 details the SEA Regulations' requirements of the Post Adoption Procedures and indicates where relevant information required can be found in this report.

Table A.1 Compliance of this Report with the requirements of the SEA Regulations

SEA Regulations Requirement	Location in the Post Adoption Statement (where appropriate)
Information as to adoption of plan or programme (SEA regulation 16)	
<p>(1) As soon as reasonably practicable after the adoption of a plan or programme for which an environmental assessment has been carried out under these Regulations, the responsible authority shall -</p> <p>(a) make a copy of the plan or programme and its accompanying environmental report available at its principal office for inspection by the public at all reasonable times and free of charge; and</p> <p>(b) take such steps as it considers appropriate to bring to the attention of the public</p> <ul style="list-style-type: none"> ▪ (i) the title of the plan or programme; ▪ (ii) the date on which it was adopted; ▪ (iii) the address (which may include a website) at which a copy of it and of its accompanying environmental report, and of a statement containing the particulars specified in paragraph (4), may be viewed or from which a copy may be obtained; ▪ (iv) the times at which inspection may be made; and ▪ (v) that inspection may be made free of charge. 	<p>A copy of the WRMP and accompanying reports and documentation is available at: http://corporate.unitedutilities.com/Water-Resources-Management-Plan.aspx</p> <p>A paper copy of the WRMP, Environmental Report and this Post Adoption Statement are available for public viewing at: Haweswater House, Lingley Mere Business Park, Great Sankey, Warrington, WA5 3LP The office is open from 9am until 5pm Monday to Friday.</p>
<p>(2) As soon as reasonably practicable after the adoption of a plan or programme -</p> <p>(a) the responsible authority shall inform -</p> <ul style="list-style-type: none"> ▪ (i) the consultation bodies; ▪ (ii) the persons who, in relation to the plan or programme, were public consultees for the purposes of regulation 13; and ▪ (iii) where the responsible authority is not the National Assembly, the National Assembly; and <p>(b) the National Assembly must inform the Secretary of State, of the matters referred to in paragraph (3).</p> <p>(3) The matters are -</p> <p>(a) that the plan or programme has been adopted;</p> <p>(b) the date on which it was adopted; and</p>	<p>United Utilities, as the responsible authority, informed the consultation bodies, public consultees and the Secretary of State on 18th March 2015 on the matters included in (3) below.</p> <p>This Post Adoption Statement addresses (iii) and contains particulars specified in paragraph (4) as outlined below.</p>
<p>(c) the address (which may include a website) at which a copy of -</p> <ul style="list-style-type: none"> ▪ (i) the plan or programme, as adopted, ▪ (ii) its accompanying environmental report, and . (iii) a statement containing the particulars specified in paragraph (4), may be viewed, or from which a copy may be obtained. 	
<p>(4) The particulars referred to in paragraphs (1)(b)(iii) and (3)(c)(iii) are -</p>	
<p>(a) how environmental considerations have been integrated into the plan or programme;</p>	Section 2

SEA Regulations Requirement	Location in the Post Adoption Statement (where appropriate)
(b) how the Environmental Report has been taken into account;	Section 3
(c) how opinions expressed in response to - <ul style="list-style-type: none"> - (i) the invitation referred to in regulation 13(2)(d); - (ii) action taken by the responsible authority in accordance with regulation 13(4), - have been taken into account;	Section 4, Appendix B and Appendix C
(d) how the results of any consultations entered into under regulation 14(4) have been taken into account;	Not applicable - no transboundary consultation with other EU Member States took place
(e) the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and	Section 5
(f) the measures that are to be taken to monitor the significant environmental effects of the implementation of the plan or programme.	Section 6 and Appendix D
Monitoring of implementation of plans and programmes (SEA regulation 17)	
(1) 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.	Monitoring procedures are set out in Section 6 and Appendix D. United Utilities will identify effects and undertake remedial action (as necessary) as the WRMP is implemented.
(2) The responsible authority's monitoring arrangements may comprise or include arrangements established otherwise than for the express purpose of complying with paragraph (1).	The monitoring procedures set out in Section 6 and Appendix D will complement existing monitoring arrangements where possible.

Appendix B

United Utilities dWRMP Strategic Environmental Assessment: Scoping Report consultation response summary

Environment Agency

Section	Consultee Response	Response/Action
Section 4: Baseline	We would like UU to acknowledge the inclusion of the National Environment Programme and the Restoring Sustainable Abstraction sites, discussing with the Environment Agency of their respective contents as each list potentially gets refined.	This information has been included within the baseline section of the Environmental Report (Section 2.2). Discussion in respect of the Programme/RSA content itself is outside the SEA process. However, UU will respond to this request directly.
Section 4: Baseline	<p>There is a proposed extension to the Lake District National park and the Yorkshire Dales National Park, and we suggest you follow the standard wording provided by Natural England, as well as ensuring this is considered in your baseline.</p> <p>UU should ensure that the SEA reports are produced using the latest and most accurate data at the time.</p>	<p>Agreed. Reference to proposed changes to National Park boundaries has been made within the baseline section of the Environmental Report (Section 2.2).</p> <p>Noted.</p>
Section 5: Draft Assessment Framework	<p>UU need to ensure that the report and any potential summary will provide sufficient details regarding the environmental impact and timescales, clearly distinguishing short term from long term impacts, and identifying mitigation methods when possible.</p> <p>It is essential that the SEA takes into account the potential risks of deterioration of WFD classification for waterbodies as well as aiming to achieve GES / GEP.</p> <p>We would like UU to include a test or criteria to assess the resilience of solutions to future changes in resources from relevant organisations (e.g. reduced manpower).</p>	<p>Noted. The assessment has included consideration of short, medium and long term effects and identified mitigation (where appropriate) as required under the SEA Directive. The differentiation aids the assessment to distinguish between construction related effects (predominately short term for any possible infrastructure identified) as opposed to operational effects (which will extend from the medium to long term).</p> <p>The need to improve the ecological status of water bodies has been identified as a key issue. The definitions of significance contained in Appendix C have also been amended to reflect WFD compliance.</p> <p>The following additional guide question has been included in the Assessment Framework: <i>Will the option be resilient to future changes in resources (both financial and human)?</i></p>
General comments	There needs to be better description / explanation of how the SEA and HRA processes are integrated together.	Noted. More detailed explanation in respect of the relationship between the SEA and HRA has been provided in Section 1.

Environment Agency Wales

Section	Consultee Response	Response/Action
Section 3: Review of Plans and Programmes	<p>We recommend that the following should also be considered as part of the review of plans and programmes relevant to the Draft WRMP:</p> <p>International / European Plans and Programmes</p> <ul style="list-style-type: none"> ▪ The Environmental Noise Directive (2002/49/EC); ▪ Whilst we welcome the reference to The Wild Birds Directive (79/409/EEC), we suggest that a reference should also be made to the codified version: Birds Directive (2009/147/EC). <p>National Plans and Programmes</p> <ul style="list-style-type: none"> ▪ Welsh Government (2004) Technical Advice Note 15: Development and Flood Risk; ▪ Welsh Government (2009) One Wales One Planet: The Sustainable Development Scheme for Wales; ▪ Welsh Government (2008) People, Places, Futures: The Wales Spatial Plan 2008 Update; ▪ Welsh Government (2008) Wales Environment Strategy Action Plan 2008 – 2011; ▪ Welsh Government (2009) Technical Advice Note 5: Nature Conservation and Planning; ▪ Welsh Government (2010) Climate Change Strategy for Wales and First Annual Progress Report (2012); ▪ Welsh Government (2010) Flood and Coastal Erosion Risk Management: Development of a National Strategy for Wales – Consultation Document; ▪ Welsh Government (2010) A Living Wales – A New Framework for Our Environment, Our Countryside and Our Seas (Consultation Document); ▪ Welsh Government (2010) A Low Carbon Revolution: The Welsh Assembly Government Energy Policy Statement; ▪ Welsh Government (2011) Planning Policy Wales (Edition 4); ▪ Welsh Government (2011) Strategic Policy Position Statement on Water; ▪ Welsh Government (12 December 2011) Written Statement – Water Policy in Wales; 	<p>The plans and programmes identified have been included in the Environmental Report (Section 2.1) and Appendix B where appropriate.</p>

Section	Consultee Response	Response/Action
<p>Section 4: Baseline</p>	<ul style="list-style-type: none"> ▪ Welsh Government (2011) Welsh Government Policy Statement: Preparing for a Changing Climate; ▪ Welsh Government (2012) Proposals for a Sustainable Development Bill; ▪ Welsh Government (2012) Sustaining a Living Wales: A Green Paper on a New Approach to Natural Resource Management in Wales; ▪ Reservoirs Act 1975; ▪ Natural Environment and Rural Communities Act, 2006; ▪ Environment Agency Corporate Plan 2011 – 2015; <p>Environment Agency Wales Corporate Plan 2011 – 2015: <i>Working together for a better environment.</i></p> <p>Sub-regional/ Local Plans and Programmes</p> <ul style="list-style-type: none"> ▪ Environment Agency (various) Salmon Action Plans; ▪ Catchment Abstraction Management Strategies (Environment Agency); ▪ Local flood authorities (local authorities in Wales) are currently preparing Local Flood Risk Management Strategies. These may not be available at the time of writing the Draft WRMP. However United Utilities should consider these strategies when completed. Preliminary Flood Risk Assessments are available: http://www.environment-agency.gov.uk/research/planning/135491.aspx; ▪ Relevant Site Action Plans & Appropriate Assessments (Habitats Directive). <p>Section 4.1.2: Biodiversity (p. 19)</p> <p>The biodiversity information presented in this section relates mostly to north west England. We consider that the SEA should also make reference to designated sites located in Wales which may be potentially affected by the Plan options.</p> <p>Section 4.1.4: Water (p. 32)</p> <p>The SEA focuses on the United Utilities supply area. However, the SEA should also consider water source areas in Wales such as Lake Vyrnwy.</p> <p>Section 4.1.4: Water (p. 34 – 35 including Table 5.5)</p> <p>We consider that information relating to water availability should also refer to those Catchment Abstraction Management Strategies (CAMS) which relate to those areas from which water is derived to supply the United Utilities supply area. We therefore recommend that the SEA should also refer to the Severn Corridor CAMS which provides water availability information relating to the Vyrnwy water source.</p>	<p>Reference to additional sites located outside the North West that may be potentially affected by the Plan options has been included in the baseline section of the Environmental Report (Section 2.2).</p> <p>Reference to water sources in Wales such as Lake Vyrnwy has been included within the baseline section of the Environmental Report (Section 2.2).</p> <p>Reference to the Severn Corridor CAMS has been included within the baseline section of the Environmental Report (Section 2.2).</p>

Section	Consultee Response	Response/Action
Section 5: Draft Assessment Framework	<p>Section 4.1.4: Water (p. 38 including Figure 4.7) Figure 4.7 should be amended to also include the rivers:</p> <ul style="list-style-type: none"> ▪ Cownway, Marchant and Vyrnwy, which are intakes for the Lake Vyrnwy source; and ▪ the river Dee. 	<p>This figure has been taken from a secondary source and in consequence cannot be amended. However, information in respect of the ecological status of water sources linked to Wales has been provided where appropriate and available.</p>
	<p>Section 4.1.4: Water (p. 37-39) Lake Vyrnwy is a water source to the United Utilities supply area, which lies within the Severn River Basin Management Plan. United Utilities also abstracts water from the Dee. We therefore recommend that the SEA also refers to the Severn River Basin Management Plan and the Dee River Basin Management Plan.</p>	<p>Reference to the Severn and Dee RBMPs has been included within the baseline section of the Environmental Report (Section 2.2).</p>
	<p>Section 4.1.4: Water (p. 42) In addition to recognising the potential risk of flooding to residential and commercial properties, we recommend that the SEA should also make reference to the risk of flooding to United Utilities' infrastructure and the potential for consequential disruption to water supply, and potential pollution incidents.</p>	<p>The risk of flooding in respect of United Utilities' infrastructure (and consequential disruption to water supply and increased pollution incidents) has been acknowledged within the baseline section of the Environmental Report (Section 2.2).</p>
	<p>Section 4.1.4: Water (p. 41)/Section 5 Table 5.1 (p. 71) The Water Framework Directive includes the aim to protect and improve the ecology of the water environment. We therefore recommend that improving the ecological status of water bodies should also be identified as a key water issue that is relevant to the Plan.</p>	<p>The need to improve the ecological status of water bodies has been identified as a key issue.</p>
	<p>Section 4.1.5: Air Quality and Climate (p. 48)/Section 5 Table 5.1 (p. 71) We recommend that climate change adaptation should be clearly identified as a Key Climate Change issue in the SEA.</p>	<p>The baseline and Table 5.1 identify the need to take into account and where possible mitigate for the potential effects of climate change as a key sustainability issues. However, wording has been amended to read: "<i>The need to take into account and where possible adapt to the potential effects of climate change.</i>"</p> <p>The following additional issue has also been identified: <i>The need to increase environmental resilience to the effects of Climate Change.</i>"</p>
	<p>Table 5.4: Proposed Assessment Objectives SA Objective 3 (Water – Quantity and Quality) We consider that the proposed assessment Objectives and Guide Questions should be amended to reflect the ecological objectives of the Water Framework Directive to protect and improve the ecology of the water environment.</p>	<p>SA Objective 3 has been amended in accordance with this response.</p> <p>An additional guide question in relation to the impact of options on the ecological status of water bodies has been included in the Assessment Framework.</p>

Section	Consultee Response	Response/Action
	<p>We therefore recommend that the Objective is amended by inserting “, and the ecological status of waterbodies” at its end.</p> <p>In support of the proposed amendment to the Objective, we recommend the following as an additional guide question in the assessment framework for Water (Quantity and Quality):</p> <p><i>What impact will the option have on the ecological status of water bodies?</i></p> <p>Table 5.9: Proposed Definitions of Significance</p> <p><u>Objectives 2, 3, 4, 5, 6, 10</u></p> <p>There seems to be a typographical error in the ‘Illustrative Guidance’ text where impacts are described as ‘Significant Positive’. We suggest that the ‘Illustrative Guidance’ is amended by replacing “No” with “The”.</p> <p><u>Objective 3</u></p> <p>Further to our comments to ‘Table 5.4 – Water’ above, we recommend that the definitions of significance should also reflect Water Framework Directive compliance. We therefore suggest that ‘Illustrative Guidance’ is amended accordingly, and suggest the following as additional guidance in assessing significance of impact:</p> <p>Significant positive impact – option results in addressing failure of WFD Good Ecological Status (GES)/ Good Ecological Potential (GEP).</p> <p>Significant negative impact - option results in deterioration of WFD classification.</p> <p>Neutral – option will not lead to a change in WFD classification.</p>	<p>No change. This reflects the underlying assumption that, for those objectives highlighted, no significant positive effects are likely to have been identified during the assessment and in consequence, illustrative threshold guidance has not been provided.</p> <p>The criteria in respect of SEA Objective 3 has been revised to reflect the specific comment above.</p> <p>Agreed. Definitions of significance have been amended to reflect WFD compliance.</p>



Natural England

Section	Consultee Response	Response/Action
Executive Summary	<p>Table S1: Key Economic, Social and Environmental Issues relevant to the dWRMP Issues under heading of landscape should include protection of National Parks as well as AONBs as they are very significant issues within the UU area.</p> <p>Table S2: Proposed Assessment Objectives and Guide Questions Proposed assessment objective and guide questions: Biodiversity – for consistency and accuracy should say “Will the option protect and enhance the most importance sites for nature conservation (e.g. internationally or nationally designated sites for nature conservation) as per duties above. The wording might also include – Is the option likely to affect the conservation status of any SPAs/SACs, Ramsar Site, component habitats or species, or affect the favourable condition of SSSIs or NNRs?”</p>	<p>Agreed. Reference to National Parks has been included as a key issue under the heading of landscape within the NTS.</p> <p>The following Assessment Framework guide question has been amended to read: <i>Will the option avoid damage to protect and enhance where possible the most important sites for nature conservation (e.g. internationally or nationally designated conservation sites such as SACs, SPAs, Ramsar and SSSIs)?</i></p> <p>The suggested additional guide question relating to the impact of options on the conservation status of designated sites has not been included in the revised Assessment Framework. Although not explicitly stated, it is considered that this is already captured under the existing guide question.</p>
Section 1: Introduction	<p>SEA and HRA processes need to be iterative in terms of development of plan options and also aligned as per Fig 3.1 of the UKWIR guidance. It would be helpful to explain relationship between the two more clearly in the SEA. 1.4.1 states that ‘potential significant effects on European designated sites are to be assessed separately through a Habitats Regulations Assessment’. Whilst a separate clear HRA report will be needed – the two assessment processes would not be entirely separate as the results of the HRA would need to inform the SEA and the iterative process of WRMP development.</p>	<p>Noted. The purpose of the statement was to make clear that UU acknowledge that there are two distinct assessment and reporting processes (SEA and HRA) which will be undertaken to meet two separate statutory requirements (the Environmental Assessment of Plans and Programmes Regulations 2004 and the Conservation of Habitats and Species Regulations 2010).</p> <p>However, whilst distinct, we fully endorse the comment that the two assessments are related. The SEA has utilised the findings of the HRA to inform the assessment of effects from the WRMP feasible and preferred options against the biodiversity objective. To this end there is a specific guide question within the revised SEA assessment framework that is designed to enable us to draw on the HRA <i>“Will the option protect and enhance where possible the most important sites for nature conservation (e.g. internationally or nationally designated conservation sites such as SACs, SPAs, Ramsar and SSSIs)?”</i> Similarly in the illustrative guidance on significance, a significant negative effect is defined as <i>‘The option would have a negative effect on European or national designated sites and/or protected species (i.e. on the interest features and integrity of the site, by preventing any of the conservation objectives from being achieved or resulting in a long term decrease in the population of a priority species). These effects could not be reasonably mitigated’.</i></p>

Section	Consultee Response	Response/Action
<p>Section 2: Overview of United Utilities' Water Resources Management Plan</p>	<p>References to the 2009 WRMP should be qualified by explaining where further review of the measures identified will now be needed – I found 1.3 a little confusing in this respect. It says that "measures identified within the Final 2009 WRMP will inform the next WRMP"</p> <p>Section 2.2: United Utilities' Water Resources Management Plan (p. 8)</p> <p>We noticed an inconsistency in the figures quoted for supply from Cumbria – here it says almost one third of water supplies in Integrated Zone come from Wales, with just over one third from sources in Cumbria. But on page 34 the text suggests that 1800M/d of the total for the RZ comes from Cumbria?</p> <p>Section 2.2.2: Potential Water Management Options (p. 11)</p> <p>Should this include transfer between/across UU resource zones as well as adjacent water companies?</p> <p>Does increasing capacity at existing water treatment works assume greater abstraction?</p> <p>Demand management options – these should include wider publicity and public awareness campaigns to ensure people make the link between the environmental sensitivities of the sources of supply and their own domestic or business usage.</p> <p>Promotion of water meters could usefully be targeted at areas where current percentages are low and environmental benefits proportionally high – e.g. W Cumbria.</p> <p>Increase leakage detection would also be linked to increased metering.</p>	<p>Further information was provided to Natural England on the response (in an email from Alex Melling, dated 2nd November 2012).</p> <p>More detailed explanation in respect of the relationship between the SEA and HRA has been provided in Section 1 of the Environmental Report.</p> <p>Noted. This text has been removed in the Environmental Report.</p> <p>Noted. This inconsistency has been addressed in revised text covering an overview of the Water Resource Management Plan in the Environmental Report.</p> <p>The list of potential management options is for illustrative purposes only and is therefore not exhaustive. However, the SEA Environmental Report has included a detailed list of options assessed. United Utilities welcomes comments in respect of proposed options and these will be considered in the development of the dWRMP.</p>
<p>Section 3: Review of Plans and Programmes</p>	<p>Should include UU Drought Plan and CAMs.</p>	<p>The plans and programmes identified have been included in the Environmental Report (Section 2.1) and Appendix B.</p>
<p>Section 4: Baseline</p>	<p>Section 4.1.2: Biodiversity (p. 20)</p> <p>Just to clarify that the area of SSSI land in the North west region is 208,000 ha. However, we noted that some UU land is actually in other regions so this figure will not be a comprehensive total. For a full assessment of potential environmental impacts this would need to look at all the catchment areas from which water is collected.</p>	<p>Noted. Area of SSSI land in the North West region has been amended.</p>

Section	Consultee Response	Response/Action
	<p>Section 4.1.2: Biodiversity (p. 26)</p> <p>Just to note that Natural England is also a key partner in the large landscape scale grazing restoration project referred to at Helvellyn and Fairfield SSSI.</p>	<p>Noted. Reference to Natural England has been included.</p>
	<p>Section 4.1.4: Water (p. 36/Table 4.5)</p> <p>We had asked whether this was up to date – has CAMs been reviewed – is that data and info up to date?</p>	<p>No change proposed. The information presented in Table 4.5 is based on the latest information available via the Environment Agency's website.</p>
	<p>Section 4.1.4: Water (p. 37)</p> <p>Stage 3 HMWB investigation schemes – do we have a list/details of these?</p>	<p>No change proposed. The information provided in Section 4.1.4 is considered to be sufficiently detailed for the purposes of the SEA.</p> <p>United Utilities will respond to this request directly with Natural England.</p>
	<p>Section 4.1.5: Air Quality and Climate (p. 48)</p> <p>Suggest an issue/objective along the lines of 'increasing environmental resilience' in addition to 'mitigating' the effects of climate change. We want to ensure the environment is able to adapt to and absorb the effects of climate change so that adverse impacts are minimised as well as considering measures to mitigate any impacts.</p>	<p>The following additional issue has been identified: <i>"The need to increase environmental resilience to the effects of Climate Change."</i></p> <p>The following specific guide question has been included within the Assessment Framework: <i>"Will the option increase environmental resilience to the effects of climate change?"</i></p>
	<p>Section 4.1.6: Human Environment (p. 56)</p> <p>We asked a number of question around predictions of population increase and other potential demands on the water supply system and how future demand forecasting is achieved.</p>	<p>Noted.</p>
	<p>Section 4.1.7: Material Assets and Resource Use</p> <p>At the meeting it was mentioned that UU does not abstract as much as 1900Ml/d so it would be useful to check this figure is still correct.</p> <p>The text states that per capita consumption has reduced by 7 litres but does not state what the current figure is. The graph suggests it is just over 131litres/hd/d.</p> <p>We have a number of questions around the issues of demand management, metering and leakage levels etc and welcome the opportunity to discuss these as a separate meeting.</p>	<p>Figures quoted have been revised within the Environmental Report.</p> <p>Discussion on demand management measures is outside the SEA. United Utilities has subsequently discussed these questions with Natural England directly.</p>

Section	Consultee Response	Response/Action
	<p>Section 4.1.9: Landscape</p> <p>For information and reference, NE now has some standard advice around the proposed boundary changes to the Lake District National Park and Yorkshire Dales National Park. We suggest it would be useful to make some reference to the proposed boundary changes in the text, including references on P70 – future trends and key sustainability issues. The advice/standard wording is as follows:</p> <p>Please note that the proposal on which you are consulting is located within/ adjacent to an area that is included within a tract of land subject to an Order varying the boundaries of the Yorkshire Dales/ Lake District National Park made under s.5 of the National Parks and Access to the Countryside Act, 1949 and submitted for confirmation to the Secretary of State for Environment, Food and Rural Affairs in April 2012. The Orders will not take effect unless they are confirmed (with or without modifications) by the Secretary of State. It is expected that the Secretary of State will make a statement shortly regarding the way forward, which may include a Public Inquiry.</p> <p>If the Order(s) is/are confirmed by the Secretary of State then the area in question will be:</p> <ul style="list-style-type: none"> ▪ 'National Park' for planning purposes; and ▪ responsibility for strategic planning, development control, listed buildings consents, as well as minerals and waste planning will transfer to the relevant National Park Authority (subject to any transitional arrangements as to transfer of powers and applicability of relevant plans as the Secretary of State may determine). <p>In the meantime it is Natural England's expectation that the area being subject to a National Park variation Order will be treated as a material consideration by the relevant planning authority and the evidence in support of that Order will be considered relevant in determining any impact of the proposed development on the area's special qualities.</p> <p>All the relevant documents, including maps, detailed assessments, analysis of consultation responses and relevant Natural England Board papers can be accessed via the following link: www.naturalengland.org.uk/lakestodales.</p> <p>If you would like to discuss this with a Natural England officer please contact David Vose, Project Manager - Tel: 07900 608492, Email: David.Vose@naturalengland.org.uk</p>	<p>Agreed. Reference to proposed changes to National Park boundaries has been included within the baseline section of the Environmental Report (Section 2.2).</p>
Section 5: Draft Assessment Framework	<p>Table 5.4: Proposed Assessment Objectives</p> <p>SA Objective 12 (Landscape)</p> <p>Landscape objectives should include mention of National Parks.</p>	<p>No change. A guide question relating to impacts on National Parks has already been included in the Assessment Framework against the landscape objective.</p>

Section	Consultee Response	Response/Action
Appendix A: Review of Plans and Programmes	<p>Table 5.4: Proposed Assessment Objectives SA Objective 1 (Biodiversity) As previously – will the option protect and enhance nationally and internationally designated sites.</p> <p>Table 5.7: Key to Assessment Matrices We noted the inconsistent terminology with reference to the following definitions in table 5.9.</p> <p>Comments as before that this should include UU's Drought Plan and also CAMs. It would also be appropriate to consider including the statutory duties under the legislation as detailed above – under the 'relationships and influences on the WRMP and the SEA. Also appropriate to mention the proposed national park extensions.</p>	<p>The following Assessment Framework guide question has been amended to read: <i>Will the option avoid damage to protect and enhance where possible the most important sites for nature conservation (e.g. internationally or nationally designated conservation sites such as SACs, SPAs, Ramsar and SSSIs)?</i></p> <p>Noted. Reference to "Very strong" has been replaced by "Significant" to better reflect SEA Directive terminology.</p> <p>Noted. The Drought Plan and CAMs have been included within Appendix B of the Environmental Report.</p> <p>The proposed extensions to the National Parks have been considered within the baseline section, as detailed above. Statutory duties have been identified within the baseline section of the Environmental Report (Section 2.2).</p>
General Comments	<p>Need to ensure that the HRA and SEA assessment processes are integrated together where relevant and with those for the UU drought plan – the two processes need to be as aligned as possible in view of the close relationship between the plans and the current major issues around West Cumbria. Presumably drought triggers are set in the WRMP? The WRMP is what gives the resilience in times ahead of drought etc...Also very significant in relation to how the HRA progresses in each case. (NB Further info provided by Alex Melling in e-mail on 2 November)</p> <p>We think the SEA could helpfully include a statement to explain UU's statutory duties under the following legislation: International sites: Regulation 9(5) of the Conservation of Habitats and Species Regulations 2010 ("Habitats Regulations") requires every competent authority, in the exercise of any of its functions, to have regard to the requirements of the Habitats Directive, so the Plan must demonstrate how this has been achieved.</p> <p>Please note that the amendments to the Conservation of Habitats and Species Regulations, 2010 came into force on the 16th August 2012. These amendments are referred to as the Conservation of Habitats and Species (Amendment) Regulations 2012. Though most amendments are related to marine sites and species, Regulation 9 is slightly amended. In particular I refer you to the competent and appropriate authority duty to exercise their functions so as to secure compliance with the directive in relation to, amongst other things, the Water Resources Act 1991. It may therefore be worth referring to these amendments as well as the 2010 Habitats Regulations.</p>	<p>Noted. Preparation of the Drought Plan is a separate process (the WRMP will not set triggers) however; the SEA has taken account of the Drought Plan where appropriate (i.e. Appendix B and the assessment of cumulative effects).</p> <p>Noted. A statement has been included within the baseline section of the Environmental Report setting out United Utilities' statutory duties.</p>

Section	Consultee Response	Response/Action
	<p>SSSIs: 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. The Plan and SEA should record this duty amongst the principles underpinning the Plan. Again the Plan should make it clear how protection and enhancement issues affecting SSSIs have been taken into account in the process of reviewing, selecting and assessing drought options.</p> <p>Biodiversity and Protected Species: Under 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. The Plan and SEA should record this duty amongst the principles underpinning the Plan and set out how it has been achieved. In addition the Plan assessment should address any potential impacts on species protected under UK legislation or European legislation.</p>	

Countryside Council for Wales

Section	Consultee Response	Response/Action
Executive Summary	<p>For information, CCW would welcome information as to how much of the 1900 million litres of potable water supplied each day by United Utilities is derived from sources in Wales.</p> <p>Table S1: Key Economic, Social and Environmental Issues relevant to the dWRMP (Biodiversity) CCW would suggest that ecological connectivity and working within environmental limits and capacities should also be identified as key issues for biodiversity both within supply and source areas</p> <p>Table S1: Key Economic, Social and Environmental Issues relevant to the dWRMP (Geology and Soils) CCW would suggest that the need to maintain soil function in both supply and source areas should be identified as a 'key issue'.</p> <p>Table S1: Key Economic, Social and Environmental Issues relevant to the dWRMP (Water – Quantity and Quality) CW notes and supports the key issues identified but would suggest it needs to be made explicit that these issues are relevant in both supply and source areas.</p> <p>Table S1: Key Economic, Social and Environmental Issues relevant to the dWRMP (Human Environment) CCW would suggest that emphasis needs to be placed on the need to supply 'sustainable' water resources and ensure resilience of water supply/treatment infrastructure against climate change effects. The need to ensure that WRMP measures do not impact on human health or adversely affect economics should apply in both source and supply areas.</p> <p>Table S1: Key Economic, Social and Environmental Issues relevant to the dWRMP (Material Assets) CCW would suggest that a key issue should be the sustainable use of resources, not just efficient use.</p>	<p>No change. Information has been included within the baseline section of the Environmental Report (Section 2.2).</p> <p>Ecological connectivity and working within environmental limits and capacities has been identified as key issues for biodiversity both within supply and source areas.</p> <p>The need to maintain soil function in both supply and source areas has been included within the baseline section (Section 2.2) of the Environmental Report (and NTS).</p> <p>Noted. The key issues identified have been revised to reflect that they relate to both supply and source areas.</p> <p>Noted. Issues have been revised to reflect comments.</p> <p>Agreed. Issue has been amended to reflect comments.</p>

Section	Consultee Response	Response/Action
Section 1: Introduction	<p>Table S1: Key Economic, Social and Environmental Issues relevant to the dWRMP (Cultural Heritage)</p>	Noted. Issues have been revised to reflect comments.
	<p>The need to protect and enhance features of cultural heritage should apply to both source and supply areas.</p>	
	<p>Table S1: Key Economic, Social and Environmental Issues relevant to the dWRMP (Landscape)</p>	The geographical extent of issues have been clarified (to reflect both supply and source areas).
	<p>Clarification would be welcomed as to whether 'the area' refers to supply areas or also includes source areas.</p>	
	<p>Table S2: Proposed Assessment Objectives and Guide Questions In general, CCW welcomes and supports the proposed SEA Objectives however, clarification is required as to whether these objectives refer to United Utilities' supply areas or whether source areas e.g. in Wales are also to be considered against these objectives. CCW would also suggest that additional consideration needs to be given, within Objectives, to working within environmental capacities and limits.</p>	<p>Noted. The geographical scope of the assessment has been clarified to highlight that this relates to both supply and source areas.</p> <p>SA Objective 1 (Biodiversity) has been amended to read: "<i>To protect and enhance biodiversity, key habitats and species, <u>working within environmental capacities and limits.</u></i>"</p>
<p>Section 1.1: Context</p>		Noted. No action required.
<p>CCW welcomes the acknowledgement that 'water companies operating wholly or partly in Wales are required to carry out an SEA', and look forward to working with United Utilities during this assessment process.</p>		
<p>Section 1.4.1: Requirement for SEA of the Draft Water Resources Management Plan</p>		Noted. No action required.
<p>CCW welcomes and supports the intention to carry out HRA in respect of both European Sites in England and Wales and looks forward to working with United Utilities during this process.</p>		
<p>Section 1.6: Commenting on this Report</p>		Noted. The Welsh Government has been consulted on the Scoping Report.
<p>It should be noted that under Regulation 4 of the Environmental Assessment of Plans and Programmes Regulations 2004, it is a requirement that, for plans and programmes affecting Wales, consultation is undertaken with the Countryside Council for Wales and the Welsh Government, not Cadw as indicated in this section. In addition, the Environment Agencies in Wales and England are to be considered separately. Whilst there is no statutory requirement under the Environmental Assessment of Plans and Programmes Regulations 2004 for the EA (Wales) to be consulted separately from the EA in England, CCW welcomes the intention to undertake full consultation with relevant environmental bodies in Wales. Clarification would however be welcomed as to whether the Welsh Government have been included within this consultation process as required.</p>		

Section	Consultee Response	Response/Action
<p>Section 2: Overview of United Utilities' Water Resources Management Plan</p>	<p>Section 2.2: United Utilities' Draft Water Resources Management Plan</p> <p>CCW notes that almost one third of water supplies in the Integrated Zone are sourced in Wales. Further information on the origin and magnitude of these supplies would be welcomed.</p> <p>Section 2.2: United Utilities' Draft Water Resources Management Plan (Figure 2.1)</p> <p>In the light of the requirement for water companies operating wholly or partly in Wales to engage in the SEA process, CCW would suggest that, in addition to United Utilities' supply area, a map is provided in respect of United Utilities' source areas e.g. in Wales.</p> <p>Section 2.2.2: Potential Water Management Options</p> <p>With regard to potential 'transfers of water from adjacent water companies with a supply/demand surplus', CCW would welcome clarification as to whether any such proposals for bulk transfer relate to water resources derived from water companies operating in Wales e.g. Severn Trent, Dwr Cymru/Welsh Water and/or Dee Valley Water.</p>	<p>Further information in respect of Welsh sources has been provided.</p> <p>Where relevant, figures within the baseline section of the Environmental Report now extend to include United Utilities' source areas in North Wales.</p> <p>No change proposed. The list of potential management options is for illustrative purposes only and is therefore not exhaustive.</p>
<p>Section 3: Review of Plans and Programmes</p>	<p>Reference should be made to the most recent 'version' of the Birds Directive.</p> <p>Within the section on National Plans and Programmes, consideration should be given to relevant plans and programmes in Wales including the Wales Spatial Plan, the Wales BAP, the Natural Environment Framework, TAN 5 etc. CCW is disappointed that no reference has been made to many local and regional plans and programmes in Wales that may also be of relevance e.g. Local Development Plans.</p>	<p>The plans and programmes identified have been included within the Environmental Report (Section 2.1) and Appendix B.</p>
<p>Section 4: Baseline</p>	<p>Section 4.1.1: Introduction (p. 19)</p> <p>CCW notes and, in principle, welcomes the statement that 'the importance of water supplies derived from North East Wales have also been acknowledged and appropriate baseline information for this area has also been included'. However, in subsequent information provided on the biodiversity baseline, CCW can find no evidence of information being provided for source areas in North East Wales.</p> <p>Section 4.1.2: Biodiversity</p> <p>The section on statutorily designated sites makes no explicit reference to relevant sites in North Wales and no reference is made to United Utilities' holdings in Wales. Figures 4.1,</p>	<p>Noted. Baseline information for North East Wales has been included where appropriate.</p> <p>Information in respect of designated sites in Wales has been provided where relevant.</p>

Section	Consultee Response	Response/Action
	<p>4.24.3 and 4.4 similarly make no reference to designated i.e. sites in Wales (with the exception of the Dee Estuary).</p> <p>CCW would suggest that full consideration needs to be given to biodiversity interests and issues within source areas and United Utilities land holdings in Wales.</p> <p>Section 4.1.3: Geology and Soils</p> <p>See comments above on 4.1.1. Clarification is required regarding the suggestion that 'the north east of Wales is made up of significant areas of carboniferous limestone'. Further information is required on soils and soil function issues within source areas and United Utilities' holdings in Wales.</p> <p>Further information should be provided regarding United Utilities' reservoirs, WTW and WWTW and other water supply and treatment infrastructure within Wales.</p> <p>Section 4.1.4: Water</p> <p>In addition to the North West (of England), reference should be made to the status of water sources in Wales, in particular the water supplied by Wales to the 6.5 million people within the Integrated Resource Zone.</p> <p>Figure 4.6</p> <p>CCW would suggest this map indicated not only supply areas but also source zones.</p> <p>Table 4.5</p> <p>CCW notes that for the River Dee, which is an SAC, only one out of 4 units is described as 'water available', the other three being either 'no water available' or 'over licensed'. Clarification is required whether the over licensed units will be or have been considered in the context of the Review of Consents process for the Dee. In addition, CCW would suggest, given that this river is designated partly for its migratory fish species, that additional information be provided regarding the location of those units described as 'water available', 'no water available' and 'over licensed'. CCW notes that although information is provided on the RoC 'sustainability reductions' are provided for Haweswater and Thirlmere in the Integrated Resource Zone, no figures or information has been provided in respect of the RoC for the River Dee SAC. Clarification is required regarding this apparent omission.</p>	<p>Information in respect of biodiversity issues in Wales has been provided where relevant to the assessment of likely significant effects.</p> <p>Additional information in respect of geology and soils in Wales has been provided in the baseline section of the Environmental Report (Section 2.2).</p> <p>Additional information in respect of United Utilities' land holdings in Wales has been provided.</p> <p>Reference to the status of water sources in Wales has been provided.</p> <p>Where relevant, figures within the baseline section of the Environmental Report now extend to include United Utilities' source areas in North Wales.</p> <p>Noted. Detail with respect to the inclusion of the River Dee in the RoC programme is a matter for the Environment Agency.</p>

Section	Consultee Response	Response/Action
Section 5: Draft Assessment Framework	<p>Figure 4.7</p> <p>Information should be provided on the ecological status for water sources within or ecologically linked to Wales e.g. the River Dee.</p> <p>CCW would suggest that, whilst WFD targets for 'good ecological status' might serve for non-designated rivers, additional and possibly more stringent criteria may need to be applied in those rivers and estuaries that are also European Sites e.g. the River Dee.</p>	<p>Information in respect of the ecological status of water sources linked to Wales (e.g. the River Dee) has been provided where appropriate and available.</p> <p>This figure presents information on the ecological status or potential for rivers, canals and surface water transfers. It is provided as part of the baseline description for the water topic and references the range of criteria (from bad to high). It is not proposed to narrow the criteria presented in this figure.</p> <p>The need to improve the ecological status of water bodies has been identified as a key issue. The definitions of significance contained have also been amended to reflect WFD compliance.</p>
	<p>Section 4.1.5: Air Quality and Climate</p> <p>CCW would suggest that an additional 'key sustainability issue' be added with regard for the need to ensure that water supply and water treatment infrastructure is climate change resilient.</p>	<p>The baseline and key issue identify the need to take into account and where possible mitigate for the potential effects of climate change as a key sustainability issues. However, wording has been amended to read: <i>"The need to take into account and where possible adapt to the potential effects of climate change."</i></p>
	<p>Section 4.1.8 (including Figure 4.14): Cultural Heritage</p> <p>This section and map make no references to cultural heritage features and assets that are within United Utilities land holdings in Wales. CCW would suggest that this baseline needs to consider cultural heritage assets not only in the United Utilities' supply area but also in source areas.</p>	<p>Baseline information has been provided in respect of assets in source areas where relevant to the assessment of likely significant effects</p>
	<p>Section 4.1.9 (including Figures 4.15/16)</p> <p>This section and map make no references to landscape designations, features and assets that are within United Utilities' land holdings in Wales.</p> <p>CCW would suggest that this baseline needs to consider landscape assets not only in the United Utilities' supply area but also in source areas.</p>	<p>Baseline information has been provided in respect of assets in source areas where relevant to the assessment of likely significant effects.</p>
	<p>Table 5.1: Key Economic, Social and Environmental Issues relevant to the dWRMP</p> <p>See comments above on Table S.1.</p> <p>Table 5.2: Key Policy Objectives Identified in Other Plans and Programmes Relevant to the Assessment of the WRMP</p> <p>See comments above on Table S.2. It is noted that the sources provided appear to relate solely to England.</p>	<p>See responses above in respect of Table S1.</p> <p>This table has been amended to reflect the additional Welsh plans and programmes reviewed.</p>

Section	Consultee Response	Response/Action
	<p>Table 5.4: Proposed Assessment Objectives and Guide Questions See comments above on Table S.2.</p> <p>Section 5.5: Definitions of Significance CCW notes, with some concern, the intention to interpret the significance of effects in the context of quantitative and semi-quantitative thresholds. CCW would not normally recommend the use of thresholds in the context of 'significance' notably because the nature and magnitude of effects is determined by the particular sensitivities of the receiving environment. In addition, CCW would suggest that the use of quantitative thresholds does not enable clear and transparent consideration of cumulative effects. It is suggested that a number of the 'illustrative guidance' presented would also be difficult to 'prove' or 'disprove' and/or are open to interpretation.</p>	<p>See responses above in respect of Table S1.</p> <p>No change proposed. Definitions of significance have been identified to help guide the assessment and provide transparency in respect of what constitutes a significant effect.</p>

English Heritage

Section	Consultee Response	Response/Action
General Comments	The SEA is a high level document and has some useful general statements regarding cultural heritage assets, future trends and key sustainability issues.	Noted.
Section 4: Baseline	<p>Section 4.1.8: Cultural Heritage</p> <p>My only concern at this stage is that Section 4.1.8 concentrates, at first, exclusively on designated cultural assets. It should also mention the (much greater number of) undesignated assets, many of which may be of considerable significance (some of them of national quality, although not formally designated). There is no need to list or quantify them here, but reference should be made to their existence and to the Historic Environment Records (HERs) held by local authorities. The HERs include assets, both designated and undesignated, and should be consulted in more detailed stages of the Water Resources Management Plan, so it would be helpful to have them flagged up at this SEA stage. The subsequent paragraphs concerning Future Trends and Key Sustainability Issues are fine, as they do not specify that cultural heritage assets are restricted to those on a national register.</p>	Noted. Reference to undesignated assets has been made in the baseline section of the Environmental Report.

CADW

Section	Consultee Response	Response/Action
General Comments	<p>Having looked through the plan, it is too broad for any specifically Welsh Historic Environment issues to be relevant.</p> <p>The contents of the SEA Scoping Report have been noted, however, in this instance, Cadw will defer to the comments of English Heritage who have the primary interest.</p>	Noted.

Scoping Meeting

Section	Consultee Response	Response/Action
<p>Section 4: Baseline</p>	<p>Section 4.1.4: Water (p. 34) Figures relating to water supply to the IRZ to be checked.</p> <p>Section 4.1.4: Water (p. 32) River Dee to be included in terms of consents for supply area.</p> <p>Section 4.1.6: Human Environment (p. 56) Amend typo in respect of the North West's projected population (should read 992,000).</p> <p>Section 4.1.7: Material Assets and Resource Use (p. 58, Table 4.13) Replace "In Balance" with 100%.</p> <p>Section 4.1.7: Material Assets and Resource Use (p. 59) Amend text to state that "...customers have been entitled to trial water meters free of charge". Add following text to last sentence - "although demand for meters is expected to decline over the plan period as the proportion of households without meters decreases".</p> <p>Section 4.1.7: Material Assets and Resource Use (p. 62) Amend baseline evolution to reflect the fact that water demand is projected to decrease and not increase over the plan period. This is a result of metering, non-household demand decrease, improved demand management (e.g. amendments to Part G of the Building Regs), even allowing for population increase. 3rd bullet- add "in some zones".</p> <p>Section 4.1.8: Cultural Heritage (p. 63) Should refer to undesignated cultural heritage assets and Historic Environment Records held by local authorities.</p> <p>Section 4.1.9: Landscape (p. 70) Reference to the proposed extension to the National Park should be made under the evolution of the baseline (Landscape). The need to protect National Parks as an issue under Landscape.</p>	<p>Error noted. Figures relating to water supply to the IRZ has been amended.</p> <p>Noted. Information in respect of the River Dee has been provided where available.</p> <p>Error noted and has been addressed.</p> <p>This table has been amended to reflect response.</p> <p>This section has been amended to reflect response.</p> <p>This section has been amended to reflect response.</p> <p>Noted. Reference to undesignated assets has been made within the baseline section of the Environmental Report.</p> <p>Agreed. Reference to proposed changes to National Park boundaries has been included within the baseline section of the Environmental Report.</p>

Section	Consultee Response	Response/Action
General Comments	<p>Table 5.4: Proposed Assessment Objectives SA Objective 1 (Biodiversity) Add guide question: Will the option protect and enhance designated sites?</p>	<p>The following Assessment Framework guide question has been amended to read: <i>Will the option avoid damage to protect and enhance where possible the most important sites for nature conservation (e.g. internationally or nationally designated conservation sites such as SACs, SPAs, Ramsar and SSSIs)?</i></p>
	<p>Table 5.4: Proposed Assessment Objectives SA Objective 8 (Human Environment) Add guide question: Will the option be resilient to future changes in resources (both financial and human)?</p>	<p>The following additional guide question has been included in the Assessment Framework: <i>Will the option be resilient to future changes in resources (both financial and human)?</i></p>
	<p>Table 5.7: Key to Assessment Matrices Reference to “Very strong” to be replaced by “Significant” to better reflect SEA Directive terminology.</p>	<p>Noted. Reference to “Very strong” has been replaced by “Significant” to better reflect SEA Directive terminology.</p>
	<p>The geographic scope of the baseline should be extended where appropriate (e.g. to reflect land management in Wales).</p>	<p>Noted. Baseline information for Wales has been included where relevant to the assessment of likely significant effects.</p>
	<p>The assessment tables/commentary should make a distinction between short and long term effects was highlighted</p>	<p>Noted. The assessment has included consideration of short and long term effects, as required under the SEA Directive.</p>

Appendix C

United Utilities WRMP Strategic Environmental Assessment: Environmental Report consultation response summary

Respondent	Consultee Response	United Utilities' Response
<p>Friends of the Lake District</p>	<p>The respondent felt that no weight had been put on the landscape harm that this option could do or the fact that it is in a nationally designated landscape and potential World Heritage Site. In addition, they stated that there seems to be little recognition of the potential negative impacts on tourism and other businesses, especially local ones during construction. They stated that far more information is needed to be able to do a detailed landscape assessment of the relative impacts of the Thirlmere and Kielder schemes and that the SEA refers to the landscape impacts of the Thirlmere scheme but makes no comparisons with the two alternatives. They felt that if this were done, the landscape impacts of the Thirlmere scheme would likely to be far higher, reflecting the location of this alternative in the National Park.</p>	<p>The approach undertaken to the assessment of landscape effects as part of the SEA is considered to be robust and proportionate to the strategic nature of the assessment and in accordance with Government guidance. The SEA framework contained a specific objective related to landscape (SEA Objective 12: To protect and enhance landscape character). A detailed assessment of the preferred option during construction and operation against this objective was provided at Appendix E to the Environmental Report. Reflecting the potential requirement for construction of a number of new assets in the Lake District National Park, the option was assessed as having a significant negative effect on landscape during construction.</p> <p>With regard to the operational effects of the preferred option on landscape, the assessment concluded that negative effects are likely to be minor. This reflects the expectation that new/upgraded service reservoirs and pipeline would be buried where possible and that planting and re-seeding would minimise any landscape effects associated with these assets in the longer term. Detailed design will also aim to minimise the visual impact. Furthermore, at sites where existing water treatment works are decommissioned, there would be landscape benefits.</p> <p>An Addendum to the Environmental Report was prepared, taking into account further work following consultation. This was submitted to the Secretary of State alongside the revised draft Water Resources Management Plan and considered the effects of the preferred option (and alternatives) further, re-affirming the findings of the original assessment.</p> <p>With regard to impacts on tourism and other businesses, the SEA framework used to support the assessment of the dWRMP contained a specific objective related to the economy (SEA Objective 8: To maintain and enhance the economic and social well-being of the local community). The assessment contained in the Environmental Report and Addendum identified that construction of the preferred option may cause traffic disruption, particularly if works are undertaken during peak tourist periods when the influx of visitors to the area causes congestion. The assessment also identified that works may affect the amenity of recreational users particularly in respect of those sites located within the Lake District National Park (which is a popular tourist destination).</p>

Respondent	Consultee Response	United Utilities' Response
Friends of the Lake District	<p>Page 143 of the SEA Environmental Report lists potential indicators for monitoring. For landscape it is proposed that United Utilities could record the number and floorspace of new buildings within the designated landscapes sites. The respondent stated that this ignores the concept of landscape character being made up of a number of different factors and facets, and ignores the existing landscape character assessments and methodologies which already exist for monitoring landscape. The respondent felt that it also implies that only designated landscapes matter not the wider countryside in general and this needs rectification.</p>	<p>It is also important to note that the assessment identified the potential for significant positive effects on SEA Objective 8 associated with the generation employment opportunities and supply chain benefits as well as increased spend in the local economy by contractors and construction workers. Under operation, the assessment also highlighted that additional supply associated with the preferred option may support economic and population growth in the West Cumbria area and help sustain the seasonal influx of tourists to the area.</p> <p>Table 6.1 of the Environmental Report identified potential indicators for monitoring the significant effects of the implementation of the plan. Under landscape, the following indicator was identified: "Loss or damage to landscape character and features of designated sites". The table also provided additional commentary on the data that could be used to inform the monitoring process. Against the landscape indicator, this sets out that "United Utilities could record the number and floorspace of new buildings that are built within designated landscape sites".</p> <p>The commentary provided in Table 6.1 was only intended to provide an indication of the type of data that could be used to monitor the effects of the plan's implementation. The monitoring framework as been developed further as part of the preparation of this Post Adoption Statement (see Section 6 and Appendix D).</p> <p>The monitoring framework includes the following indicator: Loss or damage to landscape character and features of designated site. It is considered that this indicator is sufficiently robust for monitoring the effects of the implementation of the WRMP on landscape.</p> <p>To inform United Utilities' monitoring of this indicator, the following sources of information will be used:</p> <ul style="list-style-type: none"> • Number and floorspace of new buildings that are built within the designated landscape sites; • The findings of detailed landscape and visual impact assessment and EIA (and in particular the identification of likely significant effects on landscape and visual amenity).
Natural England	<p>The respondent stated that it is not clear to what extent the SEA has influenced United Utilities' choice of its preferred option. They would like to see further evidence to substantiate the assessment that long-term impacts from operation through construction of new and enlarged above ground structures would be minor.</p>	<p>Section 5.5 of the Environmental Report and Section 3.5 of the Environmental Report Addendum (as well as Section 5.1 of this Post Adoption Statement) set out the reasons for the selection of the preferred option.</p> <p>United Utilities chose the preferred option using a standard industry method that includes consideration of technical feasibility, financial costs and benefits, and quantified impacts on the environment and community, taking into account the findings of the SEA and HRA as well as input from key stakeholders.</p> <p>United Utilities appreciate that Natural England wish to understand further the effects associated with the operation of the proposed new water treatment works at Bridge End. However, it is not within the scope of the SEA to undertake detailed impact assessments.</p>

Respondent	Consultee Response	United Utilities' Response
Natural England	<p>As well as ecological considerations, Natural England recommended that the SEA substantiates the conclusion that there will be only minor operational landscape effects from the preferred option. Firstly, the SEA recognises the potential for significant construction impacts on the National Park, but only minor operational impact from new and enlarged above ground infrastructure such as the much larger treatment works needed at Bridge End. Secondly, there is no mention of the more conspicuous drawdown zones that might be expected with greater volumes being abstracted from Thirlmere.</p>	<p>Notwithstanding, following the receipt of comments from Natural England (and Friends of the Lake District) further assessment of the landscape effects associated with the preferred option was undertaken with the findings presented in the Environmental Report Addendum. This assessment was based on additional information made available relating to the scale and design of new above ground infrastructure. The Addendum re-affirmed the conclusions of the original assessment.</p> <p>It should be noted that the exact location of development sites has not yet been determined. This would be established at the project stage when the location of all components of the scheme would be determined through a site selection exercise as part of the Environmental Impact Assessment (EIA) process. In this context, any proposal would be subject to full landscape and visual impact assessment whilst landscape and visual impact would be a key consideration in the determination (by the relevant local planning authority) of any Town and Country planning application(s) related to the scheme. Should residual landscape and visual impacts prove to be unacceptable, then alternative locations for the proposed new water treatment works and other above ground infrastructure would need to be considered.</p> <p>United Utilities will work closely with relevant organisations and stakeholders regarding design and mitigation options of the scheme and will also ensure that any changes in landscape and other effects due to construction of new infrastructure (e.g. a new water treatment works) is duly considered as part of this assessment.</p> <p>Please see the response above in respect of the new water treatment works.</p> <p>The detailed assessment contained at Appendix E to the Environmental Report highlighted that the operation of the preferred option would result in additional draw-down of Thirlmere which may be perceptible to users.</p> <p>Following the response from Natural England, the Addendum to the Environmental Report considered this issue further. It highlighted that analysis of reservoir levels by United Utilities shows that once operational, this option could result in a reduction of approximately 12% in the average annual minimum storage levels in Thirlmere under normal year conditions. Under dry year conditions, minimum storage in Thirlmere could be around 31% lower compared to minimum storage under current operation. However, the mean operating level of the reservoir would be similar under this option compared to current operation. The Addendum concluded that, although the minimum level in a dry year would be lower, it is considered the difference between reservoir levels under current operation and under this option would not substantially affect landscape character or visual amenity.</p>
Natural England	<p>The respondent asked for assurance that there would not be major operational impacts on the Lake District National Park landscape. They felt that the SEA appeared to play down the potential for this.</p>	<p>Please see comments above. The SEA Addendum re-affirmed the findings of the Environmental Report i.e. that there is the potential for significant negative effects on landscape during construction of the Thirlmere Transfer into West Cumbria but that effects during operation are likely to be minor.</p>

Respondent	Consultee Response	United Utilities' Response
Natural Resources Wales	The respondent noted that references to Environment Agency Wales, Countryside Council for Wales and Forestry Commission Wales should be amended to Natural Resources Wales.	References were amended in the SEA as appropriate.

Appendix D

United Utilities WRMP Strategic Environmental Assessment: monitoring the effects of the WRMP

Table D.1 Indicators for monitoring effects

Objective	Indicator	Source of Information	Commentary
1. To protect and enhance biodiversity, key habitats and species, working within environmental capacities and limits	Condition of specific protected sites (e.g. SACs and SPAs)	Natural England (NE), Natural Resources Wales (NRW)	Open communication between NE, NRW (if applicable) and United Utilities results in up-to-date information and identification of any potential issues.
	Condition of SSSIs on water industry land holdings	NE, NRW, United Utilities	Open communication between NE, NRW (if applicable) and United Utilities results in up-to-date information and identification of any potential issues. If required, condition assessment of designated land on United Utilities' landholdings, both area and condition of which may change, can be carried out.
	Biological monitoring (macroinvertebrates, macrophytes, fisheries, bird surveys)	Environment Agency (EA), NRW (EAW), United Utilities, Angling clubs, BTO	Open communication between NE, NRW (if applicable) and United Utilities results in up-to-date information and identification of any potential issues. If required, condition assessment can be carried out.
2. To ensure the appropriate and efficient use of land and protect soil quality	Number/floorspace of water infrastructure built on previously developed land	United Utilities	Wherever possible existing, operational sites will be utilised for the preferred option. Protection of soil will be covered by the EIA and suitable construction techniques adopted by the contractor.
3. To protect and enhance the quantity and quality of surface and groundwater resources and the ecological status of water bodies	River flow and level characteristics	United Utilities, EA, NRW	Open communication between NE, NRW (if applicable) and United Utilities results in up-to-date information and identification of any potential issues. Monitoring can be compared to historic records.
	River flows, river levels, lake and reservoir levels. Water quality of surface waters.	United Utilities, EA, NRW	Open communication between NE, NRW (if applicable) and United Utilities results in up-to-date information and identification of any potential issues. At sensitive sites, previous studies can be used to inform monitoring and assessment. For example RoC documentation and any Drought Permit (DP) Environmental Assessments and associated environmental monitoring plans.
	Groundwater levels, recharge characteristics and abstracted groundwater quality	United Utilities, EA, NRW	Open communication between NE, NRW (if applicable) and United Utilities results in up-to-date information and identification of any potential issues. At sensitive sites previous studies should be used to inform monitoring and assessment. For example RoC documentation and any Drought Permit (DP) Environmental Assessments and associated environmental monitoring plans.

Objective	Indicator	Source of Information	Commentary
4. To reduce the risk of flooding	Number of properties that experience internal flooding from public sewers.	United Utilities, EA, NRW	United Utilities report these data to Ofwat as part of the regulatory returns process (Regulatory Reporting previously known as June Return).
5. To minimise emissions of pollutant gases and particulates and enhance air quality	Number of vehicle movements/distance travelled	United Utilities	The EIA for the preferred option will provide information in respect of this indicator.
6. To limit the causes and potential consequences of climate change	Quantity of greenhouse gas emissions per Megalitre of water supplied. Energy use used in the operational phase of water treatment and supply.	United Utilities	United Utilities' can use company data, and guidance from the UKWIR greenhouse gas workbook and DECC (Department for Energy and Climate Change) conversion factors to derive this information. A Sustainability Assessment will form part of the EIA for the preferred option.
	Renewable energy generated; renewable energy purchased.	United Utilities	Renewable energy generation will be built into the design of the preferred option. Energy usage will for part of the Sustainability Assessment.
7. To ensure the protection and enhancement of human health	Compliance with drinking water standards at customers' taps (%).	United Utilities – drinking water quality report	United Utilities report these data to Ofwat as part of the regulatory returns process (Regulatory Reporting previously known as June Return) and to the Drinking Water Inspectorate.
	Compliance with water quality standards under the EC Bathing Waters Directive.	EA	The EA monitors the compliance of bathing waters and reports this annually.
8. To maintain and enhance the economic and social well-being of the local community	Population and projected population change over time (per WRZ)	United Utilities	United Utilities report these data to Ofwat as part of the regulatory returns process (Regulatory Reporting previously known as June Return) and as part of the Water Resource Management Plan process.
9. To ensure the sustainable and efficient use of water resources	Leakage	United Utilities	These indicators will help identify whether the WRMP does contribute to the achievement of this SEA objective. United Utilities report these data to Ofwat as part of the regulatory returns process (Regulatory Reporting previously known as June Return), and as part of the Water Resource Management Plan process.
	Water saved through demand management/water efficiency measures	United Utilities	United Utilities report these data to Ofwat as part of the regulatory returns process (Regulatory Reporting previously known as June Return), and as part of the Water Resource Management Plan process.
10. To promote the efficient use of resources	Amount of primary and recycled aggregates used.	United Utilities	The EIA for the design of the preferred option will consider this objective and United Utilities will record information on aggregate use, recycling and disposal.

Objective	Indicator	Source of Information	Commentary
11. To protect and enhance cultural and historic assets	Chemicals used in water supply Loss/damage or discovery/protection of cultural, historic and industrial heritage features. Including loss of landscapes of historic Interest and natural heritage features (including for example field systems, field boundaries) that contribute to the cultural and historic distinctiveness of the area	United Utilities United Utilities, Cadw, English Heritage	Information on chemical procurement and use is held centrally and by operational sites at United Utilities. The EIA for the design of the preferred option will consider this objective and identify any potential mpacts. Suitable mitigation and compensation will be incorporated into the design.
12. To protect and enhance landscape character	Loss or damage to landscape character and features of designated sites.	United Utilities	The EIA for the design of the preferred option will consider this objective and identify any potential effects on landscape and visual amenity. Suitable mitigation and compensation will be incorporated into the design.