Final Water Resources Management Plan 2019

Technical Report - West Cumbria legacy

Contents

1. Aims

This technical report to the final Water Resources Management Plan 2019 submission has specifically been included following feedback from stakeholders during the pre-consultation exercise which took place in autumn 2016. We have also made appropriate changes to the report following consultation on our draft Water Resources Management Plan, which took place in spring 2018.

The planning horizon for this final Water Resources Management Plan covers the period from 2020 to 2045. However, from very early in the planning horizon (by the end of 2020/21[1]), the West Cumbria Resource Zone will cease to exist once our plans to build a new Thirlmere transfer from the 2015 Water Resources Management Plan are implemented. Completion of the Thirlmere transfer scheme will merge this zone into a new larger Strategic Resource Zone[2]. For this reason, as a long-term strategic plan, this Water Resources Management Plan has been developed based upon the new combined resource zone to represent how the system will look in future (as outlined in Section 3 of the *Final WRMP19* main report).

Despite this, we recognise that whilst the existing West Cumbria Resource Zone is no longer relevant from a strategic supply-demand planning perspective, there will be ongoing work in that area related to our assets and water resources activities which is still of primary interest to stakeholders. These are updated upon as part of this specific technical report. We will continue to report on progress in West Cumbria as part of our Annual Water Resources Management Plan reviews.

1.1 Changes from draft to final Water Resources Management Plan

Change	Reason	Update(s)	Relevant section(s)
Thirlmere transfer expected delivery date brought forward from 2022 to 2021	Good progress with project construction phase and overall delivery	Change of date from 2022 to 2021 as indicated in Annual Performance Report 2017/18	Section 1 – Aims Section 2 – Background
2018/19 Annual Water Resources Management Plan update now available	Supersedes the 2017/18 Annual Water Resources Management Plan update	New hyperlink made available	Section 4 – Contingency Plan

2. Background

Ennerdale Water, upstream of the River Ehen Special Area of Conservation (SAC), and part of Ennerdale Site of Special Scientific Interest (SSSI), is currently a source of public water supply for West Cumbria and we are licensed to abstract water under the Water Resources Act. The Ennerdale Water abstraction licence went through a series of reviews by the Environment Agency through the Habitats Directive 'Review of Consents' process. The current abstraction and a potential future drought order at Ennerdale Water were determined to have potentially significant negative impacts on interest features of the River Ehen SAC. In December 2013, the Environment Agency confirmed the decision 'to revoke the Ennerdale Water abstraction licence as soon as is reasonably practicable and to investigate options with regard to timing of weir removal and withdrawal of the compensation flow'. Evidence from a severe stress event affecting mussels in the spring and early summer of 2012 contributed to the decision.

The revocation of the Ennerdale Water abstraction licence, along with changes to our Over Water and River Ellen licences reduced the water available for use in the current West Cumbria Resource Zone. In our 2015 Water Resources Management Plan this resulted in a supply-demand balance deficit in the resource zone. Addressing this deficit was a major planning question for the previous planning round.

[1] Based on the 2015 Water Resources Management Plan the scheme should be completed by the end of March 2022 at the latest, resulting in changes to the supply-demand balance from the following financial year in 2022/23. However, project progress means that we now expect delivery to be earlier, and therefore the scheme to be operational from 2021/22.

[2] The Strategic Resource Zone merges the previous West Cumbria Resource Zone and Integrated Resource Zone.

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Our 2015 Water Resources Management Plan, informed by an Examination in Public upon the plan in September 2014, concluded that the Thirlmere transfer scheme (sometimes referred to as the West Cumbria Water Supplies Project) should be progressed to address the future supply-demand deficit in West Cumbria resulting from the revocation of the Ennerdale abstraction licence. The scheme will bring 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 allows for more water to be available;
- Allowing abstraction from existing sources in West Cumbria to cease and return the habitats to more natural conditions. This has allowed us to include revocation of abstractions from the SSSI and SAC sites in West Cumbria within a compensatory measures package (see Section 5);
- Protection for internationally important Special Areas of Conservation;
- Future climate change resilience;
- Mitigating the vulnerability to short duration droughts;
- Longer-term cost savings as the existing treatment works can be closed; and
- Removing the vulnerability of West Cumbria to future sustainability reductions.

Following submission of the full planning application for the Thirlmere transfer scheme ahead of target in January 2016, and a subsequent period of working closely with the planning authorities to address any queries, we gained planning approval in November 2016. Our original project delivery date was 31st March 2022 as detailed in our 2015 Water Resources Management Plan. However, we have made very good progress on the delivery of this scheme and we are now significantly ahead of the originally planned schedule for the project. Our plans show that we should be able to complete the project in the 2020/21 financial year, approximately one year ahead of the originally planned date, although there are inevitably risks associated with any project of this scale and complexity. Further details can be found in our Annual Performance Reports 2017-2018 which are available via our website[3].

3. Tracking supply-demand in West Cumbria

It is critical that we continue to maintain an adequate supply-demand balance until delivery of the Thirlmere transfer scheme. As described in Section 3 of the *Final WRMP19* main report, we have not sought to reassess the long-term supply-demand balance position in the current West Cumbria Resource Zone. However, we will continue to monitor and report on the supply-demand balance as part of the Annual Water Resources Management Plan process each year until delivery of the Thirlmere transfer scheme, and provide updates to the forecast data where relevant as part of that process. This update will be completed against the 2015 Water Resources Management Plan as the 'baseline' position.

During the summer of 2018, our Quarry Hill supply system presented resilience challenges and we have since undertaken an in depth review of the root causes to the challenges of supply. We have implemented a comprehensive series of actions to ensure that the risk of loss of supply from the Quarry Hill surface water supplies is minimised prior to the delivery of the West Cumbria transfer scheme. These actions have included:

- Ongoing weekly reviews of all levels within the Quarry Hill raw water supply system for both surface and ground water sources. We have developed a set of operational trigger points to reduce demands on Quarry Hill and to protect and manage water resources,
- Installation of UV disinfection at Quarry Hill, providing more flexibility on the treatment of different sources
- Installation of a control valve at Chapel House to allow a more flexible and wider range of draw-off flow rates
- Operable and tested network rezones to reduce demand by approximately by 2Ml/d on Quarry Hill
- A robust and tested tankering plan to supplement key areas of the supply system.

[3] https://www.unitedutilities.com/corporate/about-us/performance/annual-performance-reports-2015-2020/

4. Contingency plan

Our 2015 Water Resources Management Plan contains a contingency plan in case the Thirlmere transfer scheme proves undeliverable. The contingency plan is based around the local sources alternative from the 2015 plan, and involves new groundwater sources in West Cumbria and acquiring existing licences held by a third-party. It may also utilise and retain existing sources with the exception of Ennerdale Water.

We update our contingency plan annually to reflect any change in circumstance over time, and then report on any changes through the Annual Water Resources Management Plan process[4].

We have a high degree of confidence in the deliverability of the Thirlmere transfer scheme, which is one of the reasons why it was selected as our preferred option. The contingency plan has a greater degree of uncertainty with some of the resource components and we have liaised with the Environment Agency to improve our collective understanding of resource availability should new sources need to be implemented at a later date.

We completed our latest annual review of the contingency plan in March 2019. Following the granting of planning approval for the Thirlmere transfer scheme in November 2016, and the progress made on the project throughout 2017 and 2018, the likelihood of triggering the contingency plan is now very low. Given this position, we do not consider it necessary to continue detailed liaison with the Environment Agency on the availability of additional groundwater resources in the West Cumbria aquifer. Monitoring data will be collected as part of the South Egremont boreholes abstraction licence conditions in order to understand the effects of groundwater abstraction.

In view of the good progress made on the Thirlmere transfer scheme and the high level of confidence that this project will be delivered on time, we have now agreed with the Environment Agency that no further updates to the contingency plan will be required.

5. River Ehen Special Area of Conservation Compensatory Measures Package

We have committed to continue to significantly decrease public water supply abstraction from Ennerdale Water until the complete cessation of abstraction is possible. There is overriding public interest to continue to provide public water supply until the replacement source is fully implemented. In accordance with Article 6(4) of the Habitats Directive, compensatory measures need to be secured because it cannot be concluded that continued abstraction will not lead to an adverse effect on site integrity of the River Ehen SAC.

In conjunction with Natural England and the Environment Agency, we have developed a package of compensatory measures that will reduce, or offset, adverse impacts on the River Ehen SAC as a result of continued abstraction, and a potential drought order, from Ennerdale Water whilst the alternative public supply (the Thirlmere transfer scheme) is put in place. This package includes both physical ecological measures and research measures and was submitted to Defra in February 2014. There is a legal agreement, signed in July 2015 between ourselves, Natural England and the Environment Agency which describes each physical and research measure, programme and governance of the package. The aim of the agreed package of measures is to restore the habitat which enables the sustainable recruitment of freshwater mussels and salmon, primarily in the River Ehen SAC, and to undertake research and monitoring to understand how this outcome would best be achieved.

The agreed package of measures includes revocation of abstraction licences and the potential removal of associated infrastructure at Crummock Water and Dash Beck (SAC and SSSI), Over Water (SSSI), and Chapel House Reservoir, in order to restore natural functioning and improve salmon migration in a number of designated and undesignated Cumbrian lakes and rivers.

[4] Our 2017/18 Annual Water Resources Management Plan review can be found on our website: https://www.unitedutilities.com/globalassets/z_corporate-site/about-us-pdfs/water-resources/annual-review-of-water-resources-management-plan-2017-18-web-acc.pdf

We provide updates on the progress of the compensatory measures package through annual review meetings with the Environment Agency and Natural England and biannual written reports (as specified in the legal agreement) and through the Annual Water Resources Management Plan review process.

6. Redundant Infrastructure

An Environmental Impact Assessment of the Thirlmere transfer scheme was submitted in support of the planning application. It assessed the changes to the environment resulting from the cessation of abstraction at our West Cumbria sources. It was assumed that decommissioning of the existing water treatment works at Ennerdale, Cornhow and Quarry Hill and intake locations would involve the switching off of the abstraction, making the site safe, and removing plant and machinery only.

Initial investigations into the feasibility of removing abstraction related infrastructure at Crummock Water, Over Water and Chapel House Reservoir are currently being undertaken as part of the River Ehen SAC compensatory measures package. Key considerations include potential for changes to ecology, landscape and visual amenity and importantly, any implications for flood risk. The potential for and timing of weir and infrastructure removal at Ennerdale Water will also be the subject of future studies and discussion and agreement with the Environment Agency and Natural England. We will work closely with the National Trust, local landowners and the communities impacted by any changes through our Stakeholder Managers.

These sites in West Cumbria are subject to statutory conservation designations and/or provide important habitats for protected species. Therefore, removing infrastructure has the potential to provide wide ecological benefits, as well as benefits to landscape and visual amenity associated with removal of man-made structures within the Lake District National Park and UNESCO World Heritage Site. In addition, removing redundant infrastructure in West Cumbria will have benefits associated with removal of ongoing responsibility and liability for maintenance of compensation flows, fish passes, dams, and all associated infrastructure at these sites.

The infrastructure removal studies will be developed further and in more detail as our plans progress and we approach the operation of the Thirlmere transfer scheme in 2021. We will provide updates on these studies via the Annual Water Resources Management Plan process and to our regulators through annual steering groups with the Environment Agency and Natural England. Likewise, we are also currently progressing our plans for the water treatment works sites themselves. We are developing an engagement approach in order to consult on our plans as they develop, independent of the Water Resources Management Plan consultation process.

We have recently launched a legacy fund associated with the West Cumbria Thirlmere transfer scheme to help communities who may be affected by our work. The fund targets projects that deliver long term social and economic benefits to the area which may also indirectly benefit the environment. The fund is administered by Cumbria Community Foundation and grants are awarded by a decision-making panel consisting of a cross section of representatives from the area affected.

It is also worth noting that we have included any company redundant sources or water resource assets for consideration in the options identification workstream within the planning process (see *Final WRMP19 Technical Report - Options identification*), even if they have been subsequently screened out. This ensures a comprehensive demonstration of options being considered in the water resources planning process and that redundant assets which could be feasibly used to meet future challenges are included for consideration. Similar considerations are also made in Drought Plans with regards to drought contingency sources.