Query Category	Paragraph Reference in WR188 letter	Details	Response	Text amendment made
Modelling and Hydrology	1. a) (i)	Describe and justify, with clear descriptions and evidence, that the model methods used, including derivation and selection of inflows and input data, model methods and packages used, model parameterisation, key assumptions, why suitable. Model confidence and any limitations or uncertainties.	The United Utilities Aquator water resources model was selected to assess the impacts of different flood management scenarios on water resources and to generate data for spill analysis. Thirlmere reservoir [redacted] supplies much of the North West of England. [redacted], and Aquator's ability to represent this dynamic relationship makes it the most appropriate tool for this assessment. This Aquator model has been developed and refined over approximately 15 years and is widely used for regulatory submissions, including Water Resource Management Plans (WRMPs) and Drought Plans. During this time, the model has undergone multiple validation exercises and independent audits, ensuring its robustness and credibility. A key strength of Aquator is its ability to incorporate extensive hydrological data, enabling simulation of a wide range of scenarios. For this assessment, the model uses a 19,200-year daily stochastic flow dataset generated by Atkins for industry-wide application. Although this dataset was originally designed for drought planning and calibrated primarily for dry weather conditions, the use of stochastic data in flood-related studies is supported by established academic and industry practice. While confidence in extreme high-flow events is lower than for drought scenarios, the dataset remains suitable for exploring flood impacts. In addition to hydrology, the model integrates essential operational and system data, including customer demand, asset capacities (such as Thirlmere's storage), abstraction licence constraints, and operational rules. These inputs are regularly reviewed and updated, ensuring that all Aquator modelling reflects the most current information available at the time of assessment.	Text included in an appendix to the Environmental Report
Modelling and Hydrology	1. a) (ii)	Model calibration and verification - Details of the model calibration performace against observed data for scenarios where this is available (i.e. the baseline and reference scenario). This should include (but not be limited to) pre and post TTS annual abstraction totals, the frequency, magnitude and seasonality of spillway overtopping events and comparison against observed flow duration curves. The model inputs and outputs should also be compared with those from other methods (e.g. comparing natural QMED with an estimate derivded using FEH methods, etc.) where possible.	Ricardo to include in modelling appendix.	Text included in an appendix to the Environmental Report
Modelling and Hydrology	1. a) (iii)	Model inflows – Describe how all model inflows have been derived. This should include demonstrating the stochastic rainfall series (where this is used as input within the model) accurately reflects local rainfall statistics, including for extreme rainfall events (which result in spills), annual rainfall accumulation, seasonality and drought frequency. For extreme rainfall we would like to see how the depth, duration, frequency statistics compare to those in FEH22 (FEH web service) for this catchment. Details of and justification for the modelling approach used and assumptions made, for example in parameterisation of the model. Further information is also requested on how the stochastic rainfall series is converted to an inflow series to the reservoir.	The stochastic dataset was produced by Atkins using a weather generator as part of a national project to develop hydrological inputs for all water companies in England and Wales for the 2024 Water Resource Management Plans (WRMPs) and Regional Plans. These datasets are also intended for use in the 2029 planning cycle, ensuring consistency across regulatory submissions. The weather generator produced synthetic rainfall and potential evapotranspiration (PET), which were then converted into flow series using United Utilities' Catchmod rainfall-runoff models. This process ensures that catchment characteristics and soil moisture dynamics are appropriately represented in the inflow data used by the Aquator model. Because the dataset was primarily designed for drought planning, validation and bias correction focused on low rainfall periods to improve reliability during dry conditions. While this approach reduces confidence in extreme high-flow events, the dataset remains suitable for assessing flood-related scenarios due to its breadth and consistency. The use of stochastic hydrology for flood studies is well established in academic and industry practice. The key advantage of this approach is that it allows us to use a single, consistent dataset to assess high-flow events and water resources impacts. Although uncertainties inherent in hydrological modelling remain the benefits of using a standardised, industry-approved dataset outweigh the limitations of developing a bespoke flood-focussed dataset within the available timeframe. To clarify, for this purpose, the high flow components of the model only need to be sufficiently clear to develop daily flows (as used in UKTAG Building Blocks) and only to a 1:5 return frequency (biggest and rarest UKTAG Building Block tested) – not rare or severe flood events.	Text included in an appendix to the Environmental Report
Modelling and Hydrology	1. a) (iv)	Model results and interpretation – Please provide statistics extracted from the full modelled dataset wherever possible and a shorter (i.e. 47-year record) only used where necessary (and with justification). Provide further supporting empirical data, evidence, graphs and charts to demonstrate why the selected 47-year and 5-year analysis periods were chosen out of the 19,200-year flow time-series in Section 2 of the report, showing that they provide an unbiased and representative sample for key metrics (for example, frequency and seasonality of flow thresholds being exceeded as well as the length of gaps between these).	Ricardo to include in modelling appendix.	Text included in an appendix to the Environmental Report

Modelling and Hydrology	1. b)	Provide data and evidence explaining how important flow duration statistics have been derived, what location they are hydrologically representative of, and the confidence in these, including: - QMED (and natural QMED) - Qn30 - Qn95 - Qn96 - Qn90 - Qn80 - Annual minimum flow - 13Ml/d comp. flow - 70Ml/d spring flow release	This is set out in the additional supporting Modelling Report in Appendix 1 and in revised Section 2.1 of the Environmental Report. We have used the model inflow series to Thirlmere as surrogate for naturalised flow. The inflow series is developed from rainfall-runoff modelling as validated above, and is available for and used for the full 19,200 stochastic years. The assessment point is effectively St John's Beck at the Mill Gill confluence [redacted] as this is the catchment modelled as contributing flow to the reservoir, either directly or via catchwater. It is recognised that the flow attenuation effects of the former lakes in the valley where Thirlmere Dam was constructed (namely Leathes Water and Wythburn Water) are not incorporated into the representation of naturalised flow. The Modelling Appendix to the Environmental Report now includes a flow duration curve of this model representation of the naturalised series. - Natural QMED is equivalent to the 1 in 2 year return period flood flow, as derived from the peak flow (in this case using the daily average value) in each calendar year. Natural QMED is identified from the modelled naturalised series' as 2,454 Ml/d at the Mill Gill confluence of St John's Beck. Natural QMED is used by UU in the Environmental Report to scale both the small flood flow UKTAG Building Block and one of the late summer flow elevation UKTAK Building Blocks prior to review of bespoke local evidence. - Annual Qn30 is identified from the modelled naturalised series' flow duration curve as 227 Ml/d at the Mill Gill confluence of St John's Beck. Please refer to Figure 2.1 in the revised Environmental Report. Annual Qn30 is used by UU in the Environmental Report to scale the late summer flow elevation UKTAG Building Block prior to review of bespoke local evidence. - Annual Qn95 is identified from the modelled naturalised series' flow duration curve as 23.7 Ml/d at the Mill Gill confluence of St John's Beck. Please refer to Figure 2.1 in the revised Environmental Report. Annual Qn95 is used by UU in the Environmental Report to scale the autumn and winter flow elevations UKTAG Building Blocks prior to review of bespoke local evidence. - Annual Qn96 is identified from the modelled naturalised series' flow duration curve as 21.9 Ml/d at the Mill Gill confluence of St John's Beck. Please refer to Figure 2.1 in the revised Environmental Report. Please note that Annual Qn96 is listed in UKTAG (2013) for scaling of the annual minimum flow Building Block. Please refer to our response to your Query number 2a as to why the licensed compensation flows from Thirlmere and into Howe Beck are not applicable to these licence renewals. - Annual Qn30 is identified from the modelled naturalised series' flow duration curve as 31.4 Ml/d at the Mill Gill confluence of St John's Beck. Please refer to Figure 2.1 in the revised Environmental Report. Annual Qn90 is used by UU in the Environmental Report to scale the late summer flow elevation UKTAG (2013) Building Block prior to review of bespoke local evidence. - Annual Qn80 is identified from the modelled naturalised series' flow duration curve as 44.7 Ml/d at the Mill Gill confluence of St John's Beck. Please refer to Figure 2.1 in the revised Environmental Report. Please note that Annual Qn80 is not used by UU in the Environmental Report in the scaling of any UKTAG (2013) Building Block flow. - Please note that Annual Qn96 is listed in UKTAG (2013) for scaling of the annual minimum flow Building Block. Please refer to our response to your Query number 2a as to why the licensed compensation flows from Thirlmere and into Howe Beck are not applicable to these licence renewals. - With respect to "13Ml/d comp. flow". The licensed compensation flows from Thirlmere is 10.36 Ml/d (daily average as measured at the St John's Beck at Thirlmere flow gauge) and 3.0 Ml/d (daily average) into Howe Beck (as measured at the Mill Gill Aqueduct compensation point). The total of these are licensed to be maintained as a minimum of 13.64 Ml/d, acknowledging that there are circumstances where flow in the Mill Gill Aqueduct is less than 3.0 Ml/d. Please refer to our response to your Query number 2a as to why the licensed compensation flows from Thirlmere and into Howe Beck are not applicable to these licence renewals. - The 70 Ml/d spring flow release relates to an increase of 0.81 m3/s instantaneous flow above the compensation flow as measured at the St John's Beck at Thirlmere flow gauge. The total flow as gauged at the St John's Beck at Thirlmere flow gauge would be 0.96 m3/s. The applicable period over which this flow is maintained and the volume of Thirlmere storage attributed to it is discussed appropriately in the revised Environmental Report.	Text included in an appendix to the Environmental Report and an amendment to the main report
Modelling and Hydrology	1. c)	Provide data and analysis setting out the flows that you are able, or will be able, to release from Thirlmere Reservoir at the full range of reservoir levels and detailing relevant infrastructure adaptations. The information should be presented in graph format showing flow, adaptation and % net volume / metres below top water level. This should be accompanied by your analysis, as reservoir owner and undertaker, of infrastructure capabilities and associated operational risks. (Additionally see 3 (e) with regard to provision of flows not related to reservoir scour valves).	An additional Section 1.2 has been added to the Environmental Report addressing this. This documents the available infrastructure for making releases from Thirlmere and its capacity, as linted to reservoir water level.	Text added in main report
Modelling and Hydrology	1. d)	The supporting information compares pre and post TTS abstraction data to estimate increased abstraction due to the operation of the TTS. However, this comparison is based only on 1 year of pre-TTS data. Please can you either explain why a 1-year period is appropriate or expand the analysis to include average pre-TTS abstractions over a longer period of record. This would provide a more robust assessment of the impact TTS has on average abstraction rates (e.g. 10 years).	Data analysis extended back to 1 April 2013	Supporting statement updated
Modelling and Hydrology	1. e)	Please provide a short assessment of the consequences of removing the FDD releases (and thus increase in storage at Thirlmere) from your water resources models on future abstraction regime from Thirlmere.	[redacted]	None
Monitoring Data and Evidence	2. a)	Provide data and evidence to support retention of current annual minimum flow (compensation flow) of 13Ml/d rather than the higher UKTAG Qn96 value. Evidence could include data that supports the purposes of annual minimum flows, e.g. referencing previous ROC assessment and more recent APEM work.	It is important to note that the effects of the reservoir and the Mill Gill Aqueduct on minimum annual flows in St John's Beck and Howe Beck are addressed by the compensation flows listed in condition 9.1 of the Thirlmere Reservoir abstraction licence. The licence was formally varied in 2023 to incorporate the two compensation points and the suitability of a combined compensation flow of 13.64 Ml/d was upheld. No further mitigation for this effect is required. Notwithstanding, further text has been added to Section 2.1.1 of the Environmental Report to evidence the suitability of the licensed compensation flow.	Text added in main report

Monitoring Data and Evidence	2. b)	There is no data provided to support the assertion made that fish counts have increased as a result of restoration work and not other factors (page 4). We acknowledge that there might be a link between channel improvements and increasing fish numbers, but other environmental factors influence this too. Please either edit the report to reflect this or provide supporting information that accounts for other factors such as: FDD releases; wider trends within the catchment; a changing climate as well as the habitat improvement works delivered as mitigation measures though the current S20 .	This assertion is made in the Executive Summary of the Environmental Report and relates specifically to Howe Beck. We have added reference to the Environment Agency's Restoring Sustainable Abstractions Report (2020) to evidence this in the revised Environmental Report.	Text added in main report
Monitoring Data and Evidence	2. c)	Where the application refers to sediment monitoring data (for example on p14) and this is used to support recommendations, please provide quantitative evidence along with clear and unambiguous interpretation within the application or supporting information. The term "comparable" is too vague and subjective to be used in this context. Similarly, please provide evidence to support the assertion made on p32 that entrainment thresholds have been reduced through habitat restoration work, this should consider confidence, and spatial extent of the impacts.	The evidence from the APEM 2021 and APEM 2025 reports has been referenced to support these assertions in the revised Environmental Report.	Text added in main report
Monitoring Data and Evidence	2. d)	Where reference is made to flows that cause floodplain inundation (e.g. p15) please provide an estimate of area inundated and proportion of St Johns Beck where riverbanks are overtopped and provide evidence (e.g. Bank full report, APEM 2017 and photographic evidence).	We have included evidence of the extent of flood inundation in the valley from the 6.79m3/s release (as gauged at St John's Beck at Thirlmere flow gauge) as a new Appendix 2.	Appendix added to the Environmental report
Assessments of Impacts and Mitigation	3. a)	We do not consider comparisons of the assessment scenario with your baseline scenario (which excludes the mitigation measures necessary to secure HRA compliance) as being appropriate. Please provide conclusions and recommendations for mitigation based on divergence from the reference scenario and the naturalised flow regime as well as compliance with UKTAG recommendations.	Please note that Section 1.1 of the environmental Report sets out the baseline scenario and this is listed to include all of the mitigation measures included in the current licences and Section 20 Agreements. In the Environmental Report we had excluded the managed releases that are part of the [current] mitigation package from each of the baseline scenario, assessment scenario and reference scenario in Section 2.2, only discussing them in the Recommendations Section 2.3. The revised Environmental Report now includes each of the relevant managed releases for mitigation in the Assessment Section 2.2 and consider further mitigation in the Recommendations Section 2.3. As requested a naturalised flow regime scenario is also included from the modelling, for the representative 47 year period, in Appendix 2.	Text added in main report and appendix
Assessments of Impacts and Mitigation	3. b)	Please provide further supporting data for frequency of exceedance of key flows discussed in section 2.2.2 of the report, to show that these flows can be achieved for the required duration and frequency based on the observed reservoir levels time-series and that sufficient head is available at the required times to actually deliver these flows. Alternatively, mitigation measures could be described in the licence in terms of actions proposed (e.g. scour valve or penstock fully opened for "n" hours between "x and y" dates) and provide supporting evidence to show the likelihood / frequency that specific flows will be achieved.	We have undertaken hydraulic modelling of valve capacity for selected circumstances to review this, and a graph of achievable releases by reservoir level is included in a new Section 1.2 of the Environmental Report. Further, we have reviewed the model output of reservoir storage (and inferred reservoir level from this) in relevant months as an additional Figure 2.19. This confirms that some flexibility will be required in licensing of target managed release values.	Text added in main report

Assessments of Impacts and Mitigation	3. c)	Autumn/Winter Flow Elevations - Page 17, section 2.1.4 describes the functions of the autumn / winter flow elevations, these relate to flow variability and frequent provision of flow elevations over the period October to December to support migration and geomorphological functions. With regard to the fisheries element, reach by reach analysis was provided by APEM in 2021 (Section 4.2, Thirlmere Release Scenarios v3.1 report) of the flow magnitude needed to support migration in St John's Beck. It seems likely that many of the migration flows of the Autumn Winter Flow Elevations have been provided by the FDD releases. Please can you evidence to support whether the existing waterbank without the FDD will be sufficient to achieve the required mitigation and not have an adverse impact on fish migration and movement.	It is important to note that the effects of the reservoir and the Mill Gill Aqueduct on adult Atlantic salmon migration cues are appropriately mitigated by the Section 20 Agreement Operation of water releases from Thirlmere Reservoir and from Mill Gill Aqueduct for the benefit of fish migration. We are not seeking to vary the conditions of this Section 20 agreement. This Section 20 agreement does not have an expiry date. For the purposes of this licence renewal application this Section 20 agreement is considered to remain in place. Ricardo has added additional text to Section 2.2.2 of the Environmental Report to evidence the adult Atlantic salmon migration component of the autumn/winter flow elevation as separate from the geomorphological functions of the autumn winter flow elevation. This includes the use of migration peak sizes as set out in APEM 2021. Regardless of discussion of the benefits or disbenefits of FDD, the managed releases from the fisheries waterbank are an appropriate mitigation regime for adult Atlantic salmon migration and no further mitigation for this effect is required. This Query also associates with your Query 4b. Futhermore, it should be considered that the prolonged flow elevation resulting from KFAG releases may result in fish spawning in gravel areas which are exposed when KFAG releases are stopped (i.e. when the release trigger level is reached). This is considered to be a negative effect and was referenced in the 2021 Apem report.	Text added in main report
Assessments of Impacts and Mitigation	3. d)	Provision of mitigation flows in St Johns Beck should not be limited only to the release capacity of the lower scour valves. Other existing infrastructure can increase flow magnitude diverted towards St Johns Beck in certain circumstances (for example the penstocks on Mill Gill and Howe Beck which are currently used to supplement the annual large spate flow releases). The effectiveness of managed releases can be increased if made during / following wet weather and through further habitat improvement works. We believe that the role of the West Cumbria Rivers Trust Project Officer has been and will remain critical to effectiveness of the managed releases given the varying ability to release target flows. Finally, we understand that other infrastructure may become available for mitigation releases during the lifetime of this license (for example upgrading the upper scour valves). Please can proposed mitigation releases consider all of these options.	As referenced in the query, the annual large spate releases(s) have supplemented the annual large spate releases in 2021-2025 in circumstances where turning out Mill Gill or Howe Beck would provide benefit to flows in St Johns Beck. It is intended that consideration of turning out these watercourse during releases is continued and will be clarified in the text. However it is noted that this may not always provide any significant benefits. The annual release requires a significant amount of resource to successfully deliver and these resources must be scheduled several weeks in advance. An outage at Williamsgate WTW also requires a significant lead time to plan for to ensure security of public water supply. We have often planned to make two releases to total 6 hours duration with several back up dates as this allows us to review reservoir level (and therefore maximum release rate) and also increases the changes of a release coinciding with rainfall. This will be continued going forward and will be clarified in the text. [redacted]	Clarification in main report
FDD (KFAG) Releases	4. a)	There are assertions made in the Environmental Report regarding the FDD releases and their impact on phasing of flows from Thirlmere vs the rest of the catchment (page 9 and page 63). It is our understanding that this was not a specific objective when the current FDD release regime was implemented and we are not aware of any analysis that shows their impact on phasing specifically. Please remove this reference from the report.	Text on phasing has been removed from the Environmental Report.	Text deleted from main report
FDD (KFAG) Releases	4. b)	The report goes on to state that ceasing FDD releases will improve migration cues for Atlantic Salmon. Please provide reasoning to support this conclusion; including both the direct impact of stopping the FDD releases (i.e. reduced flow in St Johns Beck when the releases would have been made) and the indirect impact (i.e. changes to the timing and magnitude of spillway overtopping events) on migratory cues for Atlantic Salmon.	It is important to note that the effects of the reservoir and the Mill Gill Aqueduct on adult Atlantic salmon migration cues are appropriately mitigated by the Section 20 Agreement Operation of water releases from Thirlmere Reservoir and from Mill Gill Aqueduct for the benefit of fish migration. We are not seeking to vary the conditions of this Section 20 agreement. This Section 20 agreement does not have an expiry date. For the purposes of this licence renewal application this Section 20 agreement is considered to remain in place. As to whether the FDD is considered to benefit adult Atlantic salmon migration (as asserted by the Environment Agency) or to disbenefit adult Atlantic salmon migration (as asserted in the Environmental Report). Ricardo has added additional text to Section 2.2.2 of the Environmental Report to evidence this further. Regardless of discussion of the benefits or disbenefits of FDD, the managed releases from the fisheries waterbank are an appropriate mitigation regime for adult Atlantic salmon migration and no further mitigation for this effect is required. This Query also associates with your Query 3c.	Text added to Environmental Report

Habitats Risk Assessment	5. a)	We will undertake a Habitats Risk Assessment (HRA) for the like for like renewal of the 9 Thirlmere Abstraction Licences (8 full renewal and 1 renewal of a time limited condition) and consult with Natural England. We will, where reasonably possible consider any other plans, projects or proposals particularly that could affect the licence operation or the mitigation required to protect the designated site/features under this renewal. We do not consider that you in combination assessment adequately considers other known plans, projects or proposals in the catchment. We have provided a list of those plans we are currently aware of at the end of this letter. We advise that you consider these other plans in the HRA for ceasing the FDD that you submit to Natural England.	We have incorporated the list of plans, projects and proposals that you consider relevant to an in-combination assessment (as set out in your point 6) within revised Section 3.3.5 of the Environmental Report. In summary we conclude that there is no likely significant effect in combination with other plans or projects, as defined in the Habitats Regulations.	Text added to Environmental Report
Corrections and Clarifications	6. (i)	The Section 20 (Provision of mitigation measures in relation to Thirlmere Reservoir for the protection of the River Derwent and Bassenthwaite Lake Special Area of Conservation) does not state a flow rate for the Small Flood Flow release, instead it requires that functions associated with the Small Flood Flow are achieved in St John's Beck. More recently 1,750Ml/d flow was estimated as a minimum flow likely to achieve these functions with the current river conditions and based on available monitoring data.	Text updated in Section 1.1 of the Environmental Report.	Text clarified in Environmental Report
Corrections and Clarifications	6. (ii)	Qn95 / Qn96 appear to be defined differently throughout the report. For example, on p17 6* Qn95 is given as 280 Ml/d (i.e. Qn95 = 46.7 Ml/d) whereas on p13 Qn96 is given as 21.85 Ml/d. This also relates to comment 1d which asks for clarity on how key flow elevations have been derived.	Please refer to our response to your Query number 1b above which clarifies the flow statistics used in the report and their provenance. The Environmental Report has been revised for clarity.	Text clarified in Environmental Report
Corrections and Clarifications	6. (iii)	Many of the flows presented in the report are described as "daily equivalent" flows. Please can a definition of this term be given and ensure that it is being used appropriately throughout the application. All previous monitoring data and analysis has used instantaneous flows. If daily average or daily equivalent flows are to be used in this report, please provide corresponding peak instantaneous flows or comparison based on analysis of historical data.	The Environmental Report has been revised for clarity. This includes appropriate reference to instantaneous flows (in m^3/s) and the attributed volume of Thirlmere storage, where applicable.	Text clarified in Environmental Report
Corrections and Clarifications	6. (iv)	On page 3 of the Supporting Information, it states that "Following their Review of Consents under the Habitats Regulations, the EA determined that our abstractions from Ennerdale Water, Crummock Water, Overwater, Chapel House reservoir/River Ellen and Dash Beck needed to cease, resulting in a supply-demand deficit for public water supplies in West Cumbria." Following the Review of Consents process, the Agency determined that the licence at Ennerdale Water needed to cease. The remaining licences at Crummock Water, Chapel House reservoir/River Ellen, Overwater and Dash Beck were voluntarily revoked by United Utilities as part of the compensatory measures agreement when proposing the Thirlmere Pipeline.	Supporting statement amended.	Supporting statement amended
Corrections and Clarifications	6. (v)	Consider referencing and incorporating earlier key reports more clearly in your supporting documents. In particular, Thirlmere Stage 2 HRA (Environment Agency, 2021) and Thirlmere Release Scenarios report v3.1 (APEM 2021). As stated above we will use these in our consideration of your application.	Further referencing has been added to the revised Environmental Report for clarity.	Text clarified in Environmental Report

Corrections and Clarifications	6. (vi)	The application refers to the need to continue sediment management activities (p32). This is currently defined in a separate S20 but recent analysis shown that this needs to be revised for example to reflect improvements made to operations undertaken in 2025. This improved methods of working will need to be defined either in the new licence or an accompanying S20 agreement.	Words added to Section 4.1 of the supporting statement: "We are happy to work with the EA to update the current Section 20 sediment management agreement to incorporate the changes that have been implemented."	Supporting statement amended
Corrections and Clarifications	6. (vii)	The Section 20 agreement for fisheries releases (The operation of water releases from Thirlmere Reservoir and from Mill Gill Aqueduct for the benefit of fish migration) is for a volume of water not less than 973 ML/y and the opening of the large 50 ml/d penstock on the Mill Gill aqueduct to Helvellyn Gill. This opening is for a period of 8 weeks starting in the 3rd week of October each year (excluding weekends and bank holidays).	The Environmental Report has been revised as suggested to acknowledge and incorporate the waterbank releases as part of the total mitigation package for St John's Beck and Howe Beck. See Sections 1.1 and throughout Sections 2 and 3.	Text clarified in Environmental Report
Corrections and Clarifications	6. (viii)	We do not agree with the logic that mitigation measures are only about replicating the natural flow regime and therefore that if a specific flow does not occur in the natural record at a given time of year and frequency that the UKTAG recommendations are not appropriate for this watercourse. These mitigation flows are about avoiding adverse impact on the site integrity of the SAC in an achievable way, typically by maximising the effectiveness of water released to St Johns Beck. Please review the omission of the late summer flow elevation of 1,094MLD in this context.	We concur with your point about the difference between natural regimes and managed regimes, however, APEM (2021) is clear that none of the functions associated with a LSFE are missing from the habitat or ecological response of St John's Beck. The text of Section 2.1.3 of the revised Environmental Report has been clarified, and includes reference to APEM (2021).	Text clarified in Environmental Report
Concluding remarks	6	In determining your application, we will consider a wide range of reports and evidence.	None	No
Concluding remarks	6	We also recommend that any HRA associated with the proposal to stop the FDD releases is submitted to Natural England within the stated 15 days from receiving this letter, as any conclusions drawn from this will be required to determine the applications and may inform any additional requirements on the licences.	Noted. We will write to NE in line with the timescales specified.	No
Concluding remarks	6	It is recommended that this includes a comprehensive in-combination assessment and considers both the direct impact that stopping the FDD releases will have on flows within St John's Beck when releases are/were being made as well as the indirect impact that this will have on spill frequency. Plans, projects and proposals that we consider relevant to an incombination assessment of your applications. - Thirlmere Resilience Project - Resilient Glenderamackin landscape recovery project - Future Flood Releases [redacted] - Potential Highways culvert improvements for sediment delivery at Sandbed Gill and Fornside Gill (on B5322). [redacted] - Scour valve testing	The report will be updated to include these projects. In summary: - Thirlmere Resilience is a UU habitat restoration project to improve the water quality entering Thirlmere Reservoir. The project includes peat restoration, changes to stock management including types and numbers of livestock and temperate rainforest restoration. This is an ongoing project that started in AMP7, is running through AMP8 and will continue through into AMP9. Works associated with the project are upstream of Thirlmere reservoir. The project is expected to have positive impacts on water quality entering the reservoir and therefore, positive effects on water entering St Johns Beck. No hydrological impacts are anticipated. Therefore, it is predicted there will be no negative in-combination effects but may result in positive in-combination effects. - Resilient Glenderamackin landscape recovery project: This project proposal has been developed by West Cumbria Rivers Trust. At time of writing it has not been confirmed that the project has been successful in its bid for funding. The overall project aims to re-naturalise 5km of river, improve the condition of soils and grasslands, create 59 hectares of new woodland, create 673 hectares of scrub, create 419 hectares of Wood Pasture, create and restore 90 hectares of ponds and wetlands, plant 2.6km bunded floodplain hedges and 22km 'normal' hedges and restore 360 hectares of peat . St Johns Beck is within the wider catchment where works are anticipated. Should it be funded and implemented in the future, the project is anticipated to have benefits to the River Derwent and Bassenthwaite Lake SAC, through restoring natural processes and improving habitats for designated features of the site. Therefore, it is predicted there will be no negative in-combination effects but may result in positive in-combination effects. - Future flood releases: UU have committed to working with the EA to develop a future forecast driven operating regime of releases for Thirlmere reservoir. This regime will be developed following the completion of Environment Agency flood modelling which at time of writing is understood to have been initiated. However, at time of writing, no such operating regime is available for assessment and operational mechanisms for delivery or operating principles have not been identified. When agreed in the future, this regime should be assessed appropriately under the Habitats Regulations in-combination with the nine Thirlmere abstraction licences and any other relevant plans or projects. It is anticipated that should any such regime have potential impacts on the River Derwent and Tributaries SAC it would not be progressed by the EA. [redacted] - Potential Highways culvert improvements for sediment delivery at Sandbed Gill and Fornside Gill (on B5322): At time of writing, it is not known if this project will be taken forward and funded by Cumberland Council. These projects, if progressed, should aim to improve sediment conveyance from tributaries of St Johns Beck to the river and therefore, should themselves have positive impacts, and therefore a positive in-combination impact. [redacted] - Scour valve testing: This relates to the testing of reservoir safety infrastructure in line with statutory reservoir safety requirements. The volume of water released during scour tests is small and will not impact spill frequency. It should be noted that the USVs at Thirlmere are currently tested 'blind' i.e. the valves are in line and exercised in turn, so only the small volume of water between the valves is released. As such this is considered a neutral in-combination effect.	Text added to Environmental Report

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Thirlmere catchment licence renewal applications

Supporting information – updated following initial application submission on 19 August 2025 and subsequent request for further information (EA letter dated 14 November 2025)

This document contains information in support of United Utilities' application to renew, on a like-for-like basis, the following nine abstraction/transfer licences:

1. Licence no. 2775009011: Thirlmere reservoir abstraction licence. The abstraction volumes set in Conditions 6.1, 6.2, 6.3 and 6.4 are time-limited and from 1 April 2026 the volumes revert to those set in Conditions 6.5, 6.6, 6.7 and 6.8. This application is to renew the licence to allow abstraction to continue at the volumes set in Conditions 6.1, 6.2, 6.3 and 6.4
2. Licence no. NW/075/0009/004: Helvellyn Gill transfer licence to abstract water. Whole licence expires 31 March 2026
3. Licence no. NW/075/0009/005: Tributaries of Helvellyn Gill transfer licence to abstract water. Whole licence expires 31 March 2026
4. Licence no. NW/075/0009/006: Fisherplace Gill transfer licence to abstract water. Whole licence expires 31 March 2026
5. Licence no. NW/075/0009/007: Sty Beck (aka Stanah Gill) transfer licence to abstract water. Whole licence expires 31 March 2026
6. Licence no. NW/075/0009/008: Ladknott Gill transfer licence to abstract water. Whole licence expires 31 March 2026
7. Licence no. NW/075/0009/009: Mill Gill transfer licence to abstract water. Whole licence expires 31 March 2026
8. Licence no. NW/075/0009/010: Tributaries of St John's Beck transfer licence to abstract water. Whole licence expires 31 March 2026
9. Licence no. NW/075/0009/011: Black Gill transfer licence to abstract water. Whole licence expires 31 March 2026

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1. Summary of application

United Utilities' abstraction and transfer licences associated with the Thirlmere catchment (as listed above) expire (or have conditions that expire) on the 31 March 2026. We wish to renew all the licences on a like-for-like basis on the same terms.

On the 18 August 2025, we submitted our application (reference NPS/WR/044709) to renew the Thirlmere licences including completed WR327 application forms for each of the nine abstraction/transfer licences. These forms remain valid.

Following a meeting with the Environment Agency (EA) and Natural England on the 5 November 2025, on the 14 November 2025 we received an invalid application letter (WR188) identifying additional information required to make our application valid. As a result, we are submitting an updated Environmental report (including a Habitats Regulations Assessment) and this updated supporting information document to provide the required information.

We have paid the following application fees:

- £1,215 (= 9 licences * £135 fee per licence) via BACS on 18 August 2025 [redacted] (the £135 like-for-like renewal fee was from the EA's charging scheme v1.4)
- £117 (= 9 licences * additional £13 fee per licence) via BACS on 11 September 2025 [redacted] (an additional £13 per licence was due as the like-for-like renewal fee increased to £148 in the EA's charging scheme v1.7)
- £1,176 (£849 for a habitats assessment + £327 for consultation with another statutory authority) via BACS on 17 November 2025 ([redacted]

The EA already hold copies of the following documents; however, if a copy is required, please contact us to request them:

- The existing abstraction/transfer licences (as listed on Page 1 of this document)
- The existing Section 20 Thirlmere sediment management agreement dated 10 November 2015
- The existing Section 20 Thirlmere water bank release agreement dated 10 November 2015
- The existing Section 20 Thirlmere mitigation agreement dated 22 July 2021

2. Background

Following their Review of Consents under the Habitats Regulations, the EA determined that the abstraction from Ennerdale Water should cease and the abstraction licence be revoked, resulting in a supply-demand deficit for public water supplies in West Cumbria. Following an Examination in Public, the publication of our Final Water Resources Management Plan 2015 confirmed Thirlmere as the long-term solution to resolve this deficit. As part of the Habitats Regulations package of Compensatory Measures to support the Imperative Reasons of Over-riding Public Interest (IROPI) case to allow continued abstraction from Ennerdale whilst the Thirlmere Transfer scheme was being constructed (and a potential drought order in this period), we committed to revoking the abstraction licences at other West Cumbria sources including Crummock, Overwater, Dash Beck and the River Ellen/Chapel House reservoir.

Following the EA's Review of Consents process under the Habitats Regulations, we applied for new transfer licences for 8 indirect river intakes that transfer water into Thirlmere reservoir for subsequent re-abstraction. These new licences were issued by the EA on 10 November 2015 and they all expire on the 31 March 2026.

In October 2017 we applied to the EA to vary our Thirlmere abstraction licence no. 2775009011 to allow us to increase the quantity of water we can abstract from the Bridge End abstraction point on Thirlmere reservoir to provide an alternative water supply for West Cumbria. The increase to the abstraction quantity for the Bridge End abstraction point did not result in an increase to the overall licenced abstraction quantity for Thirlmere reservoir as a whole (across the two abstraction points, Bridge End and Dunmail Raise), but rather just allowed additional water to be taken from this particular abstraction point.

On the 15 February 2018 the EA issued us with a new version of our Thirlmere abstraction licence no. 2775009011, however the increased volumes licenced for abstraction at Bridge End were time limited until 31 March 2026. The licence has subsequently been varied to change the locations of the compensation flow release point and compensation flow measurement point and to make some minor corrections. The current version of the licence was issued on 5 January 2024.

In order to secure water supplies to the West Cumbria area, a new pipeline was constructed from Thirlmere reservoir with supplies commencing in 2022. Following the pipeline coming into operation, we have revoked the following abstraction licences in West Cumbria:

- Ennerdale abstraction licence no. 2774003008 revoked with effect from 22 March 2023
- Crummock abstraction licence no. 2775012028 revoked with effect from 22 March 2023
- Overwater abstraction licence no. 2775006018 revoked with effect from 19 September 2023
- Dash Beck (aka Halls Beck) abstraction licence no. 2775011017 revoked with effect from 19 September 2023
- River Ellen/Chapel House reservoir abstraction licence no. 2775006014 revoked with effect from 28 November 2023
- South Egremont boreholes abstraction licence no. NW/074/0005/003 revoked with effect from 15 October 2024

This application is to renew on a like-for-like basis the 8 transfer licences for the indirect river intakes as well as the main Thirlmere abstraction licence no. 2775009011 as they all expire (or have conditions that expire) on the 31 March 2026, thus securing the future of public water supply to West Cumbria. It is likely that any newly issued licences will also be time limited, however the planned move for abstraction licensing into the Environmental Permitting Regime will allow the EA to change licences as and when required to protect the environment without needing to wait for a licence to expire.

3. Justification of need

Our renewal application is to retain the current licence limits of:

- 90 Ml/d at Bridge End
- 243 Ml/d at Dunmail Raise
- An aggregate total of 248.5 Ml/d and 82,671 Ml/year across the two abstraction points
- An aggregate total of 777 Ml/d between Dunmail Raise on this licence and abstraction licence no. 2776005005 (Haweswater reservoir)

Following the construction of the new pipeline from Thirlmere reservoir to a new water treatment works at Williamsgate in 2022, to supply West Cumbria with its public water supply, we have increased the volumes of water we abstract from the Bridge End abstraction point on Thirlmere reservoir.

The graph below shows the total abstraction from Thirlmere for the period 1 April 2013 to 30 September 2025 and its allocation to the two points of abstraction on the licence; Bridge End and Dunmail Raise. In our application submitted on the 18 August 2025 we only showed the data from 1 April 2020 but in their WR188 letter dated 14 November 2025, the EA requested that we consider a longer period of time. We have used data from 2013 as this is when we started to report daily abstraction volumes to the EA and therefore we have verifiable and accurate daily data from this point onwards. The increase in abstraction at Bridge End, and the commensurate reduction in abstraction at Dunmail Raise, from early 2023 can be clearly seen.

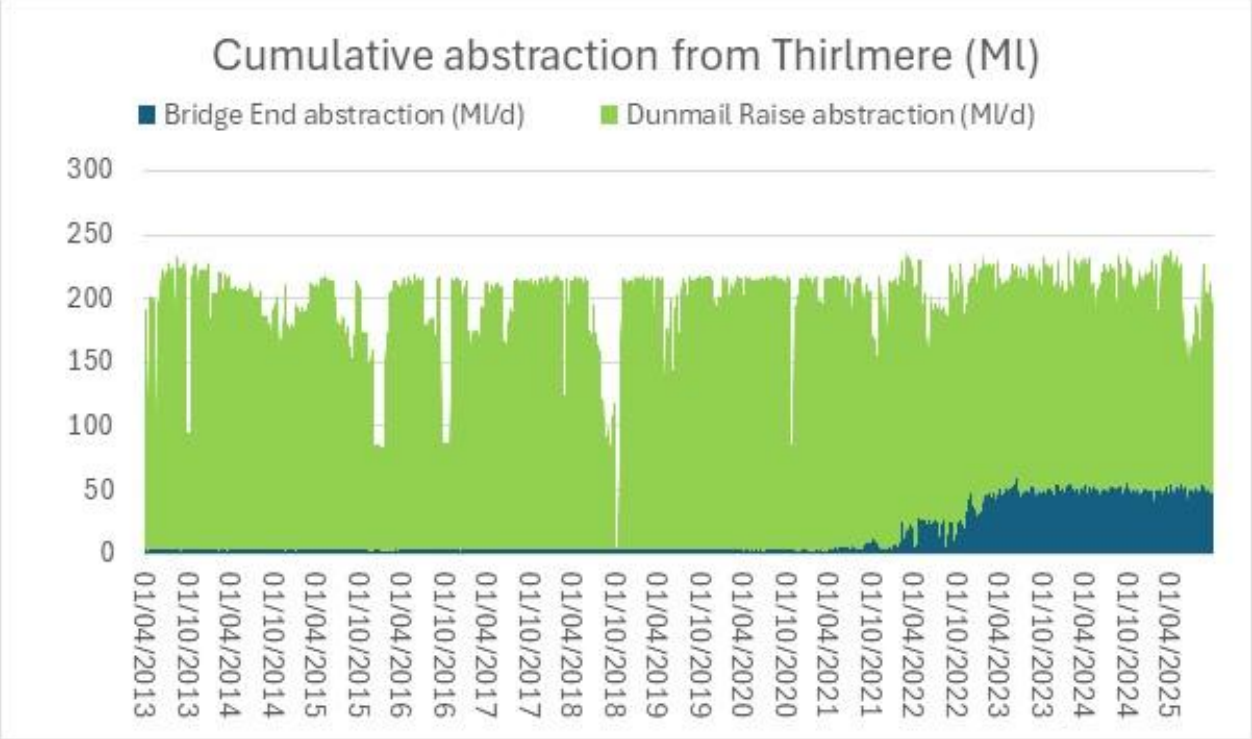


Table 1 shows that the total annual volume (year defined as 1 April to 31 March as per the licence) abstracted from Thirlmere reservoir across the two abstraction points has increased by up to 12% compared to the average over the 2013-2021 period (prior to when the Thirlmere pipeline was in operation). The current aggregate annual limit on the licence is 82,671 Ml/year. Table 1 shows that in 2023-24 and 2024-25 we utilised 97.3% of this, demonstrating the need for the current aggregate annual limit to be retained on any future licence. Table 1 also shows

that historically (prior to when the Thirlmere pipeline was in operation), usage of the aggregate annual licence limit has been of a similar level, for example in 2020-2021 when 92% was utilised.

Table 1: annual aggregate abstraction statistics

Year (1 April to 31 March)	Total annual abstraction (Ml)	Percentage increase compared to average over 2013-2021 period	Percentage of current aggregate annual licence (82,671 Ml) utilised
2013-2014	74,966	n/a	90.7%
2014-2015	71,773	n/a	86.8%
2015-2016	65,898	n/a	79.7%
2016-2017	68,639	n/a	83.0%
2017-2018	75,386	n/a	91.2%
2018-2019	66,025	n/a	79.9%
2019-2020	75,353	n/a	91.1%
2020-2021	76,090	n/a	92.0%
2021-2022	76,687	7%	92.8%
2022-2023	76,410	6%	92.4%
2023-2024	80,426	12%	97.3%
2024-2025	80,473	12%	97.3%

Table 2 shows that the maximum total daily abstraction from Thirlmere reservoir, across the two points of abstraction, is 240 Ml/d. The current aggregate daily limit on the licence is 248.5 Ml/d. Table 2 shows that in 2022-2023 and 2023-24 we utilised 96.6% of this, demonstrating the need for the current aggregate daily limit to be retained on any future licence. Table 2 also shows that historically (prior to when the Thirlmere pipeline was in operation), usage of the aggregate daily licence limit has been of a similar level, for example in 2013-2104 when 94.2% was utilised.

Table 2: daily aggregate abstraction statistics

Year (1 April to 31 March)	Maximum total daily abstraction (Ml/d)	Percentage of current aggregate daily licence (248.5 Ml/d) utilised
2013-2014	234	94.2%
2014-2015	218	87.6%
2015-2016	219	88.1%
2016-2017	219	88.2%
2017-2018	221	88.8%
2018-2019	221	88.9%
2019-2020	220	88.6%
2020-2021	220	88.6%
2021-2022	239	96.2%
2022-2023	240	96.6%
2023-2024	240	96.6%
2024-2025	238	95.9%

Table 3 shows that the maximum daily abstraction from the Dunmail Raise abstraction point on Thirlmere reservoir and demonstrates the reduction since the pipeline to West Cumbria has become operational, as abstraction at Bridge End has increased. In 2024-25, the maximum daily abstraction rate was 188 Ml/d compared to a licence limit of 243 Ml/d, representing a utilisation of 77.3%[redacted] we need flexibility to operate the abstraction within the limits of the current licence, for example in the event of an outage of other sources. In addition, along with the EA, we are currently exploring the potential to abstract via the Dunmail Raise abstraction point to help provide storage space within Thirlmere reservoir prior to and during storm events, to help mitigate downstream flood impacts. For these reasons, we wish to retain the current daily abstraction licence limit at the Dunmail Raise abstraction point.

Table 3: Dunmail Raise abstraction statistics

Year (1 April to 31 March)	Maximum daily Dunmail Raise abstraction (Ml/d)	Percentage of current daily licence limit (243 Ml/d) utilised
2013-2014	231	95.0%
2014-2015	214	88.2%
2015-2016	216	88.8%
2016-2017	216	88.8%
2017-2018	218	89.7%
2018-2019	217	89.3%
2019-2020	216	88.9%
2020-2021	217	89.2%
2021-2022	215	88.7%
2022-2023	208	85.6%
2023-2024	185	76.3%
2024-2025	188	77.3%

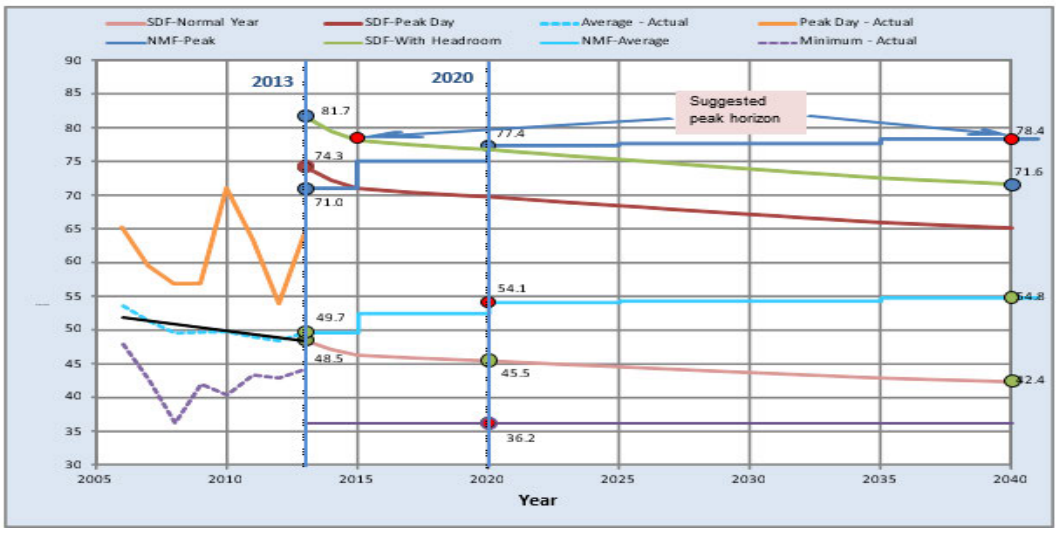
Table 4 shows that the maximum daily abstraction from the Bridge End abstraction point on Thirlmere reservoir and demonstrates the increase since the pipeline to West Cumbria has become operational, as abstraction at Dunmail Raise has decreased. In 2024-25, the maximum daily abstraction rate was 63 Ml/d compared to a licence limit of 90 Ml/d, representing a utilisation of 69.7%. The abstraction licence issued on 15 February 2018 increased the daily licence limit increased from 5.5 Ml/d to 90 Ml/d; hence the change in percentage figures for 2018/19 onwards.

Table 4: Bridge End abstraction statistics

Year (1 April to 31 March)	Maximum daily Bridge End abstraction (Ml/d)	Percentage of daily licence limit utilised
2013-2014	5	82%
2014-2015	5	84%
2015-2016	5	83%
2016-2017	4	80%
2017-2018	4	67%
2018-2019	4	4%
2019-2020	4	5%
2020-2021	5	6.1%
2021-2022	26	28.7%
2022-2023	51	56.2%
2023-2024	61	67.4%
2024-2025	63	69.7%

Our licence variation application in October 2017 set out the justification for the daily licence limit of 90 Ml/d at Bridge End comprising:

- 78.4 Ml/day maximum demand (Williamsgate water treatment works i.e. the demand for West Cumbria) (see 2040 forecast demand, far red dot, on graph below) plus
- 5.5 Ml/day demand from Bridge End (i.e. the previous abstraction limit for the Bridge End abstraction point) plus
- 6.1 Ml/day process water requirement.



Although our recent maximum abstraction from the Bridge End abstraction point of 63 Ml/d is less than the licence limit of 90 Ml/d, Williamsgate WTW would need to run at higher flows to refill the treated water tank at Williamsgate WTW and the connected service reservoirs following an outage, shutdown or incident. Although this situation has not yet arisen during the short time that Williamsgate WTW has been in operation, the licence limits need to be able to accommodate such an eventuality in the future.

Given we've only been abstracting under this new mode of operation since 2022, we have not experienced extremes during such a short period of time, especially given that Williamsgate WTW is still a new asset so little maintenance has been required to date. To provide operational flexibility we need to retain the current daily maximum limits set for the separate Dunmail Raise and Bridge End abstraction points. As demonstrated by the statistics presented in Tables 1 and 2, the aggregate daily and annual licence limits set across both abstraction points are nearly fully utilised and these set the constraint for overall abstraction from Thirlmere reservoir.

Our recent usage of Thirlmere reservoir demonstrates our continued need for this water at the volumes stipulated in the existing licence.

Due to the need to maintain inflows into Thirlmere reservoir, to support the abstractions for public water supply, it is necessary to retain the existing 8 transfer licences.

4. Associated Section 20 agreements

4.1 Section 20 Thirlmere sediment management agreement (dated 10 November 2015)

The current version (v1.3) of our Thirlmere sediment management plan, dated 21 June 2019, was produced to incorporate amendments following EA comments.

We report annually to the EA on our sediment management activities in the Thirlmere catchment. The Section 20 agreement includes for an annual review between UU, EA and Natural England to ensure our sediment management plan remains fit for purpose. Through this annual process there is the opportunity for either party to raise issues and discuss any changes that may be required, with the sediment management plan being updated by 31 May.

Recommendations for changes to the sediment management plan were raised at a Thirlmere project steering group meeting on the 23 July 2024. A productive site visit was held on 20 March 2025 to look at the intakes and aqueducts and review the Thirlmere sediment management plan – this was attended by representatives from UU (the catchment team, Hydroecologist, Catchment Partnership Officer and an Environmental Planner), the EA (including [redacted] EA Geomorphologist), Natural England and the West Cumbria Rivers Trust site officer (whom UU fund). Following the site visit, the recommendations made have been incorporated into the sediment management works being undertaken in 2025. The next annual review meeting will be held in March 2026. We are happy to work with the EA to update the current Section 20 sediment management agreement to incorporate the recent changes that have been implemented.

4.2 Section 20 Thirlmere water bank release agreement (dated 10 November 2015)

We report annually to the EA on our water bank releases in the Thirlmere catchment, including releases both from Thirlmere dam itself to St John's Beck and releases made at our Helvellyn Gill intake to How Beck. The Section 20 agreement includes for an annual review between UU, EA and Natural England to take place before the end of February each year (or as otherwise agreed). Through this annual process there is the opportunity to raise issues and discuss/agree any changes that may be required. Following the submission of our 2023 annual water bank report to the EA on the 27 February 2024, on the 6 March 2024 we received confirmation from [redacted] (EA) that the EA were happy with the current arrangements and that no changes were required for the water bank release period commencing October 2024. No comments have been received from the EA following our submission of the 2024 annual water bank report.

The table below shows the recent utilisation of the 973 Ml annual water bank allowance at Thirlmere and demonstrates that it is being well used to support fisheries management.

Table 5: Water bank utilisation

Year	Water bank utilisation
2020	907 Ml released between 23 October and 15 December 2020. At times during this period no water bank releases were needed as flood releases were being made from Thirlmere reservoir, therefore actual releases are higher than reported
2021	749 Ml released between 8 November and 17 December 2021. At times during this period no water bank releases were needed as flood releases were being made from Thirlmere reservoir, therefore actual releases are higher than reported
2022	1,151 Ml released between 24 October and 31 December 2022
2023	1,625 Ml released between 16 October and 31 December 2023
2024	571 Ml released between 14 October and 19 December 2024 at Helvellyn Gill Thirlmere dam: no releases made. EA decided that a planned release on 19/20 October 2024 should not go ahead due to warm conditions and lack of adult salmon in the area. EA request for no releases from Thirlmere dam between 13 November 2024 and 31 December 2024 Helvellyn Gill: spate penstock opened (Monday to Friday) for an 8 week period from 14 October 2024 to 19 December 2024. EA/UU agreed to cessation of releases on 19 December 2024

4.3 Section 20 Thirlmere mitigation agreement (dated 22 July 2021)

As described in Section 2, the Thirlmere reservoir abstraction licence was amended to allow the abstraction and transfer of water to supply UU's former West Cumbria water resource zone via a pipeline known as the Thirlmere Transfer Scheme (TTS). The daily and annual licence volumes were not changed, but the proportion of the daily licenced volume that could be abstracted at Bridge End (the northern abstraction point) was increased to allow the transfer to West Cumbria. A statutory Environmental Impact Assessment and Habitats Regulations Assessment were completed in 2016 in support of the planning application for the TTS which included an assessment of the licence change to the operating regime and spill regime of Thirlmere reservoir. In accordance with the Habitats Regulations, an in-combination assessment with the voluntary flood drawdown releases (FDD; also known as KFAG releases) was made – these releases have been made from Thirlmere reservoir since approximately 2008.

To mitigate for impacts to the downstream watercourse (St Johns Beck, part of the River Derwent and Bassenthwaite Lake Special Area of Conservation) due to loss of spill events due to the impacts of both the TSS and FDD acting in-combination, a Section 20 agreement was developed. This is referred to as the Mitigation Section 20 and included a schedule of mitigation releases alongside the implementation of catchment interventions to improve sediment transport and habitat for SAC species, delivered through the funding of a five year site officer role hosted by West Cumbria Rivers Trust. This agreement terminates on the 1 April 2026, the day after the time limited element of our Thirlmere abstraction licence no. 2775009011 expires.

The Site Officer commenced in post in September 2021. In consultation with the Habitat Improvement Steering Group (comprising representatives from UU, EA and Natural England) they have developed and delivered actions from a prioritised and costed action and delivery plan ("the Habitat Improvement Action Plan") of habitat improvement works along St. John's Beck between Thirlmere dam and the Glenderamackin confluence and How Beck /Helvellyn Gill valley to enhance, restore or assist recovery of natural geomorphological processes and associated landforms. Progress is detailed in annual reports which are submitted to the EA and Natural England at the end of February each year. UU has committed to fund the Site Officer role to September 2026.

The Mitigation Section 20 agreement specifies the following managed releases from Thirlmere reservoir to St John's Beck:

- An annual Large Spate Flow mitigation release or releases of 560 Ml/d between the month of September and mid-November for a total of at least 6 hours, with best endeavours to increase this to at least 750 Ml/d.
- A Small Flood Flow mitigation release of 1,750 Ml/d between September and the following February (Small Flood Flow discharge period) providing a flow of 2,000 Ml/d magnitude has not been achieved in the 2 years prior to the start of the Small Flood Flow discharge period.

Large Spate Flow mitigation releases are made using the lower scour valves at Thirlmere, however, reservoir head (i.e. water level) influences the release rates and 560 Ml/d can only be achieved at water levels of approx. 3 m below weir crest level (bwcl) and higher. Currently releases of 750 Ml/d cannot be achieved, even if the reservoir is full at the time of the release. Annual releases have been made since 2021, however, in some years the 560 Ml/d has not been achieved.

The magnitude of the Small Flood Flow release has been specified by the EA and Natural England as 1,750 Ml/d. Controlled releases of this magnitude from Thirlmere reservoir are not possible with the current infrastructure and would require significant investment to construct new release mechanisms or to refurbish existing assets. Currently the only feasible way of facilitating an increased frequency of larger flows down St John's Beck is to allow Thirlmere reservoir to spill.

5. Flood releases from Thirlmere Reservoir

Releases from Thirlmere reservoir have been made for local flood risk management purposes since approximately 2008. UU currently release approximately 120 Ml/d to St. John's Beck from Thirlmere when reservoir levels are between 0.5-3.0 m below spillway crest level, depending on the month. The aim of these flood drawdown releases (FDD, also known locally as 'KFAG release') is to provide some flood storage in Thirlmere reservoir, primarily to delay the flood peak down St John's Beck so that it is out of phase from the peak flow of other natural tributaries of the River Greta (the river downstream of St. John's Beck that flows through Keswick). These releases, by their nature, serve to reduce the frequency of Thirlmere spill events.

The Mitigation Section 20 agreement described in Section 4.3 is designed to mitigate for the two 'projects' under the Habitats Regulations: the operation of the Thirlmere abstraction and the FDD operation. The former is UU's statutory duty as a Water Undertaker. The FDD release regime is a voluntary agreement and there is no legal or regulatory requirement for UU to continue to make releases for the purposes of flood mitigation, and therefore, because delivery of the mitigation flows required is infeasible, UU plan to cease the operation of the FDD going forward to reduce the impact of UU's operations on St John's Beck, therefore, reducing the impact requiring mitigation; i.e. mitigation at source.

UU are committed to working together with the EA to develop a future forecast driven operating regime of releases for Thirlmere reservoir. This regime, when agreed in the future, should be assessed appropriately under the Habitats Regulations in-combination with the nine Thirlmere abstraction/transfer licences and any other relevant plans or projects. We have conducted some initial modelling of the forecast driven approach which has initially shown it to have no/minor impact on the spill frequency of Thirlmere reservoir.

We confirm that the current voluntary FDD releases will be ceased, effective from the date of renewal of the Thirlmere abstraction/transfer licences. Therefore, the FDD are included in the 'baseline' of the assessment presented in the environmental report and Habitats Regulations Assessment that supports these licence renewal applications (i.e. as they happen now), but they are not included in the 'assessment' scenario or as an in-combination impact as they will be ceased (see Section 6). Ceasing FDD releases significantly increases the spill regime from Thirlmere reservoir towards the 'reference' scenario of no FDD and no TTS operation.

6. Environmental report including Habitats Regulations Assessment

An environmental assessment report, including a Habitats Regulations Assessment, has been prepared to support our applications to renew our Thirlmere abstraction/transfer licences on a like-for-like basis. It has also been prepared to support consultation with Natural England on the cessation of the existing voluntary FDD operating regime at Thirlmere.

The previous environmental assessment and Habitats Regulations Assessment undertaken in support of the planning application, and the update to the assessment undertaken in 2020 during Mitigation Section 20 development, indicated that a large proportion of the lost Thirlmere spill events were due to the operation of the voluntary FDD. The report prepared in support of our licence renewal applications comprises an update to the hydrological assessments using UU's most recent water resources modelling.

The assessment has advised on the potential flow requirements for the ecological functioning of St. John's Beck through review of a modelled natural flow series and measured geomorphological data. This defined a range of flow thresholds that provide or induce important ecological and geomorphological processes to be tested against for the range of operational scenarios. The assessment reviewed the frequency and timing of flows against the flow thresholds between scenarios to identify, firstly, the impact that the licence renewal (assessment scenario) would have against the current baseline scenario where both FDD and TTS are operational. Secondly, the assessment scenario was compared against a reference scenario where neither TTS nor the FDD were operational to review the impacts that the TTS abstraction from Thirlmere has on the flow regime in St. John's Beck.

Following the assessment of flow changes between the scenarios, the following conclusions can be drawn over the modelled physical environment impacts of the licence renewal:

- The licence renewal, including cessation of the FDD, would restore spills of over 1,750 Ml/d to just over a third of modelled hydrological years, however not necessarily on a once every three-year basis, although it should be noted that the reference scenario (no TTS no FDD) also fails to result in a spill event of this magnitude on a once every three years basis.
- The scenario of the licence renewal results in a greater frequency of flows of 560 Ml/d occurring without human intervention compared to the baseline scenario. This reduces the reliance on controlled mitigation releases.
- Despite occurring more frequently than in the baseline scenario, medium size spill events are not reliably modelled as achieved on a yearly basis with the desired seasonality as part of the assessment scenario. As such, annual managed small flood flow releases are recommended as mitigation.
- There is not expected to be a change in water quality in St. John's Beck as a result of the licence renewal.

6.1 Mitigation releases

Mitigation releases for the impacts of the TTS alone are proposed in the environmental assessment report. This includes a proposed amendment to the existing fisheries water bank Section 20 agreement to include for spring releases to aid smolt migration (to be made within the existing 973 Ml annual water bank allowance). Two annual small flood flow releases (similar to those undertaken under the Mitigation Section 20) are also proposed, noting that in some years a release of 560Ml/d may not be achievable. These releases could be incorporated into the Section 20 water bank agreement going forward. The Section 20 sediment management agreement should be retained and reviewed annually.

6.2 Conclusions

For the Thirlmere reservoir abstraction licence it is concluded from the assessment presented in the environmental report, when mitigation releases as described above are included, that there will be no likely significant effects, either alone or in-combination, on the Conservation Objectives or the qualifying features of the River Derwent and Bassenthwaite SAC and thus no significant adverse effect on the site integrity of the SAC as it is assessed that the licence renewal would bring the flows more in line with the reference scenario.

For the eight tributary transfer licences, the impacts of the transfers identified in the EA's Review of Consents report (2006) are mitigated by the implementation of a prescribed flow at Helvellyn Gill, the migration flows and the sediment management plan which were specified in the EA's Site Action Plan (2009). These measures are working effectively as demonstrated by the improved numbers of fish in the watercourse in the EA and West Cumbria Rivers Trust monitoring data for the period 2010 to 2024. In addition, significant habitat, sediment mobilisation and fish passage improvements have been made in Helvellyn Gill by the West Cumbria Rivers Trust St John's Beck Site Officer. This is above and beyond the actions recommended in the EA's Site Action Plan (2009).

It is therefore concluded that mitigation measures for the eight transfer licences are in place and have been demonstrated to be effective and there are No Likely Significant Effects on site integrity of any of the eight transfer licences.

We would like to offer a meeting (face to face or virtual), at a time convenient to the EA, with ourselves and the independent environmental consultants (Ricardo) who produced the environmental report to present the environmental assessment and Habitats Regulations Assessment work we have undertaken to support these renewal applications. We are happy to pay for time to allow EA representatives to attend this meeting.