KFAG response to United Utilities (UU) abstraction licence application with removal of KFAG releases from 1/4/26

This note relates to the United Utilities document “THIRLMERE ABSTRACTION LICENCES ENVIRONMENTAL REPORT TO SUPPORT LICENCE RENEWALS” (henceforward abbreviated to UU environmental report) which UU have presented in their submission for the renewal of their abstraction licences for Thirlmere and its tributaries.

For ease of reading, the main points of the KFAG response are summarized here, with the detailed supporting arguments given below.

- KFAG believes the flow thresholds equivalent to the S20 (22nd July 2021) spate release (560Ml/d) and S20 SFF releases (1500 and 1750Ml/d) set out in Table 2-1 must be considered as peak flows in order to be consistent with the S20 requirements. Treating them as daily averaged flows would set requirements that are well beyond anything set out in the S20, any of the annual S20 reports, or that have been discussed with KFAG during the S20 period. See section 1 below.
- The threshold for the SFFs has been consistently and exclusively taken as peak flows by both EA and UU in all documents that KFAG has seen and in all discussions with KFAG. The introduction by UU of daily averaged flows in their report is new and entirely inappropriate. See section 1 below.
- It is KFAG’s view that the frequency data shown in the UU environmental report is deeply flawed when used to assess the impact of the KFAG releases, called flood drawdown (FDD) releases in the report. As this is the key argument made by UU in their report for the proposed removal of the KFAG releases from 1/4/26, KFAG would suggest that it should not be used by EA in coming to any conclusion on that removal as part of the decision process for the new licences. See section 2 below.
- KFAG contends that all flows in Tables 2-1 and 4-1 of the UU environmental report either have been met in the period 2015 to 2025 or could have been met since 2020 with the use of the LSVs (eg flows of 560Ml/d). KFAG believes that there is no case for removal of the KFAG releases in order to satisfy these flows. See section 3 below.
- KFAG would contend that, given their analysis of flows in sections 1, 2 and 3, mitigation should be proportionate to any damage shown to have resulted from the KFAG releases. If, as the KFAG work has indicated, the flow requirements have been met over the last 11 years, mitigation might well be minimal or even not required at all. See section 4 below.
- UU and EA have already agreed to continue the KFAG releases until there is a fully discussed, agreed and trialled replacement procedure. KFAG believes that, by this agreement, UU has undermined the UU environmental report, a cornerstone of which is removal of the KFAG releases. Therefore, in KFAG’s opinion, the report should not be included in the decision-making process as it specifically excludes the continuation of the KFAG releases. See section 5 below.
- The UU environmental report states that UU will work with the EA to develop a future forecast driven release (FDR) operating regime of releases from Thirlmere, but no timeline is given. Both KFAG and EA have presented data that indicates a solely FDR will not work given current forecasting, infrastructure and procedural constraints. Therefore, KFAG would suggest that future release schemes are not relevant to the current abstraction licence renewal process. See Section 6 below.

In summation, KFAG's view is that the UU environmental report is deeply flawed in its main purpose of assessing the environmental impact of the KFAG release regime, and therefore in its conclusion that the regime should be stopped as of 1/4/26.

KFAG would request that the EA base their decision for the renewal of the abstraction licences with the continuation of the KFAG releases. KFAG believes this to be appropriate given the evidence presented in the note.

KFAG would also request that EA use all their influence to encourage UU to bring the USVs into play as soon as possible. This will enable future release schemes to be developed which can guarantee meeting all current flow requirements within St John's beck (SJB) and provide improved flood mitigation for St John's Vale and Keswick. Any such scheme could then be incorporated within existing abstraction licences by variation or during the next renewal process (2031?) when/if it becomes available.

1. Use of daily averaged flows

The UU environmental report bases its analysis of flows within SJB on daily averaged flow data (eg pages 17, 26, 32, 75, 78).

The use of daily averaged flows is not mentioned in the S20 or any of the 4 annual S20 reports that have been shared with KFAG. All analysis of flows shared with KFAG, both by EA and UU has been on the basis of peak flows.

KFAG believes page 13 is in error "The Small Flood Flow requirement of the Section 20 (July 2021) is stated as 20.25 m3/s (1,750 Ml/d daily equivalent)."

The S20 document on page 16 defines a natural small flood flow event as being " a flow event with a **peak** (KFAG emphasis) discharge recorded at the gauge equal to or exceeding 2000Ml/d ("Natural Small Flood")".

The 2023 S20 report (issued by UU in 2024), states on page 9 that an overspill event on 10/1/23 reached a peak flow of 2121Ml/d, confirming that the SFF criterion is measured as a peak flow not a daily averaged flow.

The same report, in the following paragraph, states that the SFF managed release is 1750Ml/d. There is no qualification to indicate that there is any difference in how this is measured, therefore the context can only be understood as meaning that it is defined as a peak flow.

At a meeting on 27/3/25 (emailed to participant 2/4/25) between UU, EA and KFAG, Matt Higginson of UU confirmed the SFF managed release as 1750Ml/d and said that he believed the required functionality of a SFF could be met at 1500Ml/d. This was all within the context of a conversation discussing peak flows. No use of daily averaged flows was mentioned.

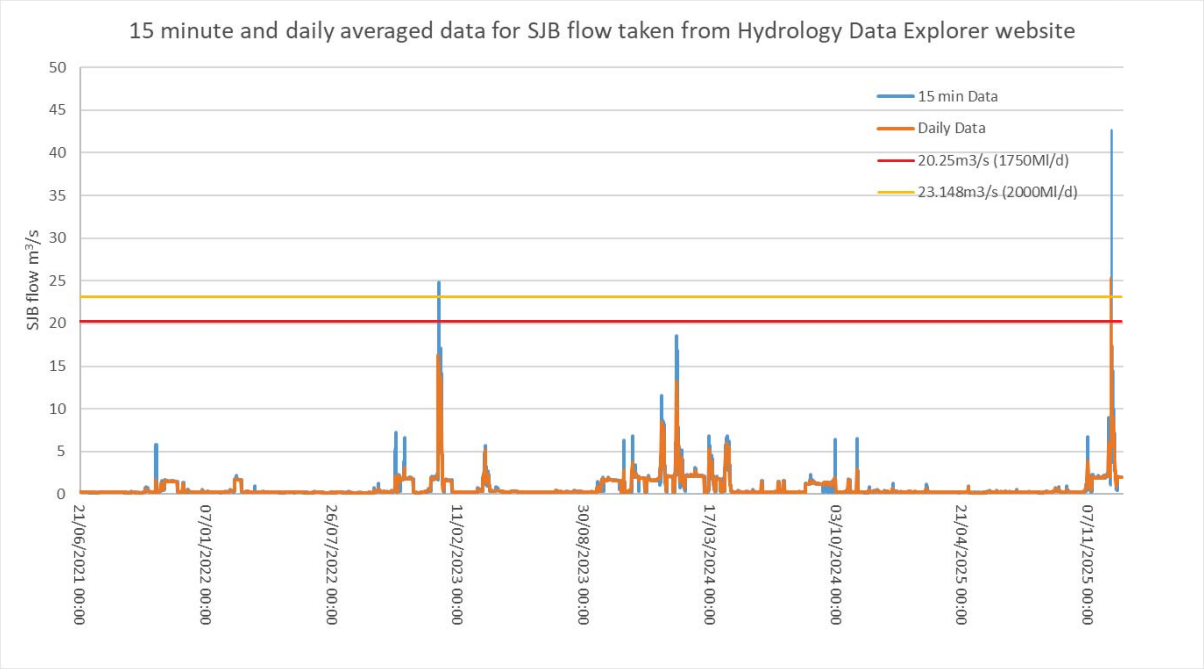
The 2024 S20 annual report (issued by UU in 2025) states on page 10 "Thirlmere spilled naturally on two occasions after the January 2023 event. The flow recorded during these spill events at EA St John's Beck gauging station was: 30/12/2023 - 1,002 Ml/d, 23/01/2024 - 1,607 Ml/d." Both of the flows given are peak flows, not daily averaged flows.

Throughout the S20 period, in all documentation seen by KFAG, and in all meetings with KFAG, the SFF requirements, natural flow and managed release, have always been quoted and clearly understood to refer to peak flows.

Therefore, the statement on page 13 of the UU environmental report expressing the SFF requirement as being a daily equivalent is in error and should be corrected.

KFAG believes the flow thresholds equivalent to the S20 spate release (560Ml/d) and S20 SFF releases (1500 and 1750Ml/d) set out in Table 2-1 must be considered as peak flows in order to be consistent with the S20 requirements. Treating them as daily averaged flows would set requirements that are well beyond anything set out in the S20, any of the annual S20 reports, or that have been discussed with KFAG during the S20 period.

The table graph below shows 15 minute (ie peak) flow data and daily averaged flow data for SJB, downloaded from the Hydrology Data Explorer website for the S20 period (July 2021 to date). The lowering effect on the flow rate of daily averaged data (in orange) can clearly be seen in comparison to the 15 minute data (in blue).



The table below shows the 3 events during the S20 period to date.

Event Date	Peak flow	Hours above target flow		Daily averaged
	Ml/d	>1750Ml/d	>2000Ml/d	Flow - Ml/d
10/01/2023	2143	9.25	4.75	1408
23/01/2024	1606	0	0	1144
14/12/2025	3683	19.25	16.25	2184

The peak flow for the event on 10/1/23 was above the S20 natural SFF and was accepted as such (2023 annual S20 report page 9). Using a daily averaged flow the event on 10/1/23 was recorded at 1408Ml/d, well below the SFF criterion.

The peak flow for the event on 23/01/24 has been deemed by EA and UU to have met the functional requirements of a SFF (phone conversation between Matt Higginson of UU and Mark Roberts of KFAG on 16/12/25 and notes from EA, UU. KFAG meeting on 29/1/26). This has set a new threshold for a natural SFF of ~1600Ml/d peak flow. The daily averaged daily flow for this event was only 1144Ml/d.

The peak flow for the event on 14/12/25 of 3683Ml/d. This was the largest flow event in SJB since Storm Desmond in December 2015 and was larger than the Storm Ciara peak flow

(3283Ml/d) in February 2020 when the peak level at Greta Bridge was close to overtopping the Keswick flood defences. The daily averaged flow of 2184Ml/d gives a false representation of the event as being close to the threshold flow of 2000Ml/d.

From the above it can be seen that the threshold for the SFFs has been consistently and exclusively taken as peak flows by both EA and UU. The introduction by UU of daily averaged flows in their report is entirely inappropriate.

2. Frequencies of exceeding flow thresholds

Analysis of actual flows in SJB from 2015 to present were presented by KFAG to UU and EA at a meeting on 29/1/26 (Appendices 1 and 2). Including the large overspill in December 2025, there have been 20 peak flows of over 1750Ml/d by the SJB flow gauge in the 11 year period 2015-2025. Below is a table copied from the presentation but with the baseline (ie actual flow data) updated to include the December 2025 event.

Baseline (2015-2025) >1750	Fig 2-4 basecase >1750	Fig 2-4 assessment case >1750
20 in ~11 years ie ~1.8 per year	~18% of years ie <1 every 5 years	~33% of years, ie 1 in every 3 years

The number of events in the historical record (~1.8 per year) is clearly at odds with the frequencies read from Figure 2-4, page 19 of the UU environmental report, both for their baseline (ie including KFAG releases) and for their assessment case (proposed regime with no KFAG releases).

The extremely low frequencies given in the UU report can only be approached if the daily averaged data from the gauge is used instead on 15 minute peak flows. The number then reduces to 11 in the whole period and only 1 in the period of the current S20 (ie since July 2021).

At the meeting on 29/1/26 EA personnel agreed with KFAG that peak flow data should be used to assess both environmental and flooding concerns. This is in line with all flow thresholds used in the S20 process, as discussed above.

Therefore, it is KFAG's view that the frequency data shown in the UU environmental report is deeply flawed when used to assess the impact of the KFAG releases. As this is the key argument made by UU in their report for the proposed removal of the KFAG releases from 1/4/26, KFAG would suggest that it should not be used by EA in coming to any conclusion on that removal as part of the decision process for the new licences.

3. Threshold flows as measured at the SJB gauge

KFAG has shown that all flows in Tables 2-1 and 4-1 of the UU environmental report either have been met in the period 2015 to 2025 or could have been met since 2020 (new LSV commissioning) with the use of the LSVs (eg flows of 560Ml/d). KFAG believes that there is no case for removal of the KFAG releases in order to satisfy these flows.

KFAG acknowledges that until the USVs can be brought into play, the highest flows of 1500 and 1750Ml/d have been and will continue to be subject to rainfall events and overspills. In the KFAG study of 2015 to 2025 historical records with the KFAG release in place (Appendix 2), sufficient events have occurred to satisfy the S20 flows. KFAG also acknowledges that there is a statistical chance that in the future rainfall events may not occur at the required frequency.

The current situation, with the significant overspill on 14/12/25, means that, if the existing S20 continues, a SFF release of 1750Ml/d (currently not possible with existing infrastructure) would not be required before the period September 2028 to February 2029.

The overspill event on 23/1/24 has been agreed by EA and UU to have fulfilled the requirements of a SFF, thereby lowering the peak flow for such an event to 1600Ml/d at the SJB gauge.

In the historical record for SJB flows over the period 2015 to 2025 (ie 11 years) 20 events of >1750Ml/d have occurred (see section 2 above). Whilst the statistical significance of a relatively small dataset compared to the stochastic dataset used in the UU environmental report, KFAG would contend that the far greater effect is the daily averaged flows used which greatly distort the frequency data (again section 2 above).

Therefore, KFAG would suggest that the continuation of the KFAG releases into, and potentially throughout, the period of the renewed abstraction licence poses little threat to the environment. Halting them would, however, remove the only flood mitigation measure at Thirlmere and increase flood risk to Keswick leading to a significant increase in stress within the community year on year.

Further KFAG would suggest that the best, and probably only way to ensure the SFF requirement is met is to bring the USVs into play as soon as possible.

Therefore, KFAG would request that the EA assesses the renewal of the abstraction licences based on continuation of the KFAG releases, with a strong recommendation that UU progress the upgrade/replacement of the USVs so that they can be brought into play as soon as possible and preferably before September 2028.

4. Damage requiring mitigation

Much of the environmental concern in the UU environmental report is centred around the lack of threshold flows based on daily averaged flows, as discussed above.

KFAG has not been a part of the 2021 S20 process and was not part of the Optimal Options Group formed at that time. UU and EA have shared with us the annual S20 reports, some of the appendices (all redacted) and given updates at numerous meetings (~30 with EA) over the period to date.

Up to late 2025 KFAG had not been made aware of any significant environmental concerns arising from the KFAG releases. EA comments at the meetings were generally positive on the environmental condition of SJB and the measures being taken as part of the S20 process. This seemed to be supported by the appendices that KFAG has seen (eg the document “Appendix 7 Thirlmere S20 - Fisheries Monitoring Report 2023 v.1_Redacted.pdf”).

At the meeting on 29/1/26, EA were asked what the environmental issues in SJB were that the EA saw as needing to be solved and how removal of the KFAG release would achieve them (eg mussels in the Ehan which resulted in Ennerdale abstraction licence being withdrawn by the EA).

EA replied that there were a number of requirements arising from the habitat regulations that need to be met and that EA would assess all the evidence before coming to their decision on the licence application. However, they did not state any concern of a similar nature to that of mussels and Ennerdale.

UU stated that KFAG releases reduce the number of flows of the size required in the S20 and that currently they have no way of mitigating for that.

KFAG would contend that, given their analysis of flows detailed above, mitigation should be proportionate to any damage shown to have resulted from the KFAG releases. If, as the KFAG work has indicated, the flow requirements have been met over the last 11 years, mitigation might well be minimal or even not required at all.

5. Agreement to continue KFAG releases.

At the meeting on 29/1/26 involving UU, EA and KFAG (Appendix 1), Matt Higginson of UU said that UU had removed the KFAG releases in their current abstraction renewal application as they had received legal advice that they would not get the renewal otherwise. The UU environmental report was a key technical input to that decision and explicitly states that the KFAG releases will be stopped from 1/4/26.

However, at the meeting, and prior to any discussion of the KFAG modelling based on data from 2015 to 2025, all parties present agreed that the KFAG releases would continue until there is a fully discussed, agreed and trialled replacement procedure. This is diametrically opposed to the UU environmental report, a cornerstone of which is removal of the KFAG releases.

Therefore, for the purposes of the licence renewal, it is KFAG's opinion that UU have undermined their own report and that it should not be included in the decision-making process as it specifically excludes the continuation of the KFAG releases.

UU and EA agreed to work to ensure the continuation of the KFAG releases.

6. Proposed development of a forecast driven release (FDR) scheme

The UU environmental report proposes in the executive summary that UU will work with EA to develop a future FDR operating regime of releases for Thirlmere. There is no timescale given and, prior to the agreement detailed in section 5 above, would have left Thirlmere with no flood mitigation scheme at all.

UU have stated in various meeting (eg minutes from Teams meeting on 6/1/26) that they believe FDR is the only scheme that can be habitat regulations compliant.

KFAG, whilst initially supportive of the concept of FDR, have expressed their concerns over a solely FDR scheme multiple times (eg Appendix 3, email with attachments).

At the meeting on 29/1/26 KFAG presented their modelling work based on 2015-2025 historical data (Appendix 2). This further clarified the issues that a solely FDR approach would have and explains KFAG's position that it would not be viable. The modelling goes on to exemplify other approaches (eg higher trigger levels combined with higher release flows) which KFAG believes could lead to other viable options. These could also include an FDR element.

At the same meeting EA presented data on forecast versus actual river levels at Greta Bridge, the proposed trigger parameter of initiating an FDR. This showed that forecasting is not yet accurate enough to support an FDR scheme and is unlikely to become so in the medium term. EA have therefore refocused their current modelling study in support of a future flood mitigation release scheme to look at revised (higher) triggers in combination with releases up to the capacity of the LSVs (~600Ml/d) and in combination with FDRs based on short term forecasts (2 days or less). It will also include an assessment of making releases during an overspill event, up to a total flow of 1500Ml/d. The modelling study will not

conclude before the end of the summer 2026, with the detailed development, habitat regs assessment, agreement, and trialling of any new scheme trailing that be at least several, and probably many months.

UU have accepted the change in the EA's modelling study, although they have not agreed to making releases during overspills.

In KFAG's view, the above makes UU's proposal to develop a future FDR regime as expressed in the UU environmental report redundant, their view that only an FDR regime can meet habitat regs inappropriate and the implementation of any new scheme well beyond the current licence renewal process.

Therefore, KFAG would request that EA does not take any account of the development of new release schemes when considering the renewal of the current abstraction licences.

Appendices

Appendix 1. Notes from UU/EA/KFAG meeting held on 29/1/26

Notes from meeting on 29-1-26.docx

Appendix 2. KFAG Assessment of some release scenarios using historical data 2015-2025

This was shown and discussed at the meeting on 29/1/26

Modelling work.pptx

Appendix 3. Email of 16/10/25 with KFAG concerns about a solely FDR approach with attached comments and analysis based on Storm Desmond

KFAG concerns on the forecast driven release scheme proposed by UU.msg