

Supplementary Statement of Response to Natural England comments included in Annex A of Defra letter 01/04/22

26/04/2022

Outstanding Issue	Action required	Cambridge Water Response
<p>The following concerns raised by NE are regarding the Brettenham and Euston increases in abstraction on the Breckland meres Special Area of Conservation (SAC)</p> <p>In Table 6.3 of the HRA report the company describe a pump test carried out in 1994, but no assessment has been made to ascertain if the conditions in which it was undertaken have changed over time.</p> <p>No consideration has been given to how the increases in abstraction would affect the duration of drying and recovery time of the Breckland meres SAC. These are natural processes and deviations from this natural cycle, both in duration and extent, cannot be ruled as not significant.</p>	<p>The company should update its final plan with the following information:</p> <p>The company should clarify if the 1994 pump test was carried out in drought conditions and if not, how the difference in conditions been accounted for when reaching a conclusion. Without this clarity, uncertainty remains as described in the report (Section 4 HRA Screening Process) meaning no LSE cannot be concluded and consequently assessment should proceed to the AA stage.</p> <p>The company should demonstrate how it has considered the increases in abstraction to affect the duration of drying and recovery time of the Breckland SAC meres. The company should confirm that post drought measures are in place to ensure water levels in the meres recover in line with the natural cycle.</p>	<p>Pump tests were undertaken for Brettenham in 1989 (national Rivers Authority) and in 1994 (Cambridge Water), and as part of our 2004 application to renew the temporary licence elements, we commissioned a detailed study, which involved a programme of test pumping, monitoring and modelling. Both tests in the 90's were dry years with respect to average annual rainfall, and the 1994 test was following a particularly dry 3 month period. The modelling covered 1969 to 1994, a period including at least 2 significant droughts. These tests and monitoring provided an accurate conceptual understanding of the impacts of abstraction. A further review was undertaken in 2014 for renewal of the temporary parts of the licences.</p> <p>The relevant findings from the testing and conclusions within the reports with respect to the HRA screening are associated with the Breckland meres to the north of the river Thet. The investigations have concluded that there is a hydraulic gradient barrier between the Lt Ouse and the Breckland SAC meres, which acts as a barrier to flows between the Little Ouse and the meres. This was also supported by no discernible impact from the PWS sources from test pumping on observation BHs north of the Thet, or around the meres. The analysis of groundwater flow in the area between the meres and the rivers Thet and Little Ouse clearly supported the presence of a low transmissivity zone between the rivers and the meres, thereby</p>

<p>As part of the 2015 Brettenham licence renewal an assessment was completed to determine whether abstracting at maximum licence results in adverse impacts to the River Thet, Little Ouse, Sapiston River and the Breckland meres. NE consider that assessment conclusion does not preclude effects and could indicate an in-combination effect is possible. The assessment recommended that further work was necessary (e.g. hydro-morphological surveys, further pumping tests) to provide a higher level of confidence in the definition of the impacts of abstraction at Brettenham on river flows and ecology.</p>	<p>The company should provide evidence of a higher level of confidence in the definition of the impacts of abstraction at Brettenham on river flows and ecology. The evidence should provide sufficient certainty to conclude no LSE.</p> <p>NE require greater clarity and evidence of how the above conclusions have been reached before agreeing with the overall HRA conclusion of no LSE. On the basis of the information provided in the updated HRA the assessment should proceed to the AA stage.</p>	<p>impeding any impact on groundwater levels or flow to the north of the River Thet. It was therefore considered that the water levels in the meres are not affected by Cambridge Water abstractions located to the south of East Wretham heath and no further monitoring of impact would be required in drought conditions. These findings were accepted by both the EA and Natural England at the time.</p> <p>Our review of ecology data and use of the EA groundwater model for renewal of the time limited elements of licences in 2015 indicates that abstractions are possibly impacting river flows in the Lt Ouse and Sapiston, however there was no conclusive evidence of influence from the CW abstractions, and no impacts on ecology due to abstractions have been observed.</p> <p>As a result, our Environmental monitoring plans (Drought plan, Appendix E) associated with increases in abstraction include flow and ecology monitoring in the rivers Lt Ouse and Sapiston, where some flow impact may be experienced, although none is expected.</p> <p>Since the investigations above have been undertaken, we have modified the Euston and Brettenham licences to include an annual aggregate cap based on historic peak abstractions, this mitigates the risk of impact from utilising short term peak abstractions. It is likely that the EA will seek to reduce licence further as a precautionary approach to managing risk of deterioration of the groundwater aquifer. Therefore no further work such as pump tests, or ecological surveys is appropriate outside of drought conditions.</p> <p>In summary, detailed analysis had led to the conclusion that pumping from the Brettenham sources has no impact on</p>
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