

NRW comments on the Lower Berse Farm proposal shadow Habitats Regulations Assessment as presented in the *Phosphorus headroom assessment – River Dee – Chester Weir to Ceiriog (WSP 18 August 2026)*.

02 October 2026

Introduction

1. The Test of Likely Significant Effect (TLSE) stage of the shadow Habitats Regulations Assessment (HRA) concludes a likely significant effect from the proposed development cannot be ruled out due to an increase in phosphorus load discharged from Five Fords WwTW to the River Dee and Bala Lake SAC (River Dee – Chester Weir to Ceiriog water body (ID: GB11106 7057080)).
2. An Appropriate Assessment (AA) of the proposed developments effect on phosphorus is presented and includes the following:
 - Critique of the 2024 NRW compliance assessment for phosphorus in the River Dee – Chester Weir to Ceiriog water body with further analysis of monitoring data
 - Estimation of phosphorus headroom in the river environment of the Chester Weir to Ceiriog water body
 - Estimation of additional phosphorus load from the Lower Berse Farm development proposal
 - Estimation of additional phosphorus load from projections of other residential and commercial developments
 - Assessment of phosphorus impacts on the river SAC in the Lower Dee

We have considered the AA and our comments are below.

NRW Compliance Assessment

3. The 2024 NRW compliance assessment for phosphorus was undertaken in accordance with the JNCC Common Standards Monitoring Guidance (2016). This provides a consistent approach to monitoring and assessing designated sites against their conservation objectives. Environmental data from a standard period of record are used in the assessments and reviewed for quality. Samples are excluded from analyses where there are laboratory or environmental reasons for doing so. Mean river ortho-phosphorus concentrations are determined on an annual and growing season basis.
4. The conclusion of the 2024 compliance assessment for the River Dee – Chester Weir to Ceiriog water body was that the water body was exceeding the target of 50µg/l.

5. We advise that the condition of a water body (passing or failing to meet phosphorus concentration targets) may be used at the TLSE stage of an HRA to screen development proposals with new connections to a public sewer.
6. Where a development cannot be screened out at TLSE, further analysis may be undertaken at the AA stage. This should enable a more comprehensive understanding of the SAC river environment and how development proposals may affect SAC features and therefore inform a conclusion on whether there would be an adverse effect on site integrity.

WSP Data Analysis

7. As part of the AA for the Lower Berse Farm proposal, the WSP data analysis concludes that the mean river phosphorus concentration at the sample point in the Chester Weir to Ceiriog water body is less than the target of 50µg/l. A range of values is presented, dependent on data sets used.
8. The report presents a simple mass balance calculation to determine the annual phosphorus load (kg/yr) that would lead to an exceedance of the annual mean 50 µg/l phosphorus target using flow estimates and mean river phosphorus concentrations. Based on our understanding of river condition, we believe it is appropriate to use the worst-case scenario, as presented in the study, which has a mean river phosphorus concentration of 39.4 µg/l and advise this is used as a precautionary reference condition for interpreting the assessment. The report then presents an estimate of 'river headroom', quantified in kg/phosphorus per year.
9. The study moves on to predict the annual phosphorus load from the proposal, limited to 100 dwellings pre 2030 and the remainder totalling 1350 post 2030, noting the final effluent phosphorus concentration limit of 0.7mg/l for the Five Fords environmental permit becoming effective in 2030. In addition, the study sets out the predicted additional load from planned growth at other WwTWs in the catchment, along with estimates of increased phosphorus load from associated land use change.
10. The conclusion presented in WSP's data analysis is that the development (post 2030 and using worst-case scenario data) represents 1.73% of possible river headroom for phosphorus. Furthermore, it predicts that in-combination with all other planned growth, 42% of possible river headroom would be utilised. The study predicts that phosphorus concentration would increase to 43.9 µg/l as a result of all the planned growth being delivered.

NRW's evaluation

11. The broad findings of the shadow HRA align with our current understanding of the River Dee in the Chester Weir to Ceiriog water body, where recent monitoring data shows the mean phosphorus concentration is typically less than the target of 50 µg/l. Recent water quality modelling by NRW consultants indicates that the river has some phosphorus headroom. Consequently, the WwTWs can likely accommodate some development within current permit limits, without exceeding targets.
12. We note the proportion of river headroom that is estimated to be taken up by the proposed Lower Berse Farm development (paragraph 10 above). Using the outputs from the recent NRW modelling, we agree that the Lower Berse Farm scheme alone is unlikely to lead to an exceedance of the phosphorus target.
13. We note the total proportion of river headroom that is estimated to be taken up post 2030 in-combination with all planned growth across the catchment and associated land use changes – this without leading to an exceedance of phosphorus targets (paragraph 10 above). Evidence from the recent NRW modelling aligns with this position, although there are differences in the detailed numbers when compared to the Lower Berse Farm HRA report.
14. Notwithstanding the limitations inherent in any modelling exercise the available evidence demonstrates that the phosphorus loading associated with the proposal would occupy a proportion of the identified environmental headroom and therefore it is reasonable to conclude that the proposal would not adversely affect the integrity of the SAC with regard to phosphorus impacts.
15. It is evident, however, from both the WSP analysis and NRW's modelling work that the River Dee in the Chester Weir to Ceiriog water body has a limited capacity to accommodate increases in phosphorus discharges. As such, decision makers need to be mindful that in the absence of an established approach to protect the SAC and balance growth, longer term opportunities for further development may be restricted by environmental capacity.
16. We therefore advise that for the purposes of determining future planning applications, a strategic planning framework should now be developed by the relevant Planning Authorities, based on an agreed, and suitably precautionary, quantum of development, so that the cumulative impacts of consented development can be considered within agreed phosphorus limits.

17. It is important to recognise there is uncertainty in modelling water quality impacts, especially when simple calculations are undertaken. As such, we advise that any strategic planning framework used to inform decision making should have an adaptive management component linked with ongoing consideration of water quality monitoring data. This would enable the planning framework to be validated or revised in response to trends in water quality over time.
18. Furthermore, large developments like the Lower Berse Farm proposal have the potential to benefit by using a considerable amount of natural capital (i.e. river phosphorus concentration headroom) to the possible detriment of other development in the area or improvement of the protected site. While mitigation may not necessarily be required for such a development, we propose that opportunities are explored for developers to contribute to nutrient reduction measures elsewhere in the river catchment. Consistent with the objectives of Planning Policy Wales (Edition 12), such an approach could deliver wider environmental benefits by improving catchment resilience, reducing overall nutrient loads, and providing greater confidence that water quality objectives can be maintained over the long term. It may also help to create additional environmental headroom within the catchment, thereby supporting the sustainable accommodation of future growth whilst continuing to safeguard the integrity of the SAC.

Conclusion

19. We accept the broad findings of the Lower Berse Farm shadow HRA report, which align with our current understanding of phosphorus impacts in the River Dee in the Chester Weir to Ceiriog water body. Accordingly, based on the evidence available at this time, NRW is satisfied that it would be reasonable to conclude that the proposal would not adversely affect the integrity of the River Dee and Bala Lake SAC, either alone or in combination with other plans and projects.
20. NRW acknowledges that this appeal must be determined on its own merits. However, the issues raised in relation to environmental capacity extend beyond the specific proposal under consideration and are relevant to the wider management of development within the catchment. While NRW does not consider that these matters alter its conclusions in relation to the appeal proposal, we advise that due regard is given to these issues in the determination of other undetermined appeals where similar circumstances arise, including land south of Holt Road (ref APP/H6955/A/20/3263516). The reference to the proposed Holt Road development is not made in the context of the in-combination assessment for this appeal, but to recognise that similar matters remain to be considered and appropriately addressed in the

determination of that appeal and any other proposals currently awaiting decision. These same considerations will also require careful consideration in the determination of future appeals and planning applications within the catchment, and decision-makers should be mindful of the potential for the cumulative implications of individual decisions to become increasingly significant over time.

21. In particular, should other development proposals come forward outside of any strategic planning framework established by the relevant Planning Authorities, decision-makers will likely require increasingly robust assessments with greater certainty regarding cumulative impacts before it can be concluded that additional proposals can be accommodated without harm to site integrity, as remaining headroom is progressively utilised by future development.