

*Brecon and Radnor Branch
Campaign for the Protection of Rural Wales*

Chair: Jonathan Colchester

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3/11/21

**19/0743/FUL Erection of 2 no. poultry buildings and associated infrastructure,
Llanshay Farm Llanshay Lane Knighton Powys LD7 1LW**

Dear Louise,

We have now seen the Officer's Report recommending approval of this application. BRB-CPRW continues to object to this proposal. These further comments are in addition to our previous objections and letters including our objections dated 27/5/20 and 19/5/21.

1. Ammonia assessment for "Nitrogen/ammonia-sensitive woodland"

APIS (Air Pollution Information System) is now using 2017 - 2019 3-year mean data as of March 21st 2021 and for Llanshay it gives the background ammonia concentration as 1.56 µg m⁻³ and the background Nitrogen deposition as 31.5Kg N/ha/yr. This is a **37% increase** in background ammonia concentration and **32% increase** in nitrogen deposition compared with the figures quoted in the Feb. 2021 revised ammonia report just prior to this update.

The earlier 2017 ammonia report quotes an APIS background ammonia concentration as 1.34 µg m⁻³ and a background nitrogen deposition load of 26.64 Kg N/ha/yr which represents a mean from the 3 previous years and therefore figures from approximately 6 years ago from today. APIS figures have shown a fall and then a more recent dramatic rise.

The rate of approval of intensive poultry units (which were built out in subsequent years) in Powys since 2015 is likely to have had a significant impact on this rise therefore it is very likely that the actual background level today is considerably higher.

The developer's modelling shows some of the western part of the N sensitive woodland at Stanage, receiving a contribution of over 1% of the critical level.

The report then provides detailed contour modelling in which the 0.01 contour falls just short of these sites but it is clearly a fine point as to whether thresholds as modelled are exceeded at this sensitive woodland. Given that ammonia levels rise substantially towards the end of the production cycle and that high emissions associated with shed cleaning are not included in the emissions modelling, the N-sensitive AW will be receiving a contribution of >1% of the critical thresholds some of the time.

The modelling methodology has been questioned in the Bull report submitted by Marches Planning in objection to the developer's revised ammonia report:

The 2021 emission data is based on hourly emission data derived from ventilation rates. However, the 2017 report is based on annual emissions and states in Section 3.5 - "***In fact, modelling short term temporal variations might introduce rather more uncertainty than modelling continuous emissions***". Both reports have been prepared by the same author and yet the in the 2021 report, they have followed an approach that will reduce the ammonia emission rate and uses a method that they consider will introduce "***more uncertainty***".

The NRW response of 2/7/21 say that review of the Bull report does not change their previous advice accepting the February modelling report figures but the Bull findings are not discussed and no reasoning is offered.

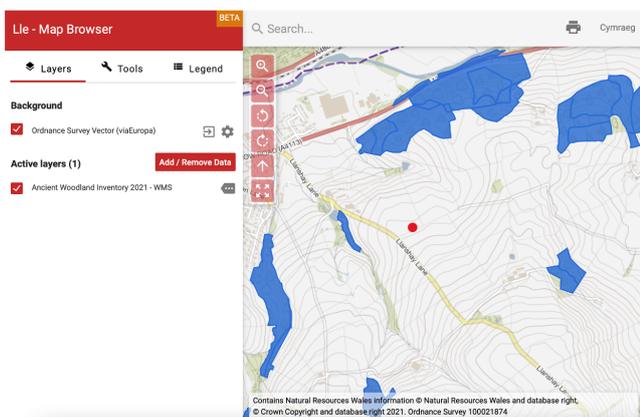
The OR says NRW has provided a copy of a letter sent to the Welsh Government saying that in the absence of data suggesting specific critical levels or loads for fungal systems it was reasonable to use the 100% of critical level threshold applied to AW for mycorrhizal fungi. Considering that NRW has mapped Stange woodland as “Nitrogen sensitive woodland and parkland” this seems to be an extraordinary misunderstanding either on the part of NRW or PCC. The subsequent OR paragraph actually accuses Cadw of an apparent misunderstanding when they say “ammonia levels of more than 0.01 $\mu\text{g m}^{-3}$ may have an impact of mycorrhizal fungi”. This is actually a Powys Officer’s misunderstanding. Exceedance of the 0.01 level does imply a risk of harm which is considered unacceptable by the NRW national guidance covering sensitive ancient woodland such as Stange. The proposal will “have an effect” on Stange Park by raising the already dangerously high background ammonia level yet higher. The argument is not about whether there is an effect or a risk of an effect - this is beyond doubt. It is about “acceptability” and whether Powys allows yet one more large IPU to increase the cumulative risk to biodiversity. The cumulative nature of this risk from intensive livestock units has not been addressed.

In addition, the ammonia report considers only emissions from the sheds themselves and does not address significant emissions from other operations such as the moving and storage poultry manure (see ‘**Inventory of Ammonia Emissions from UK Agriculture 2019 (DEFRA Contract SCF0107) March 2021**’).

Given that ammonia levels rise substantially towards the end of the production cycle and that high emissions associated with shed cleaning are not included in the emissions modelling, it is inevitable that the development will contribute >1% of the critical thresholds to the N-sensitive AW some of the time.

2. Ammonia assessment for Ancient Woodland and other plant-diverse habitats

We refer to our previous objections that applying thresholds of 100% of the critical level/load to Ancient Woodland ensures the collapse of lower plant populations at these sites. There are a large number of AWs in the area , some very close to the development as shown in the NRW inventory of Ancient Woodland.



Proposed Llanshay Poultry unit (red dot) with nearby ancient woodland (blue).

The contribution of ammonia to 23 of the 33 parcels of AW, would be above the threshold for ammonia/nitrogen sensitive AW. NRW mapping of “N-sensitive woodlands and parklands” <https://nrw.maps.arcgis.com/apps/MapSeries/index.html?appid=c7770d2881394c899123bae210afe370> is so minimal that it is not fit for the purpose of conserving a connected network AW in favourable status.

The Officer’s report quotes the APIS definition “Critical level is the level above which adverse effects on human beings, plants, ecosystems or materials may occur according to present knowledge”. However there is widespread concern amongst experts that thresholds are not protective enough. Woodland Trust ‘Wood Wise’ ‘Nitrogen – An Insidious Threat’ by Alistair Hotchkiss [Woodwise, Evidence for Action, Spring 2021 \(woodlandtrust.org.uk\)](https://www.woodlandtrust.org.uk/woodwise/evidence-for-action/spring-2021/) says (p19):

‘Worryingly, there is increasing evidence that ecologically significant impacts occur at lower nitrogen concentrations, suggesting that current thresholds are not robust enough. The nitrogen deposition threshold for key components of woodland ecosystems such as the life-support fungi associated with tree roots (ectomycorrhizae) has recently been proposed to be nearer to 5–6kg of nitrogen per hectare per year (N/ha/y), whereas the current threshold for most woodland in the UK (last revised in 2010) is 10kg N/ha/y.

Similarly, the current threshold for the concentration of ammonia in the air is insufficient to avoid impacts on the most sensitive species. It is set at 1µg NH₃/m³, but ecologically significant changes occur at levels as low as 0.5µg NH₃/m³. There is also growing concern about the impacts of acute toxicity on woodland species arising from spikes in ammonia concentrations during, for example, slurry/manure spreading, so annual mean ammonia concentrations may not be the most robust way of assessing impacts.’

In spite of NRW DPAS satisfaction with the plans for Llanshay, The NRW Mid-Wales Area Statement says:

‘As rural farm businesses look to diversify, poultry units have become increasingly popular on many farm holdings, with large incentives from the food sector. Whilst this has clearly benefitted the agricultural sector, there have been harmful impacts on the natural environment as a direct result of the significant increases in ammonia and nitrates from the volume of manure generated. While ammonia air pollution emissions have generally stabilised across the UK, they have increased significantly in Mid Wales largely due to this expansion in poultry numbers. Wales is now the largest producer of free-range eggs in Europe. This trend is continuing as rural businesses continually have a need to diversify.

*Ammonia is toxic to native plants and habitats, and its accumulation and spread in the natural environment can lead to significant damage to habitats and species loss. Ammonia pollution from the increasing number of intensive agricultural units is now a very significant threat to the survival of the rich variety of rare pollution-sensitive lichens scattered throughout Mid Wales. **Urgent measures are required to address this ongoing threat to our natural environment.**’ (our emphasis)*

We have seen that the background level quoted by APIS for 2017-2109 is already 37% above the critical level for ammonia given in the revised ammonia report. Even with scrubbers there will be a contribution of up to five times the threshold for ammonia/nitrogen sensitive AW on top of this dangerous background level. This contribution will also threaten other vascular plant biodiversity (for instance in wildflower meadows, verges etc.) which has not been properly considered by your authority.

Powys Council finds the demise of AW biodiversity “acceptable”. The Officer’s Report says “it is not considered that the proposed development will have an unacceptable impact on Ancient Woodland”.

3. Mitigation and biodiversity enhancement

Primarily the ammonia and traffic emissions, but also the habitat destruction in creating access, the footprint of the building and the drainage arrangements, are diverse and significant threats to biodiversity.

We note that the enhancements offered are unspecified tree planting, probably close to the southern boundary of the sheds, and other measures limited to:

- To enhance the site for hedgehogs, two hedgehog nesting boxes should be placed in the bases of hedgerows within the curtilage of the farm.
- To enhance the site for birds, four bird nesting boxes of mixed designs should be erected on suitable trees within the curtilage of the farm.
- To enhance the site for bats, four bat roosting boxes of mixed designs should be erected on suitable trees within the curtilage of the farm.

P75 of the OR considers these measures an “appropriate level” of biodiversity enhancement.

There is no significant habitat creation scheme nor is there any discussion of how these measures, more appropriate in scale for a small garden, can possibly be construed as constituting a net gain for nature in the context of a large polluting industrial complex operating for up to 50 years. The “nature” we are losing is complex ecological networks of micro-organisms, invertebrates and hosts of plant species which depend on habitat protection and creation. The loss goes far beyond a handful of hedgehogs, bats and birds but these too are declining from loss of habitat and invertebrate food supplies.

4. Enforcement of Conditions

How will Powys ensure that none of the poultry manure or dirty water is spread on the fields listed in Condition 16?

The OR does not say whether Shropshire Council was specifically asked about the acceptability of the manure export arrangements, only that they did not reply. Whose duty is it to confirm the timely export of the manure as undertaken in the ES and agree any alternative arrangements made during the lifetime of the development?

Conclusion

Powys has now approved 141 intensive poultry units since July 2015 and has another 17 to determine. From 1/4/17 to 1/4/20, Powys received five times the number of applications as the whole of the rest of Wales put together (County Times 14/8/20).

In spite of the many defensive statements in the OR, there can be no doubt that this development will result in further cumulative degradation of the Powys natural environment and air quality and will not result in a net benefit in biodiversity as required by the 22/3/19 CPO letter.

Planning Policy Wales (PPW) 10 sets out that “planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity” (para 6.4.5 refers). This policy and subsequent policies in Chapter 6 of PPW 10 respond to the Section 6 Duty of the Environment (Wales) Act 2016*.

We believe the Powys position rests on a fundamental misunderstanding of the cumulative impact of ammonia and traffic emissions on our natural environment and of the nature and gravity of the current ecological crisis.

We urge the Council to refuse this application.



Jonathan Colchester,

Chair: Brecon & Radnor Branch: Campaign for the Protection of Rural Wales

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