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Janet Finch-Saunders AM  
Chair  
National Assembly for Wales Petitions Committee  
Cardiff Bay  
Cardiff  
CF99 1NA

5 November 2017

Dear Ms Finch-Saunders,

### **Petition P-05-886 Stop the Red Route (A55/A494 corridor)**

Thank you for seeking the views of the Trust on the above petition and allowing us the opportunity to provide comment on this matter.

As the UK's leading woodland conservation charity, the Woodland Trust (Coed Cadw) aims to protect native woods, trees and their wildlife for the future. Through the restoration and improvement of woodland biodiversity and increased awareness and understanding of important woodland, these aims can be achieved. We own over 1,000 sites across the UK, covering around 29,000 hectares (72,000 acres) and we have over 500,000 members and supporters.

You may be aware that the Trust previously responded to Welsh Government in relation to the **A55/A494/A548 Deeside Corridor improvement study** that took place in June 2017. Since that time Welsh Government has chosen the 'Red Route' as the preferred option for this scheme.

#### **General views on the petition and project**

The Trust has been asked to provide its general views on the petition in question and the project. Firstly, we consider that it would be pertinent for the Trust to outline its position on road schemes. The Trust always encourages the exploration of alternative sustainable solutions to traffic and congestion issues, such as increased public transport facilities and changes to travel behaviour. However, the Trust is not against road schemes in principle. We typically see that where avoidance is possible, it is not pursued as it would often incur additional costs to the project. It is concerning that Government and its agencies are contributing to biodiversity decline and rejecting the costs necessary to conserve irreplaceable habitats.

Earlier this year we did communicate our concerns about road schemes to the Welsh Government via Lee Waters AM. We pointed out that since 2001 our records suggest that a total of 34 ancient woods in Wales have come under threat from road schemes, of which 7 have been lost or damaged, 13 are on-going and 14 have been saved.

In relation to the project at hand, the Trust's position on the A55/A494 corridor is that we would object to any route that we consider would impact on ancient woodland. In the 2017 Deeside Corridor improvement study the Trust objected to both the 'Blue Route' and 'Red Route' options proposed, on account of both options being likely to result in damage and loss to areas of ancient woodland or ancient/veteran trees.

Since the selection of the 'Red Route' by Welsh Government, the Trust's position of objection has not changed and we will continue to object to this scheme while we consider that ancient woodland is under threat of adverse impacts. As such, the Trust supports the first point of the petition, which states: "*1) The construction of the new road through ancient woodland, and across agricultural land, contradicts Planning Policy Wales and the Well-being of Future Generations Act.*" In relation to the other elements of the petition (points 2 to 6), the Trust has no particular view or position on these matters.

### **Ancient woodland impact of 'Red Route'**

The Trust has been asked to provide its specific views on the proposal's impact on ancient woodland. Ancient woodland is defined as an irreplaceable natural resource that has remained constantly wooded since 1600AD. All ancient woodlands are priority habitats of "principal importance" as defined in the Environment Act (Wales). Public bodies have an obligation to maintain and enhance their biodiversity.

The length at which ancient woodland takes to develop and evolve (centuries, even millennia), and the complex community of plants, animals and soils accentuate its irreplaceable status. Ancient woodland is the UK's richest habitat for wildlife, supporting 256 priority species.<sup>1</sup> The varied and unique habitats ancient woodland sites provide for many of the UK's most important and threatened fauna and flora species cannot be re-created and cannot afford to be lost. Ancient woods also provide a substantial carbon store and conservation of natural forests is increasingly recognised as one of the best ways to remove atmospheric carbon.<sup>2</sup> It is therefore essential that this habitat is protected from development.

The Trust is of the understanding that the preferred 'Red Route' option would result in the construction of a new road between the A55 and A458, and this would include the road potentially being routed directly through two sections of the ancient woodland of Leadbrook Wood at grid references: SJ2555669808 and SJ2575769892. Further to the direct loss of these sections of ancient woodland, it is apparent that the road would skirt alongside another area of ancient woodland connected to Leadbrook Wood, called Oakenholt Wood (grid ref: SJ2591170138). These woods are largely designated as Restored Ancient Woodland Sites (RAWS), and partially as Ancient Semi-Natural Woodland (ASNW).

These ancient woodland categories are defined via Natural Resources Wales' Ancient Woodland Inventory as such:

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<sup>1</sup> <http://publications.naturalengland.org.uk/publication/30025>

<sup>2</sup> Lewis et al. (2019), 'Restoring natural forests is the best way to remove atmospheric carbon', Nature vol 568, 4 April 2019 [https://www.nature.com/articles/d41586-019-01026-8]

- **Ancient Semi-Natural Woodland (ASNW):** broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years
- **Restored Ancient Woodland Sites (RAWS):** woodlands which are predominately broadleaves now and are believed to have been continually wooded for over 400 years. These woodlands will have gone through a phase when canopy cover was more than 50% non-native conifer tree species and now have a canopy cover of more than 50 percent broadleaf.

Where roads are sited through ancient woodland there will inevitably be direct loss and fragmentation of both the ancient woodland and other semi-natural habitats (watercourses, hedgerows, individual trees, etc.) unless alternative engineering solutions are sought to avoid such impacts. The direct loss and fragmentation resulting from the siting of a road through an ancient woodland will likely lead to a loss of local biodiversity and long-term changes in species composition with losses to resident and migrant wildlife (particularly sensitive fauna), and loss of site endemic soils and associated flora.

However, direct loss isn't the only issue in this case. The increased intensity of the change in land use, the creation of separate woodland fragments and new woodland edges, and overall fragmentation of habitats will expose populations of fauna and flora to significant changes in environmental conditions. The creation of the road would result in the severance of wildlife corridors and foraging and commuting routes, inevitable affecting local wildlife. For example, bats will be badly affected as a result of the physical gap in the habitat features they would typically follow – likely further exacerbated by artificial lighting along the road – meaning that bats attempting to cross where they have previously done (despite the gap and any lighting) are consequently at risk of collision. Many species inhabiting ancient woodland are adapted to the relatively unchanging conditions of such a habitat and will be slow to react to change and the new enforced conditions, allowing more generalist species to dominate the specialist woodland species.

Both construction activity and the operational use of a road will have long-term indirect impacts on the ancient woodland of both Leadbrook Wood and Oakenholt Wood, and will inevitably lead to the gradual deterioration of these habitats over a longer timescale. Construction activity near to ancient woodland has impacts such as noise pollution, vibration, production of dust, increased hard-standing resulting in run off of pollutants and other hydrological impacts on ground and surface water in the local area. During the operational use of the road, impacts such as noise and light pollution, increased traffic emissions, vibration and wildlife collisions with vehicles can be expected.

Noise pollution can occur during both construction activity and operational use of a road and will likely be elevated but vary spatially and over time. Noise associated with roads will likely limit the distributions of animal species that are intolerant of noise and negatively affect their reproductive success near to woodland edges.<sup>3</sup> This may be beneficial at some sites if, as a result, deer pressure is reduced but bird diversity has been found to be lower in noisier sites.

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<sup>3</sup> Warren, P. S., Katti, M., Ermann, M. & Brazel, A. (2006) Urban bioacoustics: it's not just noise. *Animal Behaviour*, 71, pp. 491-502

Light pollution may be generated from both vehicles and streetlights and can include chronic or periodically increased illumination, unexpected changes in illumination, and direct glare. Artificial illumination can affect species orientation differentially and may serve to attract or repulse particular species, thereby affecting foraging, reproduction, communication, and other behaviours. It consequently disrupts natural interactions between species, particularly crepuscular and nocturnal species, such as moths, bats, and certain species of birds, often resulting in the decline of some species.<sup>4 5</sup>

In the UK, nitrogen oxides are produced primarily by vehicle emissions. Increasing nitrogen can alter the outcome of competitive interactions, changing the character of woodland vegetation mainly in terms of species composition.<sup>6</sup> There is evidence from woods across Britain that species increasing in cover are more likely to be associated with high nutrient status conditions, i.e. nitrogen-loving nettle (*Urtica dioica*) is shown to increase in abundance when correlated with modelled nitrogen changes.<sup>7</sup>

Dust is an inevitable part of construction and traffic activity; however dust pollution is shown to have major deleterious impacts on woodland flora and epiphytic lichen with many species dying at high concentrations<sup>8</sup>, as well as impacts on soil chemistry and consequences for tree growth, with reductions in height growth as well as shoot and root growth.<sup>9</sup>

#### **Potential mitigation of impacts on ancient woodland**

The Trust has also been asked to provide its views on whether the impact on ancient woodland could be adequately mitigated by design options, such as a viaduct referred to by Flintshire County Council and in previous correspondence from the Minister.

In these circumstances it can be difficult for the Trust to provide a comprehensive position on potential engineering solutions for the mitigation of impacts on ancient woodland. We do not claim engineering expertise but can reasonably say that, in this case, the construction of a viaduct over the woodland is highly unlikely to result in no direct loss and would still very likely result in indirect impacts on the ancient woodland. If an engineering solution can be drawn up that does not result in direct loss then the Trust would be interested in seeing how that would work in respect to the ancient woodland, though as stated above we do not expect that a viaduct, and the construction work associated with it, would completely avoid impacts on the woodland along the 'Red Route'.

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<sup>4</sup> Longcore, T. & Rich, C. (2004) Ecological light pollution. *Frontiers in Ecology and the Environment*, 2, pp.191-198

<sup>5</sup> Conrad, K. F., Warren, M. S., Fox, R., Parsons, M. S. & Woiwood, I. P. (2005) Rapid declines of common, widespread British moths provide evidence of an insect biodiversity crisis. *Biological Conservation*, 132, pp. 279-291

<sup>6</sup> Ryan, L. (2012) Impacts of nearby development on ancient woodland – addendum, Woodland Trust

<sup>7</sup> Kirby, K., Smart, S. M., Black, H. I., Bunce, R. G. H., Corney, P. M. & Smithers, R. J. (2005) Long-term ecological change in British woodlands (1971 - 2001). *English Nature Research Report (ENRR) No. 653*, pp. 1-139. English Nature, Peterborough

<sup>8</sup> Loppi, S. and Pirintsos, S.A. (2000) Effect of dust on epiphytic lichen vegetation in the Mediterranean area (Italy and Greece), *Israel Journal of Plant Sciences*, 48, pp 91-95

<sup>9</sup> Mandre, M and Ots, K. (1999) Growth and biomass partitioning of 6 year old spruces under alkaline dust impact. *Water, Air and Soil Pollution*, 114, 13-25

In terms of an alternative engineering solution to avoid impacts on ancient woodland, the Trust's preference would likely be an option such as tunnelling under the ancient wood. By tunnelling under the wood, both direct and indirect impacts to the ancient woodland would likely be avoided – a viaduct simply wouldn't be able to achieve this. However, we are also aware that alternative engineering solutions can impact on other elements of the natural environment that the Trust does not hold expertise on. For this reason the Trust would not advocate for any particular engineering solution and instead would simply ask that the developer of the scheme looks to avoid both direct and indirect impacts on ancient woodland through re-routing of the scheme.

### **Summary**

Ancient woodland is irreplaceable; once lost it is gone for good. The Trust believes that any damage or loss to ancient woodland is entirely unacceptable and that every possible measure should be taken to avoid damage or loss.

As such, the Woodland Trust will maintain an objection to any form of this scheme if it is likely to result in direct or indirect impacts on ancient woodland. At present, we remain concerned that the 'Red Route' option for this scheme will result in unacceptable damage, loss and long-term deterioration of ancient woodland and as such hold a position of objection to the scheme. We consider that adverse impacts to ancient woodland are contrary to national planning policy designed to protect ancient woodland and conserve/protect biodiversity.

We hope you find our comments to be of use to you. Please do not hesitate to contact the Trust via [campaigning@woodlandtrust.org.uk](mailto:campaigning@woodlandtrust.org.uk) if you have any questions about the comments provided.

Yours sincerely,

Jack Taylor  
Lead Campaigner – Woods Under Threat