



WOODLAND TRUST

Objector Number OBJ0271

**Proof of Evidence on Nature Conservation & Ecology pertaining to Ancient
Woodland in relation to:**

M4 CORRIDOR AROUND NEWPORT – PUBLIC LOCAL INQUIRY

By

Richard Barnes MCIEEM, CBiol, MRSB

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1. INTRODUCTION

- 1.1. The Woodland Trust's (Coed Cadw) charitable purpose is enshrined in its Objects within its Memorandum and Articles of Association. This is to "conserve, restore and re-establish trees and in particular broad-leaved trees, plants and all forms of wildlife and thereby to secure and enhance the enjoyment by the public of the natural environment." One of the Trust's three published aims is to "Protect native woods, trees and their wildlife for the future". The Woodland Trust is the UK's leading woodland conservation charity, owning over 1,000 sites across the UK, covering around 24,000 hectares (59,000 acres) and we have around 500,000 members and supporters.
- 1.2. My name is Richard Barnes and I am employed by the Woodland Trust as a Senior Conservation Advisor. I have an Honours Degree in Biology and a post-Graduate Diploma in Business Management. I am a Chartered Biologist (since 1995), and a full member of the Chartered Institute of Ecology and Environmental Management (since 2003).
- 1.3. I have worked in the nature conservation sector for over 25 years, including as Environment Team Manager in the planning department of a London borough where I provided nature conservation evidence for public inquiries. When I was a Biodiversity Adviser at the Greater London Authority, I was the chair of the London Woodland Habitat Action Plan, and oversaw the production of the London Tree and Woodland Framework. At the Woodland Trust, I provide conservation policy and planning advice; I have prepared and given evidence on behalf of the Trust at a number of Public Inquiries, and have given evidence to the Environmental Audit Committee and both HS2 Bill Committees in relation to Phase 1 of HS2, and to the Communities and Local Government Committee in relation to the National Planning Policy Framework (NPPF).

Context of the evidence

- 1.4. My evidence examines 'Chapter 10: Ecology and Nature Conservation' of the Environmental Statement provided by the Welsh Government. I make reference to ancient woodland habitat, translocation of ancient woodland, loss of compensation habitat, national planning policy, national biodiversity policy and national woodland policy. My evidence is restricted to impacts on ancient woodland and associated species.

- 1.5. Ancient woodland is defined as an irreplaceable natural resource that has remained constantly wooded since AD1600. The length at which ancient woodland takes to develop and evolve (centuries, even millennia), coupled with the vital links it creates between plants, animals and soils accentuate its irreplaceable status. Ancient woodland is the UK's richest habitat for wildlife, supporting 256 priority species (Natural England Research Report NERR024 page 105 (Appendix A)). 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. It is therefore essential that this habitat is protected from development.

Primary reasons for objection

- 1.6. The Woodland Trust has four over-arching reasons for objection:
- A. Direct loss of 1.04 hectares of ancient woodland at Berryhill Farm with further small (undefined) losses of ancient woodland at Pwll Diwaelod and Roggiett Brake.
 - B. Indirect impacts resulting in damage to ancient woodland at Berryhill Farm, Pwll Diwaelod, Pye Corner and Roggiett Brake.
 - C. Inappropriate proposals for the translocation of ancient woodland habitat, incorrectly described as mitigation for the loss of ancient woodland.
 - D. Loss of compensation woodland planted as part of the original construction of the M4.
 - E. Insufficient compensation proposed for the damage and loss of ancient woodland.
- 1.7. From my examination of Chapter 10 of the Environmental Statement I believe there are limitations and flaws at several stages of the ecological impact assessment in relation to ancient woodland and associated species including:
- Assessment of value
 - Assessment of impacts
 - Proposed 'mitigation' and 'compensation' measures
 - Translocation of ancient woodland soils

2. NATIONAL AND LOCAL POLICY BACKGROUND

Planning

- 2.1. National policy advice on biodiversity conservation and planning is provided by Welsh Government through Planning Policy Wales (PPW) (updated January 2016). 'Chapter 5 – Conserving and Improving Natural Heritage and the Coast' states the following in relation to the Government's commitment to conserving and improving natural heritage:
- "5.1.2 The Welsh Government's objectives for the conservation and improvement of the natural heritage are to:*
- promote the conservation of landscape and biodiversity, in particular the conservation of native wildlife and habitats;*
 - ensure that action in Wales contributes to meeting international responsibilities and obligations for the natural environment;*
 - ensure that statutorily designated sites are properly protected and managed;*
 - safeguard protected species, and to*
 - promote the functions and benefits of soils, and in particular their function as a carbon store."*
- 2.2. Planning Policy Wales (PPW) makes explicit reference to the consideration of ancient woodland in paragraph 5.2.9: *"Trees, woodlands and hedgerows are of great importance, both as wildlife habitats and in terms of their contribution to landscape character and beauty. They also play a role in tackling climate change by trapping carbon and can provide a sustainable energy source. Local planning authorities should seek to protect trees, groups of trees and areas of woodland where they have natural heritage value or contribute to the character or amenity of a particular locality. Ancient and semi-natural woodlands are irreplaceable habitats of high biodiversity value which should be protected from development that would result in significant damage."*
- 2.3. PPW also makes reference to the importance of protecting trees and woodlands in the following paragraphs:
- Paragraph 5.2.10: *"Local planning authorities should, as appropriate, make full use of their powers to protect and plant trees to maintain and improve the appearance of the countryside and built up areas."*

Paragraph 5.5.15: *“In the case of a site recorded on the inventory of ancient woodland produced by the former Countryside Council for Wales, authorities should consult with Natural Resources Wales before authorising potentially damaging operations.”*

Biodiversity

- 2.4. Ancient woodland has long been recognised as an important and irreplaceable habitat. Welsh Government has provided explicit direction on the protection afforded to ancient woodland through published policy and public statements. The following policies and guidance are the most relevant ones to describe the current protection to ancient woodland sites
- 2.5. The Welsh Government’s Strategy for Woodlands and Trees, ‘Woodlands for Wales’ recognises ancient woodland’s irreplaceability (page 11) (Appendix B):
- “Wales is one of the least wooded countries in Europe, with woodland covering only 14 per cent of the land area, compared to the EU average of 37 per cent. The character of woodland in Wales has been influenced by both historic land use and previous government policy, and now most woodland is either:*
- *conifer woodland, mostly single-species, single-age plantations created during the twentieth century, which generally have been managed by clearfelling and are currently the main source of home-grown timber; or*
 - *“native woodland, mostly small and fragmented, often on farms and much of it not actively managed. Not all native woodland is old, but a significant proportion has been continuously wooded for at least 400 years (including some that was more recently converted to non-native plantations). **This ancient woodland is irreplaceable.**”*
- 2.6. The UK Post-2010 Biodiversity Framework, published by JNCC and Defra, outlines a structure for action across the four countries up to 2020. It also serves as a reminder of the Convention on Biodiversity Diversity’s (CBD) Strategic Plan for Biodiversity 2011-2020, which states:
- “By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.”*

- 2.7. Welsh Government TAN 5 Nature Conservation and Planning, paragraph 2.1, states:
“The town and country planning system in Wales should:
- *ensure that the UK’s international and national obligations for site, species and habitat protection are fully met in all planning decisions (PPW 5.3.8-10);*
 - *look for development to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally (PPW 5.1);”*
- 2.8. Newport Local Development Plan (LDP), paragraph 3.36, calls for the protection of ancient woodland, stating the following:
“Trees, woodlands and hedgerows form an important part of Newport’s character as well as supporting a wide range of rare and common wildlife. Newport has a number of woodlands which are included in the Inventory of Ancient Woodland, and also secondary woodlands (non-ancient) and a network of hedgerows, all of which have an importance for amenity, wildlife and landscape character. They should therefore be protected and, where appropriate, enhanced as set out in TAN 5: Nature Conservation and Planning (2009)⁴³ and TAN 10: Tree Preservation Orders (1997)⁴⁴. Please note that Natural Resources Wales hold a register of Ancient and Semi Ancient woodland.”
- 2.9. Newport City Council’s Wildlife and Development Supplementary Planning Guidance (2015), page 19, states the following in relation to ancient woodland and compensation:
“In some cases it isn’t possible to avoid or mitigate for certain wildlife features on a site. In these instances either on or off-site compensation is required. Compensation either restores or recreates the wildlife feature damaged by a development - ensuring no net loss. It should be noted that some habitats and features, such as ancient woodland, cannot be compensated for.”
- 2.10. The Environment (Wales) Act published in 2016 by Welsh Government outlines Wales’ biodiversity duty: *“The Environment Act enhances the current NERC Act duty to require all public authorities, when carrying out their functions in Wales, to seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”.”*
- 2.11. Well-being of Future Generations (Wales) Act 2015 from Welsh Government provides seven well-being goals including the following goal *“A resilient Wales: A nation which*

maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change)."

3. EVALUATION

- 3.1. The applicants' Assessment Criteria and Assignment of Significance are described in paragraph 10.3.124: *"An assessment of the ecological effects of a proposed development should focus on 'valued ecological receptors' (VERs). These are species and habitats that are valued in some way, and could be affected by a proposed development; other valued ecological features may occur on or in the vicinity of the site of a proposed development but do not need to be considered because there is no potential for them to be affected significantly."*
- 3.2. The value of ancient woodland is outlined in 'Table 10.3: Value of Ecological Receptors', with ancient woodland being recorded as high value; this places ancient woodland at the same level of value as a Site of UK/National (Welsh) Importance, i.e. SSSI, NNR, etc.
- 3.3. Paragraph 10.3.124 of Chapter 10 explains that the levels of value assigned to habitats are determined by definitions used in Chartered Institute of Ecology and Environmental Management (CIEEM) guidance (CIEEM, 2006), the guidance provided in the DMRB HA205/08 (Highways Agency, 2008a) and is consistent with Table 1 of Interim Advice Note 130/10 (Highways Agency, 2010).

4. IMPACT ASSESSMENT

Methods and definitions

- 4.1. The applicant has outlined in paragraphs 10.4.130 and 10.4.131 that the value of habitats takes into account published selection criteria, a method which is in accordance with the CIEEM (2006) guidelines. These selection criteria include size (extent), diversity, naturalness, rarity, fragility, typicalness, recorded history, position in an ecological or geographical unit, current condition and potential importance. They have also stated that *"Criteria for the valuation of habitats and plant communities include Annex III of the Habitats Directive, guidelines for the selection of biological SSSIs and criteria used by local planning authorities and the Wildlife Trusts for the selection of local sites."*

- 4.2. CIEEM Guidelines for Ecological Impact Assessment in the UK (2006) sets out the following definitions of mitigation and compensation:

“Mitigation:

Measures taken to avoid or reduce negative impacts. Measures may include: locating the development and its working areas and access routes away from areas of high ecological interest, fencing off sensitive areas during the construction period, or timing works to avoid sensitive periods.

“Compensation:

Measures taken to make up for the loss of, or permanent damage to, biological resources through the provision of replacement areas. Any replacement area should be similar to or, with appropriate management, have the ability to reproduce the ecological functions and conditions of those biological resources that have been lost or damaged.”

- 4.3. By these definitions, the proposed new woodland planting schemes and additional mitigation comprise compensation not mitigation. Loss of ancient woodland cannot be mitigated.

Direct impacts, including loss of ancient woodland

- 4.4. Paragraphs 10.7.149 through to 10.7.151 (under the ‘Lowland mixed deciduous woodland (including wet woodland)’ section of ES Chapter 10) detail the ancient woodland loss anticipated for the proposed scheme. Paragraph 10.4.55 identifies that ‘Lowland mixed deciduous woodland (including wet woodland)’ is a UK BAP/Section 42 habitat.
- 4.5. Paragraph 10.7.149 states that 1.04ha of ancient woodland (Berryhill Plantation) would be lost at Berryhill Farm, with further small losses of the edge of an area of ancient woodland at Pwll Diwaelod. However, from reading of the maps (Figure 10.4a – Phase 1 Habitat Plan, contained within ES Chapter 10 – Figures document) this appears to be incorrect. It appears that two separate areas of ancient woodland at Pwll Diwaelod will be affected by the proposed scheme; one bordering the northern side of the M4, the other bordering the M4 on the southern side.
- 4.6. Paragraphs 10.7.150 through to 10.7.151 state that Roggiett Brake would be subject to loss from renovation works to a haul road leading to Ifton Quarry. The applicants state in

paragraph 10.4.67 that Roggiett Brake should be considered to be of value for nature conservation in a county context.

- 4.7. The small area of ancient woodland likely to be affected at Pye Corner is referenced in paragraph 10.4.68. The applicants appear to indicate that the area of ancient woodland designated as such on Natural Resources Wales' Ancient Woodland Inventory does not constitute ancient woodland on account of its relatively young canopy composition and has been assessed as being only of local value for its flora. If the applicants believe that this area does not constitute ancient woodland then it would be advisable for this to be confirmed with NRW. Although the area may consist of a young canopy, it would be incorrect to assume that this alone means that the woodland is not ancient.
- 4.8. The assessments made of the value levels of these ancient woods appear to contradict the previous assessment of 'high value' assigned to ancient woodland in Table 10.3. In the category of 'high value' ancient woodland is assessed as being at the same level as sites of National Importance such as SSSIs and NNRs. Therefore I question whether the assigned values in the paragraphs mentioned above are accurate reflections of the applicants' pre-determined 'Value of Ecological Receptors' (VER).
- 4.9. Ancient woodland is an irreplaceable resource which cannot be re-created, nor is mitigation possible for its loss. One of the key features of ancient woodland that makes it impossible to replicate is the ancient woodland soil. The combination of time – centuries, even millennia – and lack of disturbance means that ancient woodland soils have formed hugely complex and diverse profiles. Loss and disturbance of these soils can irreparably damage the intricate networks of mycorrhizal fungal strands that run through the ancient woodland soils, as well as severing and destroying the complex interactions and associations between soil microbial communities. These networks are essential to the survival of plant life and play a crucial role in the recycling of nutrients in woodland ecosystems.

Compensation

- 4.10. The planting of new areas of woodland to mitigate for the loss of woodland is alluded to within Chapter 10 of the ES, particularly within paragraph 10.7.152. The applicants state that the new woodland planting *"would serve to both mitigate for the loss of the ecological*

value of the existing woodlands". The planting of new trees does not mitigate for the loss of ancient woodland. Ancient woodland by definition is irreplaceable, therefore no amount of planting can mitigate for its loss. Planting new areas of woodland can only be considered as compensation for the loss of habitat as important and valuable as ancient woodland.

- 4.11. The applicants have outlined their assessment of the potential effects on both the compensatory woodland and semi-natural woodland once the new planting is taken into account. It is stated in paragraph 10.7.157 that the applicants believe there to be *'Major Adverse impact and effect of Moderate or Large significance at all timescales'* on the semi-natural woodland; it is considered that the ancient woodland falls within this category. The applicants then make an assessment of the effects once additional mitigation, the re-use of coppice stools and woodland soils, is taken into account, in paragraph 10.7.158. They have determined that the effects on semi-natural woodland would be *'Major Adverse impact and effects of Moderate or Large significance in the short and medium terms, but in the long term Moderate Adverse impacts and effects of Moderate significance.'*
- 4.12. It is clear to me that this approach suggests that the planting of new woodland and translocation of ancient woodland soils is considered as mitigation for the loss of ancient woodland. The concept that the loss of ancient woodland can be mitigated through the means of new planting, re-use of coppice stools and translocation of ancient woodland soil is incorrect (see the section on Translocation later).
- 4.13. Since loss of ancient woodland cannot be mitigated, the question of adequate compensation arises. A newly-created woodland, even with soils taken from a known ancient woodland, cannot be considered to replicate the value of the habitats to be lost. It should be recognised that the evidence suggests at least 100 years are needed before a newly planted wood starts to resemble the ecological complexity of mature woodland; even to replicate the social benefits of mature woodland may take 50 years. The applicant has suggested that a suitable compensation for the loss of ancient woodland would be new planting at a ratio of 2:1. This is woefully inadequate, for the reasons set out below.
- 4.14. Whilst the planning system in England explicitly allows for biodiversity loss as a result of developments to be offset against gains elsewhere, this is not provided for in Planning Policy Wales. Planning Policy Wales is clear that ancient woodland should not be

significantly damaged. The point I seek to make below, however, is that even if an off-setting approach is taken, despite a lack of provision for this in Welsh planning policy, then the level of compensatory planting offered is simply unacceptable.

- 4.15. Recent research for DEFRA into the future for conservation banking in the UK has identified ancient woodland as a habitat for which habitat mitigation cannot take place. Ancient woodland is described as not substitutable, meaning you cannot recreate a habitat as complex as ancient woodland within a reasonable timeframe (in the case of ancient woodland, at all) (Treweek et al, 2009, Appendix C))
- 4.16. Paragraphs 10.7.153 and 10.7.155 of ES Chapter 10 describe the new planting ratios proposed for the loss of woodland (inc. ancient woodland):
Paragraph 10.7.153: “The new planting shown on the EMP comprises 103 ha of ‘Woodland’ and ‘Linear Belts of Trees and Shrubs’ similar to those associated with the existing M4. Unlike the existing woodland, there would be extensive new woodland blocks at Berryhill Farm in the west, and east of Rockfield Farm at Undy in the east. The overall ratio of new planting to that which would be lost would be 2.1:1. “
Paragraph 10.7.154: “The total area of new planting west of the River Usk would be 58.6 ha. Thus the ratio of the area of new planting to that which would be lost in this section of the route would be 2.2:1. East of the River Usk there would be 44.3 ha of new planting, so here the ratio of new planting to that which would be lost would be 1.9:1. “
- 4.17. New planting to compensate for the loss of ancient woodland must be considered separately to planting as compensation for the loss of secondary woodland, which the applicant has failed to do in this case. The Woodland Trust does not believe that you can compensate for the loss of ancient woodland by planting new woodland, but believes that, if such a high value habitat is to be destroyed, then the compensation ratio of newly created habitat should be a minimum of 30:1. From the ratios given it is clear that the amount of planting is totally inadequate.
- 4.18. In its report on the HS2 no net loss (NNL) calculation (Appendix D), Natural England (NE) refer to the compensation ratio for lost ancient woodland and state that “For a project of this scale, it is the judgement of Natural England that HS2 Ltd should aim to create 30 hectares of new woodland for every hectare lost, where ancient woodland is to be

replaced by new woods.” NE indicated that HS2 Ltd should be “more ambitious in its aspirations to compensate effectively for unavoidable losses of ancient woodland”, and “a commitment to such a ratio would be a clear statement by HS2 Ltd that it recognises the critical importance of ancient woodland and the scale of newly created woodland provided would leave a positive legacy for the natural environment and communities along its route.”

Translocation of ancient woodland soils

- 4.19. Paragraph 10.5.68 refers to the use of ancient woodland soil in new planting areas: *“At Berryhill Farm, during clearance of the existing wood, to the extent practicable, coppice stools of hazel and other shrub species would be lifted and replanted in areas of woodland planting to the east of New Park Farm north of the new Castleton Interchange in an area which would not otherwise be disturbed. Woodland topsoil from this wood would also be stripped and placed in new planting areas to encourage the establishment of the woodland ground flora.”*
- 4.20. Translocation of ancient woodland soil to a new site is sometimes proposed as a compensation measure for the loss of ancient woodland. However, woodland topsoil that is removed from the ancient woods and relocated for the planting of new woodland can in no way replicate the ancient woodland habitat lost; it is in essence a salvage process rather than habitat translocation. The soil composition and structure, varied topography, range of micro-habitats, species assemblages, and mycorrhiza fungi associations with tree roots, cannot be moved intact.
- 4.21. Some of the new woodland would be established using soils and some coppice stools salvaged from the ancient woodland at Berryhill Farm that would be lost. This “translocation” of elements of the ancient woodland cannot be viewed as translocation of an entire habitat. The term is often used in a way that implies ancient woodland can effectively be removed from a site and re-established elsewhere. Although relevant to another UK country, Natural England’s standing advice that “ancient woodland as a system cannot be moved” can also be transposed to be relevant to ancient woodland in Wales. The complex communities found in ancient woodland are a product of the interaction between unique geographical and historical factors, which cannot be replicated. Current Joint Nature Conservation Committee (JNCC) guidance (A Habitats Translocation Policy for

Britain, JNCC 2003, paragraph 7 (Appendix E)) is that habitat translocation is never an acceptable alternative to in situ conservation. Translocation cannot therefore be viewed as mitigation for ancient woodland loss, since the latter is irreplaceable.

- 4.22. Paragraph 5 of the JNCC guidance notes that “Habitats translocation has been proposed as a means of saving wildlife from areas threatened by development. These translocations have been portrayed by some as a means of reducing the impact of developments (mitigation), whereas in reality they can only partly make amends for developments (as incomplete compensation).”
- 4.23. Ancient woodland translocation schemes should therefore be more accurately described as translocation or salvage of ancient woodland soils and/or other features, to avoid this confusion. Translocation might, if carried out as a last resort, when loss of the original habitat is completely unavoidable, form part of a package of compensation measures. It is best viewed as a woodland creation method which may increase the likelihood of a more rapid establishment of some elements of the woodland habitat (usually just a woodland field layer flora). The question then is how beneficial this translocation process is, as compared, for example, with simply creating new native woodland on arable or pasture soils.
- 4.24. Habitat translocation is a relatively recent phenomenon, and literature on the subject is scarce. In cases reviewed, monitoring has either been going on for relatively short periods, or was only required for a limited period, which makes robust and rigorous assessment difficult for a habitat such as woodland, which develops over long periods of time. In addition, requirements for monitoring, and in particular publication of the results, stipulated through planning consents, often do not appear to be implemented.
- 4.25. The Woodland Trust has published a research paper (*Translocation and Ancient Woodland*, 2013, Appendix F) assembling all published research around woodland “translocation”. A particular concern noted was “3.9 Fahselt (2007) raises the point that when translocation of a habitat is proposed as part of a scheme, the idea of habitat destruction tends to become more acceptable. ...there is always a possibility that discussion of translocation of ancient woodland soil as compensation could be viewed as condoning loss of the original site.”

- 4.26. The scientific literature suggests translocation of soils may be based on flawed assumptions that they contain a persistent seed bank of ancient woodland plants, and that the complex interactions and associations within these soils can be maintained despite the disturbance of the translocation process. The little evidence in the public domain relating to the translocation of ancient woodland soil covers very short time frames and there is a need for further work to be undertaken and published that covers decades rather than years. There is also a lack of agreed criteria for what constitutes success.
- 4.27. The available information shows that it is not possible to move assemblages of species together without substantial changes taking place in the structure of the habitat and in its species composition thus rendering the translocation unsuccessful with respect to sustaining the original flora and fauna. (JNCC, 2003, Appendix E).
- 4.28. In this case it should also be noted that large amounts of Himalayan balsam have been recorded within woodland at Berryhill Farm (Berryhill Plantation) (paragraph 10.4.531). As a non-native, invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 it is an offence to plant Himalayan balsam or cause the species to grow in the wild. Therefore it would be highly inappropriate to attempt translocation of ancient woodland soil likely containing Himalayan balsam seeds.
- 4.29. It is therefore disappointing that the applicants have determined that the concept of compensation/translocation as mitigation for damage and loss to ancient woodland is suitable for inclusion within their Environmental Statement.

Loss of original M4 compensation habitat

- 4.30. The construction of the proposed scheme will result in the destruction of plantation woodland originally planted as compensation habitat for the loss of habitat when the M4 was originally built. This is alluded to in Paragraph 10.7.149: *"The larger areas of plantation woodland which would be affected by the new section of motorway are located in the Castleton area and comprise linear plantings within the existing M4 boundary having been planted as part of the original M4, and also subsequent widening schemes. Taking the section of the new section of motorway between the Castleton Interchange and the River*

Usk, 23.8 ha of plantation woodland would be lost. This is mainly alongside the existing motorway and road network.”

- 4.31. I therefore question how any of the latest compensation measures can be expected to deliver long term benefits if these areas of new planting are then subjected to damage and loss in later years from harmful development. In this case it appears that the original compensation planting was unlikely to have been in the ground long enough to form any kind of valuable habitat. Compensatory planting can only be deemed to be effective if it is able to develop in the long-term to create meaningful habitat. Therefore unless conservation covenants are implemented as part of compensatory planting then these measures cannot be considered as effective compensation for the loss of ancient woodland. They are vitally important mechanisms that must be adopted to prevent damage or loss of compensatory planting in the future.

Indirect impacts (not considered in the ES)

- 4.32. Indirect impacts do not appear to be considered in Chapter 10 of the ES despite there likely being negative impact on areas of ancient woodland beyond the footprint of the proposed development that haven't been identified as being subjected to direct loss.
- 4.33. As with many applications that the Woodland Trust has looked at over the last few years the indirect impacts of development has been underestimated. Because of ongoing concern about such issues, in 2008 a report (Corney et al, extended extract in Appendix G) was commissioned which assessed all available literature on the indirect impacts of development on ancient woods. *“The cumulative effects of commercial and industrial developments are likely to be most pronounced in terms of species avoidance or absence in their immediate vicinity. Chemical, noise and light pollution are likely to combine and create a biologically stressful environment surrounding industrialised areas. This may affect everything in nearby ancient woods from the soil organisms that underpin nutrient cycling to the trees, shrubs and ground flora that are their structure, to obligate woodland insects, mammals and birds.”*
- 4.34. Until the applicant demonstrates the cumulative impact of the indirect effects, this further undermines their assessment of mitigation and compensation proposals.

Timescales

- 4.35. The IEEM guidance (2006) suggests that to be considered compensation, replacement habitat “should be similar to or, with appropriate management, have the ability to reproduce the ecological functions and conditions of those biological resources that have been lost or damaged”. Thus the new woodland created could only be viewed as a compensatory or off-setting measure when it has developed into mature woodland (well beyond the 25 years considered in the ES). Moreover, it is generally accepted that would never replicate the ancient woodland habitat lost.
- 4.36. No indication is given as to the protection afforded to the offsetting habitats in the long-term. It appears that “long-term” commitment is restricted to 25 years which barely covers the establishment phase. Timescales for new woodland to develop ancient characteristics need to be measured in centuries. Unless there is a guarantee that the created woodland will be maintained in situ, and managed appropriately over a period well in excess of 25 years, it should not be regarded as an offsetting measure. IEEM and 15 ALGE, in their joint response on 31 January 2011 (Appendix H) to ‘Offsetting the impact of development on biodiversity’ (Defra consultation), noted “Some habitats cannot be created (peatlands, ancient woodland) within achievable timescales”.

5. CONCLUSION

- 5.1. The case I am presenting against the proposed M4 Corridor around Newport is based on damage and loss to five separate areas of ancient woodland that will result in the destruction of 1.04 hectares of ancient woodland at Berryhill Farm with further small (undefined) losses of ancient woodland at Pwll Diwaelod and Roggiett Brake. Damage and loss to ancient woodland is in direct contravention of a number of national and local planning policies designed to protect, conserve and enhance ancient woodland and biodiversity.
- 5.2. Ancient woodland is irreplaceable; once gone it is gone forever. Ancient woodlands are the UK’s most diverse terrestrial habitat, alive with complex ecological communities rich in some of the UK’s rarest faunal and floral species. They have developed over centuries, even millennia, to evolve important relationships on a micro level and provide ideal habitat for many priority species that are often sensitive and vulnerable.

- 5.3. It is apparent from the extensive plantation woodland in the area that considerable amounts of woodland was previously damaged or lost in the construction of the original M4. It is disappointing that there will now be a further reduction in ancient woodland cover and plantation woodland established as compensation for previous losses of woodland. With a number of Welsh Government policy documents making reference to and recognising the valuable and irreplaceable nature of ancient woodland, it is apparent that the applicant is failing to uphold these policies; both in their determination of the value of ancient woodland and their consideration of compensation for the loss of ancient woodland. There is clear intention from Welsh Government to halt further losses of ancient woodland and to protect and conserve existing woodland as a key element of habitat networks considered essential to the long term viability of wider natural ecosystems.
- 5.4. The irreplaceable nature of ancient woodland means that mitigation is not a viable concept for its loss. It is therefore disappointing that the applicant has failed to recognise this in recommending inappropriate 'mitigation' measures. As loss of ancient woodland cannot be mitigated it is important that the applicant recognises their shortcomings and that any proposed measures are considered to be compensation.
- 5.5. The current planting ratios provided are inadequate considering the amount of ancient woodland to be lost, falling far below the metrics outlined by Defra.