The Network Rail
(East West Rail Bicester to Bedford Improvements) Order

Transport and Works Act 1992

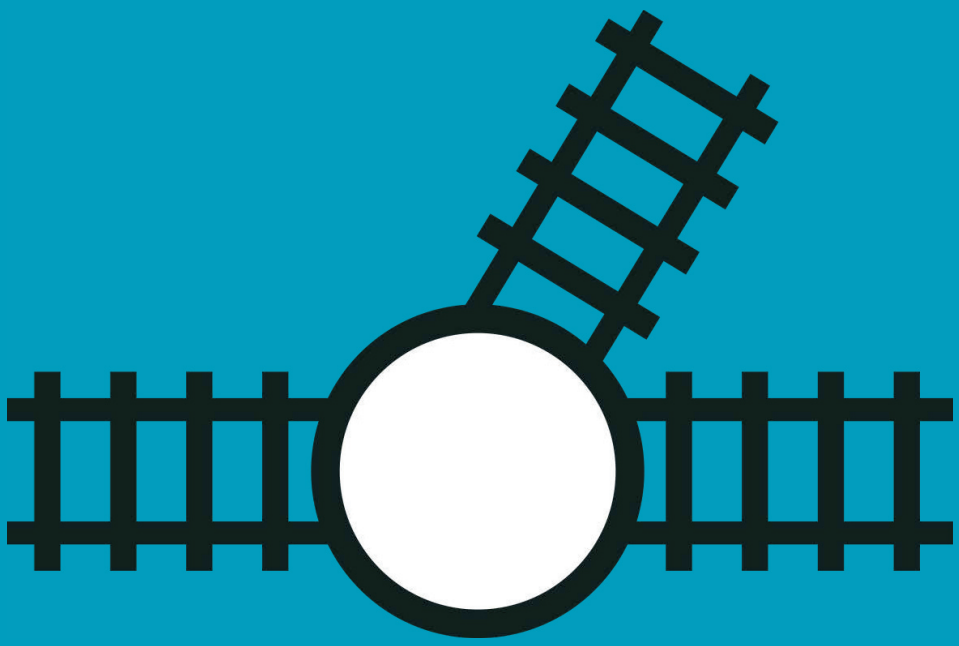
The Transport and Works
(Inquiries Procedure) Rules 2004

Summary of

Proof of Evidence of Dr Stephanie Wray

Ecology

NR133



Working for you

Evidence Summary

1. My name is Stephanie Wray. I am a Director of Biocensus, a specialist ecological consultancy. I have been retained by the East West Rail Alliance on behalf of Network Rail to provide specialist advice on ecological matters pertaining to the East West Rail Scheme. I have over 25 years' experience in the assessment of ecological impacts and the design of mitigation for major infrastructure projects, including railways and other linear infrastructure.

2. I am a Fellow, and a past President, of the Chartered Institute of Ecology and Environmental Management, a Chartered Ecologist and a Chartered Environmentalist. I hold a PhD in mammal ecology, and am a member of Natural England's Expert Panel on Bats. Throughout my career in consultancy I have continued to undertake applied research and, in 2011, I was awarded the Mammal Society Medal for my work on the effectiveness of mitigation for mammals affected by development projects.

3. My involvement in EWR2 began in 2017 when I was commissioned by the East West Rail Alliance to review the ecology elements of the draft The Network Rail (East West Rail Bicester to Bedford Improvements) Order Environmental Statement (NR 16). I subsequently advised on the requirements for further ecological surveys during 2018, and reviewed the outputs of those surveys. I acted as a technical adviser and reviewer for the production of The Network Rail (East West Rail Bicester to Bedford Improvements) Order Further Environmental Information (NR47) produced in November 2018. Since the Environmental Statement was submitted, I have reviewed and responded to the representations by various stakeholders. As the technical reviewer for EWR2 I have a good understanding of all the ecological work that has been carried out and I have made comprehensive site visits to EWR2 and its setting.

4. In my evidence I deal with all matters relating to ecology, biodiversity and nature conservation for the EWR2 Order Scheme.

5. A comprehensive suite of ecological surveys was carried out throughout the Ecological Zone of Influence for the Scheme. These included surveys of aquatic and terrestrial habitats, aquatic invertebrates including white-clawed crayfish, terrestrial invertebrates including several notable species of butterfly, fish, great crested newts, reptiles including adder, birds including barn owl, badgers, bats, otters, water vole and hazel dormice. Surveys were still ongoing at the time the Environmental Statement (the ES) (NR16), was published in July 2018. Further survey results were then published in November 2018 in the Further Environmental Information in Support of the ES report (NR47), Part I Main Report, which I will refer to as the FEI. The FEI updated our assessment of impacts based on the further survey work and in my opinion the two documents set out a comprehensive and conservative assessment of the impacts of the Scheme.

6. The EWR2 Order Scheme would have no impacts on sites of European importance for nature conservation, such as SAC, SPA or Ramsar sites.

7. One site of National importance, Sheephouse Wood SSSI, an ancient woodland, would experience a local shading effect due to the need to extend a structure intended to help bats cross the HS2 lines across the EWR line. This would not affect the integrity of the SSSI. No ancient woodland would be lost as a result of the scheme. About 20 veteran trees are at risk, but these will be retained within the boundaries of the Scheme wherever it is possible to do so.

8. Two Local Wildlife Sites, Railway Bank and Waddeston Station Complex, fall within the Scheme boundary and would be lost as a result of the construction. The loss of these sites, and the loss of other habitats of conservation value along the Scheme would be compensated for by the creation of a series of Ecological Compensation Sites (ECS) along the Scheme. These sites, together with the replacement planting along the completed Scheme will deliver significant gains of certain habitat types including species-rich hedgerows and ponds.

9. Several notable species of invertebrates were recorded, both terrestrial and aquatic, including five Nationally notable species. Invertebrate populations were identified as being of County importance. At least twice as many ponds will be created as would be lost, and there would be a significant net gain in habitat for aquatic invertebrates. Planting in the ECS will be tailored to support notable species of terrestrial invertebrate by providing their larval food plants.

10. Some protected species which were assumed to be present in the ES (NR16) were found to be absent from the Scheme during surveys in 2018. No white-clawed crayfish were recorded, no water vole were recorded and no hazel dormice were recorded. Precautionary measures would still be put in place in case these species should colonise the Scheme in future.

11. Surveys of great crested newts identified 3 ponds with a small population of great crested newt, 78 ponds with a medium population and 2 with a large population. These results indicate that there are good populations of great crested newt along the length of the Scheme and a further 263 ponds up to 500m from the Scheme area are assumed to support the species. Ponds will be protected wherever possible, but where ponds are unavoidably lost, they would be replaced at a ratio of two for every one lost. Terrestrial habitat for great crested newts, including hibernacula, would also be provided within ECS, and the landscape planting along the railway would, in time, become a valuable habitat for newts.

12. Common reptile species were recorded from the Scheme footprint, but no adders were recorded during surveys in 2018. Adders are rare in the County and there were historic records. Care will be taken to avoid accidental mortality or injury to reptiles during construction, and reptile habitat, including opportunities for basking and hibernation will be

included within ECS. The line-side habitat will after construction is completed, also provide opportunities for reptiles.

13. The desk study and field surveys identified a breeding and wintering bird assemblage typical of lowland farmland, woodland, scrub and wetland habitats. There will be a temporary loss of nesting habitat for birds due to vegetation clearance to allow construction. This will be replaced with new woodland, scrub and hedgerow planting and will over time provide a net gain in habitat.

14. Birds, particularly barn owls, may be at risk of mortality through collisions with trains. The landscape planting design at potential blackspots would encourage barn owls to fly over the line at a safe height. Habitat enhancement for barn owls, through the provision of nesting boxes would be provided at a distance from the railway in order to compensate for any residual impact on local barn owl populations.

15. Signs of otter were recorded on all catchments close to the Scheme and otter are assumed to be present throughout. Two holts / resting sites have been recorded which could be impacted by the Scheme. Both would be replaced with an artificial holt and works affecting the holts undertaken under a Natural England (NE) licence. Safe crossing points with associated fencing would be provided at all watercourse crossings to avoid fragmentation of otter habitat or incidental mortality of otters attempting to cross over the track.

16. Bat surveys were undertaken including roost surveys, activity transects, static detector monitoring, surveys of crossing points, trapping and radio-tracking. An assemblage of 13 bat species was recorded on or close to EWR2: common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, noctule, Leisler's, serotine, brown long-eared, barbastelle, Natterer's, Daubenton's, whiskered, Brandt's and Bechstein's bats. The majority of these species are present throughout EWR2.

17. There are 15 known moderate or high significance roosts within the Scheme Area and up to 100m from it, two of which would be lost as a result of the Scheme. Further temporary impacts are anticipated on foraging and commuting bats as a result of the vegetation clearance required to facilitate the construction of the Scheme. Mitigation measures are proposed to maintain an east-west corridor for foraging bats at all times during construction. There is a risk of collision-related mortality to bats at a number of crossing hotspots along Route Sections 2A and 2B. The landscape planting in these locations would be designed to encourage bats to cross at a safe height. All works potentially affecting bats would be undertaken under a NE licence.

18. Although badgers were not included as an Important Ecological Feature in the ES (NR16), they were surveyed as they are legally protected for welfare reasons. Route Sections 2A and 2B supported contiguous badger territories, with a small number of setts in other route sections. These badger social groups would be provided with artificial setts in or close to the

Scheme boundary where main setts would be lost as a result of the construction works. Works that could potentially disturb badgers would be undertaken under a NE licence.

19. In Section 4 of my evidence I respond to various objections to the EWR2 Order Scheme. These fall into two categories: those that object to ecological impacts; and those that object to land taken for ecological mitigation. In the case of the latter I have set out the reasons for taking individual land parcels for ECS. In the former case, I have responded to specific points, but the majority relate to the availability of survey information, and the provision of a net gain.

20. Most of the concerns regarding the level of survey undertaken relate to the ES (NR16), which did not include the comprehensive surveys undertaken in 2018 and presented in the FEI (NR47). I consider that the FEI should address most of these concerns.

21. With regard to net gain, Network rail's position is set out within Paragraphs 10.9.5-10.9.9 of its Statement of Case, and is that the focus of the principles that planning authorities should apply is upon the avoidance of significant harm to biodiversity by a development and the Order Scheme has been prepared with that principle in mind. Given that it is not possible to acquire land through powers of compulsory purchase for the sole purpose of achieving a net gain in biodiversity, the Order Scheme is not able to acquire additional land that would allow the delivery of net gain in biodiversity units. In my evidence I provide more detail on the biodiversity accounting and illustrate the losses and gains of habitat in each Route Section. Although we are not able to demonstrate a net gain using a biodiversity accounting metric, EWR2 will deliver net gains of some habitats such as hedgerows and ponds.

22. In my professional opinion, sufficient survey information has been collected to ensure that the impacts of the EWR2 Scheme have been understood and appropriate mitigation and compensation designed. I consider that, if the mitigation measures set out in the ES (NR16) and my evidence are implemented in full, then the Scheme would fulfil its legal obligations regarding ecological issues. If Network Rail is able to secure agreement from landowners for further compensatory habitat creation, then opportunities exist to deliver biodiversity net gain.