



High Speed Rail, Phase 2b (Crewe to Manchester) Environmental Statement.

Community Areas MA01, MA02, MA03, MA04, MA05, MA06.

Response from the Cheshire Wildlife Trust (March 2022)

Overview

The Cheshire Wildlife Trust represents the interests of 17,000 members, operating under a charitable objective to ‘...promote the conservation, protection and improvement of the physical and natural environment....’(1962, last amended October 2016). It is within this charitable objective that we make this response to the consultation for the High Speed Phase 2b Environmental Statement, in the interests of protecting and improving habitats, species and the landscape within the Cheshire region.

The Cheshire Wildlife Trust is supportive in principle of the provision of a sustainable transport connection from Crewe to Manchester, however it is clear that HS2 will not be delivered sustainably as the impacts to the natural environment will be extensive and irreversible.

We are dismayed that, in an era where natural capital is at the forefront of government and industry thinking, this scheme will be implemented on the basis of policies and values that are wholly incapable of addressing the issues of our time. HS2 is the biggest single infrastructure project in Europe, yet far from being an ‘exemplar project’ it has failed to introduce natural capital into its economic model. By disrupting and destroying nature recovery networks it is at complete odds with the creation of Nature Recovery Strategies and the bigger, better, more, joined approach advocated by Professor Sir John Lawton in 2010 (*‘Making Space for Nature’, a 2010 government review*). Consequently its environmental legacy will be a reduction in the size, complexity and connectivity of already fragile ecosystems and an unparalleled loss of England’s natural capital making it much harder to reverse nature’s decline (as set out as a goal in the Environment Act 2021).

The scheme is likely to result in the unprecedented loss of 92 hectares of woodland, 495 hectares of semi-natural grassland, 333 ponds, 323 km of hedgerow and possibly a similar length of impacted streams, rivers and ditches. Irreplaceable ancient woodland and veteran trees will also be lost, as well as extensive areas of carbon-storing peatland.

The losses of neutral grassland in Cheshire represents approximately 7% of the total resource. For native woodland the losses represent approximately 0.51% of the total Cheshire resource.

The scale of these losses within a short time scale is most worrying. In a region that has already seen devastating impacts to wild places through changes in land use and development, this scheme is set to compound these losses by further fragmenting vulnerable species populations and their habitats.

HS2 have promised 240 hectares of compensatory habitat, 109 km of hedgerow and a replacement pond for each one impacted; however this falls far short of what is actually required to even achieve no net loss of biodiversity (as detailed in our response below) and there will be delays of many

decades before those habitats attain comparable ecological functionality to the (non-irreplaceable) habitats lost.

This rapid landscape-scale habitat destruction and fragmentation is likely to result in significant impacts to many groups of species including water voles, reptiles, invertebrates and some bird populations, as their ability to feed, reproduce and disperse is compromised making them more vulnerable to local extinctions.

There are a number of specific issues we would like to raise which we have set out in our response below. These focus on:

- **Habitat connectivity and scale of losses** particularly regarding core sites and ecological networks
- **Biodiversity Net Gain** - the shortfall in habitat creation which is required to achieve a net gain in biodiversity for replaceable habitats and the knock on impacts this will have on several groups of species.
- **Data issues** –lack of transparency and the use of outdated/inaccurate datasets relating to Local Wildlife Sites; the undervaluing of certain species and habitats in a Cheshire context
- **Impact on Great Manchester Wetlands Nature Improvement Area** including impacts on peatlands
- **Hulseheath to Manchester airport** Community Area MA06
- **Species impacts**
- **Site specific information** including direct impacts to 55 Local Wildlife Sites or potential Local Wildlife Sites.

1. Habitat connectivity and scale of losses

Developing a Nature Recovery Network to reconnect fragmented wildlife habitats underpins the Environment Act and is at the heart of the government's 25 Year Environment Plan, yet the proposals for HS2 appear to do the exact opposite by destroying core sites and severing ecological connectivity particularly along hundreds of hedgerows and small watercourses. Although HS2 have recognised the importance of core sites and ecological networks (paragraph 6.3.6 Route wide impacts) they have not considered or even referenced the published Cheshire Region Ecological Networks completed by Cheshire West and Chester Council in 2016 and Cheshire East Council in 2017.

a) Impacts on core sites of the ecological network

According to Professor Sir John Lawton¹ core sites are areas of high nature conservation value which form the heart of an ecological network. They contain habitats that are rare or important because of the wildlife they support or the ecosystem services they provide. They generally have the highest concentrations of species or support rare species.

The Phase 2b scheme in Cheshire, Warrington and Trafford is set to directly impact or destroy 43 core sites (LWSs and SBIs) and up to 5 indirectly. It will also impact up to 21 potential Local Wildlife

¹Professor Sir John Lawton 'Making Space for Nature', a 2010 government review

Sites. These sites along with other core sites are the building blocks of the Cheshire Region Ecological network².

The Cheshire Wildlife Trust strongly objects to the impacts to all 43 core Local Wildlife Sites/SBIs. Some of the most damaging impacts include:

- the complete or partial destruction of Ashley Brickworks LWS, Birkin brook LWS, Mossbridge Marsh LWS, Bank Hall Farm Flush LWS, Silver Lane Ponds LWS and Sugar Brook grassland LWS;
- extensive damage to 18 ancient irreplaceable woodlands (some of which are locally designated) including but not limited to: Hancock's Bank South LWS, Davenport Green SBI, Ryecroft Covert LWS, Wood near Arden House LWS, Sugar Brook LWS and Mill Wood/Castle Mill SBI, Winnington and Peas Wood LWS, Leonards and Smoker wood LWS, Coroners wood SBI.

The Cheshire Wildlife Trust suggests that many of these impacts are wholly avoidable particularly where they are due to temporary works or road diversions. We ask that HS2 look again at the route and prioritise avoiding these impacts.

Other than for ancient woodland soils there are no stated plans to translocate any of the higher value habitats. Translocation may help species to recolonise other areas when the habitats are impacted. We are disappointed that HS2 have no plans to translocate habitat from most of the core sites impacted.

b) Impacts on the corridors and stepping stones of the ecological network

Corridors and stepping stones (as identified in the 'Making space for nature' review 2010) are likely to be important in maintaining the conservation status of a range of habitats and species. These networks benefit the species and habitats for which sites are designated and a wide range of other species that use them for migration and dispersal.

The Cheshire region ecological network³ is closely aligned to existing watercourses as banks of rivers, streams and ditches often provide semi-natural habitat that may be missing from many farmed areas. The scheme will likely impact hundreds of kilometres of small watercourses and ditches, many of which will be priority habitat but there is no assessment of this within the ES. The ES states that the culverting or realignment of these smaller watercourses will be mitigated or compensated, yet no details are provided. A mammal ledge in a culvert longer than 30 metres⁴ is ineffective and is not suitable replacement for the loss or degradation of riparian and in-channel habitat but this appears to be the only mitigation provided in most cases. CWT is particularly concerned about impacts to water vole, kingfisher, fish, terrestrial invertebrates and aquatic invertebrates when watercourses are culverted or realigned.

² Ecological Network for Cheshire East (2017), Ecological Network for Cheshire West and Chester (2016) and Wildlife Corridors identified in Neighbourhood Plans (Cheshire East, Cheshire West and South Manchester 2015-present)

³ Ecological Network for Cheshire East (2017), Ecological Network for Cheshire West and Chester (2016) and Wildlife Corridors identified in Neighbourhood Plans (Cheshire East, Cheshire West and South Manchester 2015-present)

⁴ Dean et al, The water vole mitigation handbook 2016

An area of particular concern with regards to watercourse connectivity is MA03, especially where the MA06 Hulseheath to Manchester Airport branches from the MA03 Pickmere to Agden and Hulseheath section. This area has numerous impacted ditches and watercourses including the Agden brook and its tributaries. Agden brook runs through Millington Clough where a population of water voles is present on a Cheshire Wildlife Trust owned nature reserve. It is likely that the water vole population will be using the network of watercourses due to be directly impacted by the scheme.

The destruction of 323 km of the hedgerow network is particularly concerning as there is no compensation planned for 214 km of this (a net loss of 214 km). Newly created hedgerows will take many decades to provide the same foraging/shelter opportunities as existing species-rich hedgerows. This means that species such as bats, small mammals and birds such as yellowhammer and tree sparrow will be impacted for a prolonged period of time and potentially the local populations may never recover completely.

c) Percentage losses

Phase 2b will result in the loss of approximately 45.45 ha species rich or marshy grassland in Cheshire⁵. The total area in Cheshire according to the Natural England Priority Habitat Inventory is 656 ha (good quality semi-improved neutral grassland). Phase 2b therefore represents a 7% loss of the total resource making this significant at a regional scale.

Phase 2b will result in the loss of approximately 45.447 ha woodland in Cheshire⁶. The total area of native woodland in Cheshire according to the Natural England Priority Habitat Inventory is 8853 ha. Phase 2b therefore represents a 0.51% loss of the total resource.

2. Biodiversity Net Gain

We are disappointed that HS2 has not released any information relating to the calculation of Biodiversity Net Gain within the Environmental Statement, meaning it is not possible to assess the scale of the impacts on biodiversity. We understand that the calculations will change as the scheme develops however it is important that (as a very minimum) the areas of habitat losses and gains are provided in a meaningful way rather than being buried in 12 different documents within the ES collection.

In the absence of BNG assessments we have calculated the replacement ratio required to ensure a minimum of No Net Loss of biodiversity for Lowland mixed deciduous woodland and neutral grassland priority habitat. We have done this using the methodology set out in *Biodiversity Methodology and Results (HS2 Ltd 2017)*. If this ratio is used as a guide to inform the amount of habitat creation it will help to minimise the residual significant effects listed in the 'Ecological Registers of local effects'.

⁵ Excluding losses in MA04, MA05 and MA07

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- *Semi-natural woodland, replacement ratio required to achieve NNL 1:4.52*
This does not include ancient woodland which is an irreplaceable habitat.
- *Species-rich grassland, replacement ratio required to achieve NNL 1:2.1*

The justification for the above figures is set out in the appendix.

HS2 have committed to achieving Biodiversity Net Gain for Phase 2b. BNG calculations will be undertaken to highlight whether the scheme will result in a BNG overall. Initial calculations show that HS2 are some way off achieving BNG for lowland mixed deciduous woodland, which is the only habitat where figures of losses and gains have been provided.

Table 1. Biodiversity metric calculations for Lowland mixed deciduous woodland in Phase 2b

Habitat type	Area of habitat lost (ha)	Biodiversity unit value of habitat lost (bu)	Area of habitat created (ha)	Biodiversity unit value of created habitat (bu)	Net change (bu)	Percentage net change
Lowland mixed deciduous woodland (non-irreplaceable)	86.748	1040.9 ⁷	138.2	366.6 ⁸	-674.37	-64.78%

It is our understanding that much of the 138.2 ha will be used as compensation for ancient woodland and not non-irreplaceable habitat, so the actual percentage loss is currently greater than 64.78%.

It is clear that there are currently considerable shortfalls of woodland habitat provision. As a consequence there are likely to be long-term significant residual impacts on many groups of species that rely on woodlands including bats and potentially birds such as lesser spotted woodpecker, bullfinch and willow tit.

3. Data issues

a) Lack of transparency and inaccurate reporting

The information relating to losses and gains of habitat provided in Volume 2 of the ES is inaccurate and misleading. It is unacceptable that losses and gains for each community area are not provided in a tabular format. The way HS2 have chosen to portray this information is opaque. Some of the information is duplicated under 'impacts to designated sites' but the approach is inconsistent. CWT has attempted to bring all the information together in the table below, however we have had to

⁷ Assumed high distinctiveness and moderate condition

⁸ Assumed high distinctiveness and moderate condition

estimate some figures by extracting this information from written text in at least 12 different documents. Notably the number or length of impacted watercourses is not reported. This lack of transparency and accountability is completely unacceptable.

Table 2 A breakdown of habitat loss by community area and habitat type

Community Area	Ancient woodland (ha)	Other woodland - district level + impacts (ha)	Woodland - local impacts (ha)	Neutral or marshy grassland (ha)	Semi-improved poor grassland (ha)	Hedgerow (km)	Direct impact on watercourse (excluding ones with viaducts)	Impacted or lost Ponds	Veteran trees
MA01	N/A	1.99	0.524	9.14	26.3	28	2+	21	Several
MA02	1.339	9.255 estimate	4.139	4.209	91.4	88.9	Multiple	70	13 minimum
MA03	0.3	4.7	1	0.1	79	68	Multiple	109	2 minimum
MA04	0.5	7.8	4.9	?	41.7	37.7	Multiple	21	2
MA05	N/A	15.94	16.2	7.7	87	41.9	Several	60	
MA06	3.3	15.2	3.7	32 ha estimate	111.7	58.1	7 known plus others	52	7 minimum
MA07	N/A	1.4	-	0.4	5.8	0.616	1	-	1
Totals	5.439	56.285	30.463	53.549	442.9	323.216	Not known	333	25 minimum

b) Undervaluing of species and habitats in a Cheshire context.

Our analysis of the ES has led us to conclude that HS2 Ltd. has undervalued some species and habitats. The following resources/features would meet the criteria⁹ for selection as a Local Wildlife Site so are considered to be of county value. We ask that HS2 Ltd. amend their valuations accordingly:

⁹ Over 42 professional ecologists, environmental planners and expert local naturalists input into the criteria. The outcome of this work was the production of the Local Wildlife Site criteria for the Cheshire region. This document describes which habitats and species should be recognised as being of county value

Table 3 Importance values for particular species or habitats

Feature	Status	Level of county value importance¹⁰	Importance attributed by HS2 Ltd.
Slow worm	UK species of Principal Importance	Significant populations of slow worm	Up to district/borough
Whiteletter hairstreak butterfly	UK species of Principal Importance	Probable breeding populations	Up to district/borough
Dingy skipper butterfly	UK species of Principal Importance	Probable breeding populations	Up to district/borough
Wall butterfly	UK species of Principal Importance	Probable breeding populations	Up to district/borough
Small Heath butterfly	UK species of Principal Importance	Probable breeding populations	Up to district/borough
Lowland acid grassland at Coppenhall	UK habitat of Principal Importance	All areas	Up to district/borough

References in the ES to water voles being ‘widespread and locally common in Cheshire’ should be removed as these have been taken from an outdated Biodiversity Action Plan document which is no longer available online. A study in 2011 concluded that water voles may have been lost from up to 56% of previously occupied sites within the Northwest Lowlands between 2001 and 2011 (Powell and Milburn 2011).

c) The use of outdated and incomplete Local Wildlife Site (LWS) data

It is unacceptable that HS2 Ltd. have used out-of-date datasets for Local Wildlife Sites. This is despite CWT sending the revised Local Wildlife Site boundaries to HS2 Ltd. in September 2021. Boundaries of potential Local Wildlife Sites (pLWS) were also sent at this time. Potential Local Wildlife Sites are sites which are awaiting designation as LWSs and should be considered in the same way as Local Wildlife Sites in the planning system.

Failure to use the correct dataset has resulted HS2 not recognising the loss of three LWSs listed below. This has most likely resulted in the provision of less compensatory habitat than would have been the case if the correct information had been used.

- **Birkin Brook grassland LWS** (SJ 7582 8445) designated in 2020. There will be a loss of approximately 8.29 ha of neutral grassland. Compensatory habitat creation is approximately 6.6 ha
- **Sugar Brook grassland LWS** (SJ 775 831) designated in 2020. There will be a loss of approximately 9.42 ha of neutral grassland. Compensatory habitat creation is approximately 6.4ha

¹⁰ According to the Local Wildlife Site Criteria for the Cheshire Region 2014

- **Bank Hall Farm Flush grassland LWS** (SJ 6836 6789) designated in 2020. There will be a loss of approximately 5.02 ha of neutral and marshy grassland. Compensatory habitat creation is approximately 0.615 ha

Failure to acknowledge potential Local Wildlife Sites in the assessment process is inconsistent with the Phase 2a evaluation process when the Staffordshire equivalent (Biodiversity Alert Sites) were considered. Potential Local Wildlife Sites are highly likely to support habitat of principal importance and should have been treated in the same way as Local Wildlife Sites. Twelve pLWS are directly impacted by the scheme and a further 9 lie immediately adjacent and may be impacted indirectly through disturbance, fragmentation, lighting, hydrology changes.

Sean Hawkins meadow pLWS on the Agden brook is one such site and it is also a Cheshire Wildlife Trust Nature reserve which supports a population of water voles as well as woodland and grassland. There is no habitat creation planned to specifically compensate for the loss of the nature reserve and there are no current plans to trap, relocate or exclude the water voles during the construction process. This is unacceptable and is in part due to HS2 failing to use the relevant datasets.

4. Nature Improvement Area incorporating Holcroft, Hoyles, Pestfurlong and Glazebrook mosses.

We are particularly concerned about the effect the scheme will have on the wider peat-body that incorporates Holcroft, Hoyles, Pestfurlong and Glazebrook mosses. The whole area lies on a body of deep peat which is an integral part of the Great Manchester Wetlands Nature Improvement Area. Part of the NIA is designated as the Manchester Mosses SAC for its internationally important remnant lowland raised peat bogs (such as Holcroft moss) and the rare or notable species these support.

As well as supporting nationally rare invertebrate populations and many species of Principal Importance (such as reptiles) the area also supports a breeding bird population of 'county importance' (BID EC-009-00001). Most notably globally 'near threatened' curlew but also oystercatcher, skylark and lapwing. These are all BoCC red or amber listed species which were breeding on the peat-body within or immediately adjacent to the proposed scheme and outside the designated sites. Wintering bird populations identified by HS2 included high numbers of BoCC red-listed fieldfare, redwing, starling and amber-listed snipe (a rare species in Cheshire). The scheme (including the tree planting) will significantly reduce the area of damp, peaty soils these species are dependant upon.

The area north of the M62 exceeds the selection criteria for Local Wildlife Site qualification for its bird populations and consequently we will be recommending to Warrington Borough Council that the area is designated as a LWS in 2022.

Further damage of the peat body through HS2's construction/tree planting undermines future restoration potential for biodiversity or carbon sequestration and destroys an important natural capital resource. Furthermore tree planting on deep peat is likely to result in permanent elevated greenhouse gas emissions caused by drying of the peat-body. Planting woodland on deep peat is in conflict with Forestry Commission UK Forestry Standard which states '*Avoid establishing new forests on soils with peat exceeding 50 cm in depth and on sites that would compromise the hydrology of*

adjacent bog or wetland habitats'. Tree planting will also further destroy important open, habitat required by the 'county importance' bird populations listed above.

The Government's Net Zero: Build Back Greener Strategy (2021) and the England Peat Action Plan (2021) also advise against development on deep peat. Indeed the Government's England Peat Action Plan 2021 (page 24) sets out '*Some areas of peatland are potentially susceptible to development pressure and it is vital that planning policies reflect the importance of managing peatlands and avoid detrimental climate, water and biodiversity impacts from development.*' It goes on to say '*We want to help ensure that further steps are taken through policy and guidance to protect peatlands, including those which are damaged but recoverable, from potentially damaging development that would hinder restoration and recovery of the habitats and species.*'

Peatlands are a finite natural capital resource and should be protected and restored. The Environmental Statement has failed to identify the importance of this area and fails to acknowledge there will be a significant fragmentation impact to the Great Manchester Wetlands NIA and unmitigated significant residual impacts to breeding and wintering birds.

This area should sit at the very heart of the region's forthcoming Local Nature Recovery Strategy, but instead connectivity will be further severed by the scheme and completely inappropriate habitat creation proposals. At the very least we would have expected to see plans to help reconnect Holcroft moss with neighbouring remnant mosslands supporting the bigger, better, more and joined ethos of Nature Improvement Areas.

5. Hulseheath to Manchester airport Community Area MA06

Hulseheath to Manchester Airport (Community Area MA06) is where there are going to be the most significant impacts to ancient woodlands and grassland priority habitat. Here there are impacts to at least 10 ancient woodlands (total loss of 3.3 ha) and potentially indirect impacts on several more. There will be a further loss of approximately 18.9 ha of non-ancient woodland.

There are also complete losses of at least 3 grassland/wetland Local Wildlife Sites. These are Ashley brickworks, Sugar Brook grasslands and Birkin brook grasslands. In total a loss of approximately 32 ha of priority neutral or marshy grassland habitat will be lost in MA06 representing 4.87% of the total Cheshire resource.

The scale of the losses and the impacts to biodiversity in this area is unprecedented even when the past developments at Manchester airport are taken into account. The remaining ancient woodlands and species-rich grasslands are already highly fragmented and HS2 is set to compound the damage done by past development.

6. Species

HS2 are compensating for the impacts on many species through the creation of compensatory habitat, however maturation of some replacement habitats will take many decades¹¹. In the interim period there will be a loss of ecosystem functionality as these habitats are unlikely to be suitable for

¹¹ According to the HS2 biodiversity metric the Lowland mixed deciduous woodland takes 30 years + to mature and species-rich grassland approximately 10 years

many species. For example invertebrates often have very specific host species which may not be present in new habitats. Any reduction in invertebrate numbers is likely to have knock-on impacts on bats, birds, mammals, amphibians and reptiles.

This delay in ecosystem functionality has been recognised by HS2 in relation to habitat linkages for bats (Paragraph 6.5.9 in Route wide impacts¹²), but its significance is dismissed for all other species. It is vitally important that habitat creation is started in advance of the losses to ensure species are able to survive the large-scale rapid habitat losses that will occur when construction starts.

a) Water vole

One of the species that could be most affected by habitat fragmentation is the water vole, a UK Priority species and listed on Schedule 5 of the Wildlife and Countryside Act 1981. Water voles are one of the fastest disappearing mammals in the UK; the likely reasons for this include fragmentation and contraction of remaining populations due to habitat loss and habitat degradation. An unprecedented, rapid decline in the local water vole population is one of the most pressing conservation concerns in the Cheshire region at the moment.

Water voles are present in several locations within or adjacent to the Phase 2b scheme including Agden brook, Bollin/Old Bollin, Silver Lane ponds and Glazebrook. Mitigation for impacts on water vole populations is not apparent other than ‘an appropriately designed culvert or dry tunnel’ to allow mammal passage. An appropriately designed culvert for water voles should be no more than 30-35m long¹³. It is highly unlikely that culverts in the Millington Clough/Agden brook tributaries area (with an extant water vole population) will be less than 30m and will consequently cause a permanent barrier and potentially a significant effect at the county level.

In addition to appropriately designed culverts water voles require at least an equivalent area of adjacent compensatory riparian habitat to move into during the construction period when their habitat is removed, otherwise the population will need to be translocated. There is no reference to this in the ES.

b) Breeding and overwintering birds

CWT has particular concerns relating to the impact the scheme will have on breeding and overwintering birds, especially those that forage or nest in open habitats and are considered Priority or notable species.

HS2 Ltd. must take into consideration the most recent population data (available from the BTO) in order to value populations correctly. There is no evidence that the significance of bird assemblages assigned by HS2 is based upon population assessments, meaning any long-term impacts caused by the loss or modification of habitats may be underestimated.

Where there are recognised county level impacts (such as in MA05) there are no measures to compensate for the loss. It is incorrect to assume that these birds will return once the scheme is

¹² ‘Proposed planting will not be sufficiently mature to provide habitat linkages immediately and therefore there is the potential for significant temporary adverse effects on bat populations until those habitats establish.’

¹³ Dean et al, The water vole mitigation handbook 2016

operational as their habitats will have been modified. It is also incorrect to assume the birds will disperse into adjacent areas as these may not be suitable (for example intensively farmed pasture).

Outstanding residual impacts on birds of open farmland should be acknowledged in the Environmental Statement. At the moment that information is missing.

7. In conclusion

- The Cheshire Wildlife Trust would like to see a minimum commitment of Net Gain for each priority habitat impacted, this should also include linear priority habitats (hedgerows and watercourses).
- We ask that HS2 look again at the route and prioritise avoiding impacts on core sites of the ecological network, especially ancient woodland and neutral grassland.
- We would like to see better transparency in the reporting process and a release of the biodiversity net gain report as soon as possible.
- We would like a commitment from HS2 to translocate important habitats other than ancient woodland soils and some important hedgerows. At the very least habitat should be translocated when it supports rare flora or rare invertebrates.
- We would like to see details of specific commitments for species mitigation, including but not limited to: water vole, reptiles, bird populations of county significance, white clawed crayfish and other notable invertebrates.
- HS2 needs to release details of their ancient woodland mitigation strategy as soon as possible.
- There needs to be a bespoke mechanism to compensate for the loss of a Cheshire Wildlife Trust nature reserve that recognises the wider benefits the reserve provides.
- There needs to be recognition and appropriate compensation for the 3 Local Wildlife Sites missing from HS2's assessments.
- It is vitally important that habitat creation is started in advance of the losses to ensure species are able to survive the large-scale rapid habitat losses that will occur when construction starts.
- Finally we request that HS2 acknowledge there will be additional residual impacts, particularly on watercourses, birds and the impacts considered to be 'local effects' (for example invertebrates) to be addressed through a route-wide integrated approach secured through biodiversity net gain.

Rachel Giles

31/03/22

Table 4: The sites of most concern within Cheshire

Area	Site	Status	Impact	Constituency	Central grid ref. or points of impact
MA01	Mere Gutter with Basford Brook	LWS	Direct	Crewe and Nantwich, CE	
MA01	Crewe Station Sidings	pLWS	Direct	Crewe and Nantwich, CE	
MA01	Winton Equestrian Centre	pLWS	Direct	Crewe and Nantwich, CE	SJ70755822
MA01	Mossbridge Marsh	LWS	Direct	Crewe and Nantwich, CE	SJ 701 586 (East parcel) SJ 698 586 (West parcel)
MA01	Mossbridge Marsh	pLWS	Direct	Crewe and Nantwich, CE	SJ 700586, SJ 700 588
MA01	Moss Lane meadow	pLWS	Indirect	Crewe and Nantwich, CE	SJ 693 588
MA01	Spring Plantation Grassland	LWS	Direct	Eddisbury, CE	SJ6971958740 to SJ6954158778
MA01	Burnt Covert	pLWS	Immediately adjacent	Eddisbury, CE	SJ69196031
MA01	Larch Wood	pLWS	Small sliver impacted	Eddisbury, CE	SJ69106014
MA01/02	Wimboldsley Hall orchard	pLWS	Indirect	Eddisbury, CWAC, CE	SJ 680 622
MA02	Shropshire Union Canal (Middlewich branch)	LWS	Direct	Eddisbury, CWAC	SJ 685 655 SJ 681 650 SJ 678 647
MA02	Rookery/ Small Wood	LWS	Direct	Eddisbury, CWAC	SJ 676 636
?	CHES0421 Orchard near Lea House Farm	pLWS	Indirect	CWAC	SJ 688 645
MA02	Wood nr Lea Hall	LWS	Adjacent	Eddisbury, CWAC	SJ 677 642
MA02	The Willowbeds	LWS	Adjacent	Eddisbury, CWAC	SJ 67482 67051
MA02	Bostock Road Orchards	LWS	Direct	Eddisbury, CWAC	SJ 68556703
MA02	Greenhayes Farm Pasture and woodland	LWS	Direct	Eddisbury, CWAC	SJ68596702
MA02	Veteran Ash tree Bank Farm	LWS	Direct	Eddisbury, CWAC	SJ 684 672
MA02	Bank Hall Farm Flush	LWS	Direct	Eddisbury, CWAC	SJ68366789
MA02	River Dane, Bostock	LWS	Direct	Eddisbury and Tatton, CWAC	SJ 684 673 SJ 684 680 SJ 683 681 SJ 683 687
MA02	Bull's Wood and Grassland	AWI/ LWS	Direct	Eddisbury, CWAC	Tip of Bull's Wood: SJ 68334 68176
MA02	Trent and Mersey Canal, Whatcroft to Middlewich	LWS	Direct	Eddisbury, CWAC & Tatton, CWAC	SJ 683 688
MA02	Puddinglake Brook Wood	LWS	Direct	Tatton, CWAC	SJ 683 701
MA02	Whatcroft Lane wetlands	LWS	Direct	Tatton, CWAC	SJ 684 708
MA02	Veteran Ash trees on Trent and Mersey Canal	LWS	Direct	Tatton, CWAC	SJ 683 708 SJ 682 709
MA02	Pear Tree Farm Orchard	LWS	Direct	Tatton, CWAC	SJ68587147
MA02	Pear Tree Farm grassland	pLWS	Direct	Tatton, CWAC	SJ 687 715
MA02	Pear Tree Farm grassland	pLWS	Indirect	Tatton, CWAC	SJ 687 716
MA02	Marshall's Gorse	pLWS	Direct	Tatton, CWAC	SJ68617182
MA02	Rudheath Lime Beds	pLWS	Direct	Tatton, CWAC	SJ 689 735
MA02	Lostock House orchard	pLWS	Indirect	Tatton, CWAC	SJ 701 731
MA02	Wade Brook	LWS	Direct	Tatton, CWAC	SJ 689 743
MA02/MA03	Long wood	LWS	Direct	Tatton, CWAC (the east end of the site lies in Tatton, CE)	
MA02/MA03	Winnington Belt Wood	pLWS/AWIS	Indirect	Tatton, CE	SJ70217539
MA02/MA03	Winnington and Peas Wood	LWS/AWI	Direct	Tatton, CWAC	
MA02/MA03	Leonards and Smokers Wood	LWS/AWI	Direct	Tatton, CEC & CWAC	
MA02/MA03	Roadside Verge near Holford Farm pLWS	pLWS	Indirect	Tatton, CEC	SJ70537568
MA03	Arley and Waterless Brook Corridor	LWS	Direct	Tatton, CEC	SJ 707 786
MA03	Tabley Pipe Wood	LWS	Indirect	Tatton, CEC	

Area	Site	Status	Impact	Constituency	Central grid ref. or points of impact
MA03	Bongs Wood and Rough	LWS/AWI	Direct	Tatton, CEC	SJ 703 795 SJ 702 795
MA03	Belt Wood	LWS	Direct	Tatton, CEC	
MA03	Sean Hawkins Meadow (Agden Brook)	pLWS	Direct	Tatton, CEC	SJ 725 843
MA04	Fox covert and meadows	SBI	Direct	Trafford	
MA04	Onion Farm orchard	N/A	Indirect	Trafford	SJ 709 893
MA04	Villa Farm orchard	N/A	Indirect	Trafford	SJ 709894
MA04	Millbank Hall Woodland (by Red Brook)	AWI (Coroner's Wood)	Direct	Trafford	SJ70109082
MA05	Gorse Covert Mounds	LWS	Direct	Warrington	
MA05	Silver Lane Ponds	LWS	Direct	Warrington	
MA05	Eleven Acre common	LWS	Direct	Warrington	SJ 642 953
MA06	Agden Brook	pLWS	Direct	Tatton, CEC	SJ72518461
MA06	Millington Lane Wood	pLWS	Direct	Tatton, CEC	SJ72628484
MA06	Rushy Pits Covert	pLWS	Indirect,	Tatton, CEC	SJ73048497
MA06	Yarwood Heath Covert	LWS	Direct	Tatton, CEC	SJ 744853
MA06	Hancock's Bank South	AWI/LWS	Direct	Tatton, CEC	SJ 754 846
MA06	Hancock's Bank North	LWS/AWIS	Indirect	Tatton, CEC	
MA06	Ryecroft Covert	LWS	Direct	Tatton, CEC	
MA06	Birkin Brook	LWS	Direct	Tatton, CEC	SJ75828445
MA06	Birkinheath Covert	LWS	Direct	Tatton, CEC	SJ 762837
MA06	Woods near Arden House	LWS/AWI	Direct	Tatton, CEC	SJ 773 835
MA06	Ashley Brickworks (formerly known as Erlam's Meadow)	LWS	Direct	Tatton, CEC	
MA06	Sugar Brook grassland	LWS	Direct	Tatton, CEC	SJ 775 831
MA06	Sugar Brook	LWS	Direct	Tatton, CEC	SJ 776 827
MA06	Sugar Brook extension	pLWS	Direct	Tatton, CEC	SJ 770 851
MA06	Ecclesfield Wood	LWS	Direct	Tatton, CEC	
MA06	Brickhill wood	LWS/AWIS (PAWS)	Direct	Tatton, CEC	
MA06	Thorns Green Sycamore	pLWS	Direct Or Indirect	Tatton, CEC	SJ79238409
MA06	Thorns Green Oak	LWS	Direct	Tatton, CEC	SJ79278413
MA06	Mill Wood Castle Mill	LWS	Direct	Tatton, CEC	SJ 794842
MA06	Sunbank Wood and Ponds	SBI/AWIS	Direct	Manchester, Stockport Altrincham and Sale, Trafford	

Area	Site	Status	Impact	Constituency	Central grid ref. or points of impact
MA06	Wood near Chapel Lane	SBI	Direct	Manchester, Stockport Altrincham and Sale, Trafford	
MA06	Davenport Green wood	SBI/AWIS	Direct	Manchester, Stockport Altrincham and Sale, Trafford	
MA06	Rossmill	SBI/ AWI	Indirect	Manchester, Stockport Altrincham and Sale, Trafford	SJ 792845
MA06	Grassland and Ponds	N/A (because located in Greater Manchester)	Direct	Manchester, Stockport Altrincham and Sale, Trafford	SJ80748667 (this region)

Table 5: Impact on SSSIs

Area	Site	Status	Impact	Constituency
MA04/MA05	Holcroft Moss	SSSI/Part of Manchester Mosses SAC	Direct	Warrington
MA03/MA06	Rostherne Mere Ramsar site	SSSI/RAMSAR	Direct	Tatton, CEC
MA02	Wimboldsley Wood	SSSI	Indirect	Eddisbury, CWAC
MA02/MA03	Plumley Lime Beds	SSSI	Direct	Tatton, CEC

Appendix

- **Woodlands.** To achieve no net loss of biodiversity using the HS2 metric¹⁴ a ratio of **1:4.52** hectares of semi-natural plantation woodland will be required. This assumes an existing distinctiveness value of 6 and an average existing condition score of 2 (moderate condition) for the priority habitat lost (12u/ha). Time to achieve good condition for plantation woodland is assumed to be 32+ years (x0.33) and difficulty is medium (x 0.67). It also assumes that the baseline habitat losses are accounted for in the wider metric.
- **Grassland – species rich.** To achieve no net loss in biodiversity using the HS2 metric¹⁵, a replacement ratio of **1:2.1** is required. This assumes an existing distinctiveness value of 6 and an average existing condition score of moderate (2) for the priority habitat lost (12u/ha), or a distinctiveness value of 4 and a condition score of 3 (12u/ha). Time to achieve moderate condition priority habitat is assumed to be 10 years (x 0.71) and difficulty is medium (x 0.67). It also assumes that the baseline habitat losses are accounted for in the wider metric.

¹⁴ The HS2 metric is an accounting metric and does not consider the biodiversity value of the baseline habitat

¹⁵ The HS2 metric is an accounting metric and does not consider the biodiversity value of the baseline habitat