

High Speed Rail (West Midlands - Crewe)

Environmental Statement

Volume 5: Technical appendices

CA1: Fradley to Colton

Ecology register of local level effects (EC-016-001)



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Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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1 Introduction

- 1.1.1 This document is an Appendix to the ecological assessment. Table 1 provides a summary of anticipated local/parish level adverse effects on ecological receptors arising from the construction and operation of High Speed Rail (West Midlands – Crewe) for the Fradley to Colton community area (CA1).
- 1.1.2 This document should be read in conjunction with:
- Volume 2, Community area reports;
 - Volume 3, Route-wide effects assessment;
 - Volume 4, Off-route effects assessment; and
 - Volume 5, Appendices.
- 1.1.3 See Volume 5, Appendix EC-001-000 and the Ecology Map Book (Map Series EC-01), for ecological designated sites, and Appendices EC-017-001 to EC-017-005 for Habitats Regulations Assessment screening reports.
- 1.1.4 In addition, the ecological baseline data used for the ecological assessment is set out in Background Information and Data (BID)¹, (see BID-EC-002-000 to BID-EC-014) and the BID Ecology Map Books (Map Series EC-02 to EC-12) showing habitats and species recorded along the proposed route. The full list of ecological baseline data reports is as follows:
- Ecological baseline data - phase 1 habitat survey (Background Information and Data: BID-EC-002-000);
 - Ecological baseline data - protected and or notable flora (Background Information and Data: BID-EC-003-000);
 - Ecological baseline data - national vegetation classification and ancient woodland (Background Information and Data: BID-EC-004-000);
 - Ecological baseline data - hedgerows (Background Information and Data: BID-EC-005-000);
 - Ecological baseline data - river habitat, river corridor, and ditch surveys (Background Information and Data: BID-EC-006-000);
 - Ecological baseline data - amphibian and pond surveys (Background Information and Data: BID-EC-007-000);
 - Ecological baseline data - reptiles (Background Information and Data: BID-EC-008-000);
 - Ecological baseline data - breeding and wintering birds (Background Information and Data: BID-EC-009-000);

¹ HS2 Ltd (2017), *High Speed Two (HS2) Phase 2a (West Midlands - Crewe), Background Information and Data*, www.gov.uk/hs2

Appendix EC-016-001

- Ecological baseline data - otter and water vole (Background Information and Data: BID-EC-010-000);
- Ecological baseline data - hazel dormouse (Background Information and Data: BID-EC-011-000);
- Ecological baseline data - bats (Background Information and Data: BID-EC-012-000);
- Ecological baseline data - white clawed crayfish and other invertebrate (Background Information and Data: BID-EC-013-000); and
- Ecological baseline data - fish (Background Information and Data: BID-EC-014-000).

1.1.5 Note that baseline data for badger is not made publically available due to the historic persecution of this species.

Table 1: Summary of local/parish level adverse effects arising from the construction/operation of the Proposed Scheme within CA1

CA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes / No)
CA1	Biodiversity Alert Site (BAS)	Fradley Wood BAS	Construction	Construction of the Trent and Mersey Canal overbridge and Pyford embankment will result in the loss of approximately 0.5ha (2%) of the woodland within the BAS	Yes
CA1	BAS	Pipe Wood Lane BAS (hedge).	Construction	Construction of an access road from Pipe Lane to the Mavesyn Rideware Footpath 38 Accommodation overbridge will result in the loss of approximately 24m (6%) of the western end of the BAS	Yes
CA1	Woodland	Brokendown Wood (part of Fradley Wood BAS)	Construction	Construction of the Trent and Mersey Canal overbridge and Pyford embankment will result in the loss of approximately 0.5ha (13%) of the woodland	Yes
CA1	Woodland	Cranberry Wood - lowland mixed deciduous woodland	Construction	Permanent loss of 0.36ha (25%) as a result of construction of the Pyford South embankment	Yes
CA1	Woodland	Woodland west of Woodend Common Barn	Construction	Permanent loss of 0.0035ha (0.1%) as a result of construction an access road	Yes
CA1	Woodland	Rice's Spinney - lowland mixed deciduous woodland	Construction	Permanent loss of 1.14ha (100%) as a result of construction of the Pyford North embankment	Yes
CA1	Woodland	Woodland at Woodgate north of Crawley Lane - young mixed woodland	Construction	Assumed loss of 0.54ha (100%) as a result of the construction area for re-tensioning of existing overhead powerlines	Yes
CA1	Woodland	Woodland along Bourne Brook - young mixed woodland	Construction	Assumed loss of 1.148ha (100%) as a result of the construction area for re-tensioning of existing overhead powerlines	Yes

CA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes / No)
CA1	Woodland	Shaw Lane Farm Wood - lowland mixed deciduous woodland	Construction	Permanent loss of 0.48ha (66%) as a result of construction of the Proposed Scheme and Shaw Lane realignment	Yes
CA1	Woodland	Woodland West of Shaw Lane - lowland mixed deciduous woodland	Construction	Permanent loss of 0.55ha (100%) as a result of construction of the main railway and Blithbury South cutting	Yes
CA1	Woodland	Small linear woodland between Blithbury Road and Stonyford Lane - lowland mixed deciduous woodland	Construction	Permanent loss of 0.59ha (100%) as a result of construction of the main railway and Manor Farm overbridge	Yes
CA1	Woodland	A small area of young broadleaved plantation woodland, east of track off Blithbury Road west of Rugeley	Construction	Permanent loss of 0.45ha (100%) of a small area, with an adjacent area not being affected, due to the construction of the national grid power line to Rugeley power station	Yes
CA1	Woodland	Woodland north-west Old Wood Farm No.2; west of Rugeley - lowland mixed deciduous woodland	Construction	Permanent loss of 0.23ha (100%) due to the construction of the national grid power line to Rugeley power station	Yes
CA1	Woodland	Woodland at land north of Rugeley Power Station - lowland mixed deciduous woodland	Construction	Assumed loss of 2.9ha as a result of the construction of the national grid power line to Rugeley power station	Yes
CA1	Woodland	Woodland at Rugeley Power Station – young lowland mixed deciduous woodland	Construction	Assumed loss of 2.3ha as a result of the construction of the national grid power line to Rugeley power station	Yes
CA1	Woodland	Hurst Wood - lowland mixed deciduous woodland	Construction	Permanent loss of 0.1 ha (7%) as a result of construction of a temporary construction route	Yes
CA1	Woodland	Hurstwood Pit - lowland mixed deciduous woodland	Construction	Permanent loss of 0.57ha (100%) due to a temporary material stockpile adjacent to Colton footpath overbridge and works	Yes

CA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes / No)
				associated with Blithbury Central cutting	
CA1	Woodland	Un-named wood east of Stockwell Heath - a broad-leaved plantation woodland	Construction	Permanent loss of 0.11 (42%) ha as a result of construction of access route and temporary public right of way (PRoW) diversion	Yes
CA1	Woodland	Un-named wood south of Stockwell Heath - a broad-leaved plantation woodland	Construction	Permanent loss of 0.14ha (100%) as a result of construction of an access route	Yes
CA1	Woodland	Unnamed wood north of Hamley House Farm – a broad-leaved woodland with a mature oak canopy	Construction	Permanent loss of 0.4ha (13%) as a result of construction of an access route and temporary soil stockpile	Yes
CA1	Woodland	Spencer's Plantation - a broadleaved semi-natural plantation woodland with a mature oak canopy	Construction	Permanent loss of 0.27h (23%) due to the construction of the Moreton South embankment	Yes
CA1	Grassland	Semi-improved neutral grassland throughout the Fradley to Colton	Construction	Permanent loss of approximately 16.3ha of semi-improved neutral grassland throughout the Fradley to Colton area	Yes
CA1	Grassland	Poor semi-improved grassland throughout the Fradley to Colton	Construction	Permanent loss of approximately 5.3ha of poor semi-improved grassland throughout the Fradley to Colton area	Yes
CA1	Grassland	Marsh/marshy grassland throughout the Fradley to Colton	Construction	Permanent loss of approximately 0.6ha marsh/marshy grassland throughout the Fradley to Colton area	Yes
CA1	Arable/Cultivated land field margins	Arable/Cultivated land field margins supporting rare or declining arable weeds throughout the Fradley to Colton area	Construction	Permanent loss of small areas of arable field margins supporting rare or declining arable weeds throughout the Fradley to Colton area	Yes

CA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes / No)
CA1	Watercourse	Ashby Sitch	Construction	Adverse effects on this smaller watercourse due to box culverts and re-alignments, resulting in loss of natural watercourse although greater lengths of re-aligned natural watercourse are being created	Yes
CA1	Watercourse	Crawley Brook	Construction	Adverse effects on this smaller watercourse due to box culvert and re-alignments, resulting in loss of natural watercourse at the location of the box culvert, although greater lengths of re-aligned natural watercourse are being created	Yes
CA1	Watercourse	Luth Burn	Construction	Adverse effects on this smaller watercourse due to box culvert, resulting in loss of natural watercourse. Additional watercourse being created to channel surface flow north of Pipe Ridware Embankment to join Luth Burn	Yes
CA1	Watercourse	Drain near Echills Farm	Construction	Permanent loss of approximately of 320m of large, partially culverted drain due to the A515 Litchfield Road re-alignment. Re-instatement to natural watercourse at former drain culvert location	Yes
CA1	Watercourse	Un-named watercourse south and south-west of Blithbury, a tributary of Bentley Brook	Construction	Re-alignment and installation of a drop inlet culvert, which will affect the connectivity of the watercourse due to the construction of the Proposed Scheme and associated haulage routes	Yes

CA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes / No)
CA1	Watercourse	Un-named watercourse west of Blithbury from Woodley Gate Lane	Construction	Re-alignment and installation of a drop inlet culvert, which will affect the connectivity of the watercourse due to the construction of the Proposed Scheme and associated haulage routes	Yes
CA1	Watercourse	Un-named tributary of the Moreton Brook through Stockwell Heath	Construction	Re-alignment and installation of a box culvert, due to the construction of the Proposed Scheme and Newlands Lane Overbridge	Yes
CA1	Watercourse	Un-named tributary of Moreton Brook, which crosses the B5013 Uttoxeter Road	Construction	Re-alignment and installation of a drop inlet culvert and box culvert, which will affect the connectivity of the watercourse due to the construction of the Proposed Scheme, the B5013 Uttoxeter Road realignment, and Moreton South embankment	Yes
CA1	Watercourse	Un-named tributary of the Moreton Brook, near Jonghams Cottage	Construction	Re-alignment and installation of a drop inlet culvert, which will affect the connectivity of the watercourse due to the construction of the Proposed Scheme and Moreton South embankment	Yes
CA1	Water bodies	Ponds throughout the Fradley to Colton area that are found, following further survey, to not qualify as habitats of principal importance i.e. through presence of notable flora and fauna	Construction	Partial or complete loss of pond habitats to land required for construction of the Proposed Scheme	Yes
CA1	Fish	Fish assemblage in the Bourne Brook	Construction	Fish assemblages in the Bourne Brook will be affected during the works to re-align the A515 Litchfield Road, which will result in the permanent loss of a section of the Bourne Brook due to a culvert, although the existing road alignment culvert will be removed and the watercourse in this location re-naturalised. The loss of a small section of watercourse due	Yes

CA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes / No)
				to culvert and temporary direct effects in channel during construction will result in an adverse effect on the fish assemblage that will be significant at up to the local/parish level. Indirect effects will not be significant as they will be controlled through the implementation of measures in the draft CoCP (see Volume 5: Appendix CT-003-000)	
CA1	Fish	Fish assemblages in the Moreton Brook	Construction	Fish assemblages in the Moreton Brook will be affected during the works to construct the Moreton Brook viaduct, due to the re-alignment of the Moreton Brook to go around a viaduct footing. This will result in a small loss of the existing watercourse channel, to be replaced by the diversion, and temporary direct effects in channel during construction. This will result in an adverse effect that will be significant at up to the local/parish level. Indirect effects will not be significant as they will be controlled through the implementation of measures in the draft CoCP (see Volume 5: Appendix CT-003-000)	Yes
CA1	Fish	Fish assemblage in Crawley Brook	Construction	Adverse effects on the fish populations due to installation of box culverts and watercourse realignment	Yes

CA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes / No)
CA1	Bats	Bat assemblage using land west of Blithbury	Construction	Construction of the Blithbury Central Cutting will result in the loss of one summer roost of common species (including common pipistrelle, brown long eared) and construction of the Blithbury Central Cutting and a temporary material stockpile will result in disturbance to two summer roosts located adjacent to the land required for the Proposed Scheme.	Yes
CA1	Bats	Bat assemblage roosting in buildings around Stockwell Heath	Construction	Construction of the Moor Lane diversion and Stockwell Heath embankment will result in disturbance to day roosts of brown long-eared bats and <i>Pipistrellus</i> species located adjacent to the land required for the Proposed Scheme and two further buildings with soprano pipistrelle roosts, located approximately 6m and 46m from the land required for the Proposed Scheme	Yes
CA2	Amphibians	Small populations of palmate newt, smooth newt, common frog and common toad within land required for the Proposed Scheme	Construction	Loss and fragmentation of breeding/foraging habitat and dispersal routes from construction activities	Yes
CA1	Birds	Breeding bird assemblage at Pipe Ridware floodplain	Construction	Construction of the River Trent viaduct and borrow pit will remove foraging and nesting habitat for breeding birds	Yes
CA1	Birds	Breeding bird assemblage at Moreton Meadows	Construction	Construction of the Moreton South embankment and Moreton Brook viaduct will remove foraging and nesting habitat for breeding birds	Yes

CA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes / No)
CA1	Birds	Winter bird assemblage at Pipe Ridware floodplain	Construction	Construction of the Moreton South embankment and Moreton Brook viaduct will remove habitat for wintering birds	Yes
CA1	Birds	Winter bird assemblage at Moreton Meadows, north-east of Bishton	Construction	Construction of the River Trent viaduct and borrow pit will remove habitat for wintering birds	Yes
CA1	Notable plant species	Bluebells near Trentside Meadows and within Hurst Wood	Construction	The construction of the Proposed Scheme will result in the loss of habitats supporting bluebells	Yes
CA1	Aquatic macro invertebrates	Assemblages of aquatic macro invertebrates have been identified within CA1 that support aquatic macro invertebrates of district/borough value. Such assemblage are associated within the Bourne Book and Crawley Brook	Construction	The temporary disturbance to these watercourses during construction will result in will decrease foraging and shelter opportunities for aquatic macro invertebrates. The loss of habitats represents a temporary adverse effect on the aquatic macro invertebrate assemblage	Yes
CA1	Polecat	Desk study records of polecat indicate its presence within CA1, particularly at Ravenshaw Wood, Black Slough and Slaish woods. It is assumed to be present at very low density throughout CA1 in suitable habitat	Construction and Operation	The construction of the Proposed Scheme will result in the loss of habitats including those potentially used by polecat should they be present in the area The operation of the Proposed Scheme may result in decreased connectivity in some areas, although wildlife movement is facilitated where viaducts are present, such that overall territories are not expected to be fragmented	Yes

CA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes / No)
CA1	Terrestrial invertebrates	Assemblages of terrestrial invertebrates have been identified within CA1 that support invertebrates of local importance, including at Trentside Meadows Local Wildlife Site (LWS)	Construction	The loss of habitats to the Proposed Scheme due to the River Trent viaduct will decrease foraging and shelter opportunities for terrestrial invertebrates. The loss of habitats represents a permanent adverse effect on the terrestrial invertebrate assemblage	Yes
CA1	Otter	Otter using suitable habitats present in this area	Construction	The construction of the Proposed Scheme will result in the loss of habitats terrestrial habitats and disturbance of otter.	Yes
CA1	Badger	A common and widespread species recorded during the survey period. Throughout CA1 this includes five main setts, within or adjacent to the Proposed Scheme, a further two main setts within 30m of the Proposed Scheme, and a further two main setts between 30-100m from the Proposed Scheme	Construction	The construction of the Proposed Scheme will result in the loss of badger setts, including main setts, and the loss of woodland, hedgerows, grassland and pond habitats that form a foraging resource for badger social groups	Yes
CA1	Reptiles	While no reptiles were identified during surveys of CA1 it is considered possible that small populations of common reptile species such as grass snake, slow worm and common lizard are present within field margins, scrub, woodland edge and rough grassland within the land required for construction of the Proposed Scheme	Construction	The construction of the Proposed Scheme will result in the loss of habitats including those potentially used by common reptile species if found to be present	Yes
CA1	Harvest mouse	Consultation from Staffordshire Wildlife Trust has identified Trentside Meadows as a key site for harvest mouse Potential populations of harvest mouse throughout the Fradley to Colton area	Construction	The construction of the Proposed Scheme will result in the loss of habitats including those potentially used by a key population of Harvest mouse if found to be present, and other potential populations throughout the Fradley to Colton area	Yes

CA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes / No)
CA1	European hedgehog	Potential populations of hedgehogs throughout the Fradley to Colton area	Construction	The construction of the Proposed Scheme will result in the loss of habitats used by hedgehogs.	Yes
CA1	Brown hare	Potential populations of brown hare using suitable habitats present in the Fradley to Colton area	Construction	The construction of the Proposed Scheme will result in the loss of habitats used by brown hare	Yes

2 References

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