E128

High Speed Rail (West Midlands - Crewe)

Environmental Statement

Volume 5: Technical appendices

CA3: Stone and Swynnerton

Ecology register of local level effects (EC-016-003)

July 2017

ES 3.5.2.3.8

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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 Stone and Swynnerton community area (CA3).

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

- 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 the species.

Table 1: Summary of local/parish level adverse effects arising from the construction/operation of the Proposed Scheme within CA3

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)
CA3	Local Wildlife Site (LWS)	Swynnerton Old Park LWS is a large woodland comprising mixed semi-natural deciduous wood dominated by oak, with large areas of conifer dominated by larch and scots pine, part of which is plantation on ancient woodland (PAWS). The woodland is also designated as a Local Wildlife Site (LWS). The woodland is connected via an established hedgerow network to a series of other woodlands throughout the landscape, including the woodland at Hatton Common LWS to the south	Construction	The fragmentation effect from the loss of the hedgerow network to construction of Hatton South cutting. The hedgerow network connects Hatton Common woodland and Swynnerton Old Park woodland. Given the large size of Swynnerton Old Park the effect of isolation is much less than that on the smaller Hatton Common site	Yes
CA3	LWS	Micklow Wood LWS is designated for its mixed deciduous woodland with a moderate diversity of species	Construction	Micklow Wood is located approximately 190m north of the land required for the Proposed Scheme. The construction of the Stone railhead main compound to the west, the Norton Bridge to Stone sidings and associated reception tracks to the north, and the B5026 Eccleshall Road realignment to the south, will fragment the hedgerow network and further isolate this LWS from other areas of broadleaved woodland within the wider landscape	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)
CA_3	Woodland	Stabhill Plantation - a small semi-natural deciduous woodland formed by two wooded areas on either side of an unnamed road. Dominated by oak with sycamore, beech and ash characteristic of National Vegetation Classification (NVC) W10c *Quercus robur-Pteridium aquilinum-Rubus fruticosus* woodland *Hedera helix* sub-community	Construction	The construction of Swynnerton North cutting will result in the loss of 1.3ha of semi-natural deciduous woodland at Stabhill Plantation	Yes
CA_3	Woodland	Cash's Pit -a small semi-natural deciduous woodland dominated by oak with sycamore, beech and ash characteristic of NVC W8e Fraxinus excelsior-Acer campestre-Mercurialis perennis woodland Geranium robertianum sub-community	Construction	The construction of Swynnerton North cutting will result in the loss of the whole woodland at Cash's Pit totally a loss of 1.5ha	Yes
CA_3	Woodland	A series of smaller mixed deciduous and conifer plantations located within proximity to Clifford's Wood, and have a similar species composition to this site. Many of these woodlands also support a ground flora dominated by bluebell. The broadleaved components of these woodlands are habitats of principal importance	Construction	The loss of approximately 0.8 ha of mixed plantation woodland from construction of Hatton Embankment and Swynnerton Estate North green overbridge. The other plantation woodlands in this location will not be directly affected and 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
CA_3	Woodland	The Stone and Swynnerton area has a series of small woodlands comprising areas of young mixed deciduous woodland with conifer components. This includes nine unnamed woods and Black Plantation, all within or immediately adjacent to the Proposed Scheme	Construction	Loss of woodland, mostly within the land required for construction of the Stone Infrastructure Maintenance Base – Rail (IMB-R) and associated infrastructure	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)
CA3	Water bodies	Ponds throughout the Stone and Swynnerton area that are found, following further survey, to not qualify as habitats of principal importance i.e. through absence of notable flora and fauna	Construction	Partial or complete loss of pond habitats to land required for construction of the Proposed Scheme	Yes
CA3	Bats	Four noctule bats were identified roosting in an ash tree within Micklow Wood, until further surveys are undertaken that can confirm the nature of the roost, it is assumed on a precautionary basis to be a maternity roost. Using the assessment methodology detailed in Wray et al, 2010, maternity roosts of 'rarer' species such as noctules should be considered of regional value The noctule bats at Micklow Wood are likely to utilise a range of habitats within the local area, including those that fall within the land required for Proposed Scheme	Construction	The construction of the Stone IMB-R, the Norton Bridge to Stone sidings along the Norton Bridge to Stone Railway, and the B5026 Eccleshall Road realignment has the potential to isolate the noctule maternity roost at Micklow Wood. While they will not form a physical barrier to the noctule bats, the lighting associated with the structures will surround the approaches to the woodland on three sides, with Stone located to the east. It is well documented that noctules emerge from roosts early in the evening, are often seen foraging before sunset, and have been observed foraging directly around artificial lights over urban landscapes. Given these behavioural characteristics of the noctule bat it is considered unlikely that the lighting associated with the construction of the Proposed Scheme in proximity to the maternity roost at Micklow Wood will have a significant adverse impact on the associated noctule bat population of higher than local/parish level	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)
CA3	Amphibians	Populations of palmate newt, smooth newt, common frog and common toad throughout the Stone and Swynnerton area. These common amphibian species have been identified within ponds throughout the Stone and Swynnerton area and are assumed to be present within the ponds that have not yet been surveyed. Woodland, rough grassland and hedgerow habitats are likely to be utilised by these species during their terrestrial phase for foraging, dispersal and shelter. Each of these species is common and widespread throughout the UK	Construction	The loss of ponds, woodland, rough grassland and hedgerows within the land required for the Proposed scheme will remove foraging, dispersal and shelter habitats for these common amphibian species	Yes
CA3	Birds	Assemblage of 40 wintering bird species at Highlow Meadows, and 31 wintering bird species at Hatton Common. All of the species were common and widespread species typical of the grassland, hedgerows and woodland at this site	Construction	Construction of the M6 Meaford viaduct, Meaford North embankment and Hatton South cutting will result in the loss of foraging habitats and likely increase disturbance levels to the wintering bird assemblage at Highlow Meadows	Yes
CA3	Birds	Assemblage of 34 breeding bird species at Highlow meadows, and 34 breeding bird species at Swynnerton Heath. All of the species were common and widespread species typical of the grassland, hedgerow and woodland at this site	Construction	Construction of the M6 Meaford viaduct, Meaford North embankment and Swynnerton North cutting will result in the loss of foraging habitats and likely increase disturbance levels to the breeding bird assemblage at Highlow Meadows	Yes
CA3	Otter	Population of otter on Filley Brook and its tributaries. The presence of otter has been confirmed, by desk study records, on numerous locations on the River Trent and Filly Brook which flows into the Trent. In the absence of survey information, it is assumed	Construction	The realignment of the Filly Brook and its tributaries through the Stone IMB-R and alongside the Norton Bridge to Stone sidings will result in the loss of these watercourses natural form and vegetated margins that may offer foraging and dispersal corridors for	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)
		that otter will utilise the suitable habitats of the Filly Brook and its tributaries that fall within the land required for construction of the Proposed Scheme.		otter.	
CA_3	Terrestrial invertebrates	Assemblages of terrestrial invertebrates have been identified within the Stone and Swynnerton area that support invertebrates of local importance. Such assemblages are associated within the deciduous woodlands at Hatton Common and Clifford's Wood particularly their mature tree and dead wood components, as well as the rich flower, wetland and fringe habitat resource at Highlow Meadows	Construction	The loss of habitats to the Proposed Scheme, notably the loss of woodland at Clifford's Wood and grassland at Highlow Meadows will decrease foraging and shelter opportunities for terrestrial invertebrates. The loss of habitats represents an adverse effect on the terrestrial invertebrate assemblage	Yes
CA_3	Badger	A common and widespread species recorded during the survey period. At least six social groups identified within undisclosed locations through CA_3. This includes six main setts	Construction	The construction of the Proposed Scheme will result in the loss of badger setts, including potential main setts, and the loss of woodland, hedgerows, grassland and pond habitats that form a foraging resource for badger social groups	Yes
CA_3	Polecat	The presence of polecat has been confirmed, by desk study records, within the land required for the Proposed Scheme. Polecat are widely distributed in Staffordshire and are considered likely to be present in suitable habitats throughout the Stone and Swynnerton area including the network of farmland with hedgerows and woodlands that fall within the land required for the Proposed Scheme	Construction	The construction of the Proposed Scheme will result in the loss of farmland, hedgerows and woodland that may be utilised as foraging and shelter habitats by polecat	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)
CA_3	Harvest mouse	Although no confirmed evidence of this species has been found during field surveys, it is possible that populations of harvest mouse are present in hedgerows, arable land, areas of taller grassland and woodland edge habitats in the Stone and Swynnerton area	Construction	The construction of the Proposed Scheme will result in the loss of hedgerows, arable land, areas of taller grassland and woodland edge habitats that are likely to be utilised by harvest mouse as foraging and shelter habitats	Yes
CA_3	European hedgehog	The presence of hedgehog within the land required for the Proposed Scheme has been confirmed by desk study records. Hedgehogs are a widely distributed species throughout the UK and are likely to be utilising suitable habitats throughout the land required for the Proposed Scheme including woodland, hedgerows, grassland and scrub	Construction	The construction of the Proposed Scheme will result in the loss of woodland, hedgerows, grassland and scrub that are likely to be utilised by hedgehogs as foraging and shelter habitats	Yes
CA_3	Brown hare	The presence of brown hare has been confirmed, by desk study, on land adjacent to that required for the Proposed Scheme. Brown hare is likely to be utilising open farmland and woodland margins throughout the land required for the Proposed Scheme	Construction	The construction of the Proposed Scheme will result in the loss of farm land, grassland and woodlands that are likely to be utilised by brown hare for shelter and foraging habitats	Yes
CA_3	Reptiles	While no reptiles were identified during surveys of the Stone and Swynnerton area 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

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)
CA_3	Notable plant species	Field surveys have identified two species, wood-sorrel and ragged robin, listed as Near Threatened on the Staffordshire Rare Plant Register, within the land required for the Proposed Scheme. Desk study records identified the following notable species within or directly adjacent to land required for the proposed scheme: bluebell in woodlands across the Stone and Swynnerton area, and loose silky-bent to the south of Clifford's wood	Construction	The construction of the Proposed Scheme will result in the loss of habitats supporting notable plant species. This loss of habitats represents an adverse effect on the notable plant assemblage within CA_3	Yes

2 References

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data - phase 1 habitat survey*, (BID-EC-002-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data - protected and or notable flora,* (BID-EC-003-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, (Ecological baseline data - national vegetation classification and ancient woodland*, BID-EC-004-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data – hedgerows*, (BID-EC-005-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data - river habitat, river corridor, and ditch surveys*, (BID-EC-006-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data - amphibian and pond surveys*, (BID-EC-007-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data – reptiles*, (BID-EC-008-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data - breeding and wintering birds*, (BID-EC-009-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data - otter and water vole,* (BID-EC-010-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data - hazel dormouse*, (BID-EC-011-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data – bats*, (BID-EC-012-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data - white clawed crayfish and other invertebrate*, (BID-EC-013-000). Available online at: www.gov.uk/hs2.

HS2 Ltd (2017), *High Speed Two Phase 2a: West Midlands to Crewe, Background Information and Data, Ecological baseline data – fish,* (BID-EC-014-000). Available online at: www.gov.uk/hs2.

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