

HIGH SPEED RAIL (LONDON - WEST MIDLANDS)

Supplementary Environmental Statement 2 and
Additional Provision 3 Environmental Statement

Volume 5 | Technical appendices

Ecology

EC-001-001 and EC-003-001

September 2015

SES2 and AP3 ES 3.5.3



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Index

This table shows the topics covered by the technical appendices in this volume, and the reference codes for them.

CFA name and number	Topic	Code
CFA1, Euston Station and Approach	Ecology	EC-001-001
CFA2, Camden Town		EC-003-001
CFA3, Primrose Hill to Kilburn (Camden)		

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EC-001-001

SES2 and AP3 ES Appendix EC-001-001

Environmental topic	Ecology	EC
Appendix name	Supplementary ecological baseline data	001
Community forum area	Euston – Station and Approach Camden Town Primrose Hill to Kilburn (Camden)	001

Volume 5: Technical Appendices

CFA 1 to 3: Supplementary Ecological Baseline Data

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1 Introduction

- 1.1.1 This document is an appendix which forms part of Volume 5 of the Supplementary Environmental Statement 2 (SES2) and Additional Provision 3 Environmental Statement (AP3 ES). The ecological baseline data detailed within this document relates to community forum areas (CFA):
- CFA1: Euston - Station and Approach;
 - CFA2: Camden Town; and
 - CFA3: Primrose Hill to Kilburn (Camden).
- 1.1.2 This appendix details supplementary ecological baseline data collected between the completion of the main Environmental Statement (ES) (November 2013) and December 2014 for the following ecological aspects and species:
- bats; and
 - breeding birds.
- 1.1.3 This document should be read in conjunction with Volume 2 (CFA reports) and Volume 3 (route-wide effects assessment) of the SES2 and the AP3 ES. In addition, as it focuses solely on new information obtained since the main ES it should be read in conjunction with the following corresponding Volume 5 technical appendices from the main ES:
- Appendix EC-002-001 ecological baseline data (amphibians, reptiles and birds); and
 - Appendix EC-003-001 ecological baseline data (mammals).

2 Bats

2.1 Introduction

- 2.1.1 This section of this appendix presents details of supplementary ecological baseline data relating to bats relevant to the section of the scheme that will pass through CFA₁ to 3 inclusive. It should be read in conjunction with the corresponding appendix from the main ES (Volume 5: Appendix EC-003-001).

2.2 Methodology

- 2.2.1 Details of the standard methodology utilised for bat surveys are provided in the Field Survey Methods and Standards (FSMS) technical note which is included within Volume 5: Appendix EC-002-003 of the main ES.
- 2.2.2 Scoping and desk study exercises were undertaken in 2012/2013 and can be found in Volume 5: Appendix EC-003-001 of the main ES. This baseline report focuses solely on supplementary data collected since the main ES.

2.3 Deviations, constraints and limitations

Trees

- 2.3.1 In CFA₁ a high potential tree was identified in the Zoological Society of London (ZSL) London Zoo Coach Park in September 2014 but was subject to significant pruning by the local authority for health and safety reasons and was downgraded to negligible potential in June 2015.
- 2.3.2 In CFA₃ trees at Adelaide Road Nature Reserve were not subject to survey as no access was available.

Buildings and structures

- 2.3.3 In CFA₁, it was not possible to conduct initial assessments of the following buildings or other structures due to access or health and safety constraints: Bree Louise Pub, Euston station, Euston House and The Podium.
- 2.3.4 In CFA₁, four buildings with moderate potential on Park Village East were not subject to emergence surveys due to access constraints.
- 2.3.5 In CFA₂, access restrictions prevented the assessment or inspection of the upper part of the former Primrose Hill Station building on Regent's Park Road. However, the railway tunnels beneath this building could be accessed via Network Rail land. Only one dusk emergence survey was carried out on these railway tunnels before the end of the activity season in 2014.
- 2.3.6 In CFA₃, only part of the Winding Rooms, accessed via the Western Horse Tunnel, could be inspected during the internal inspection in August 2014 as the majority of this part of the tunnel complex was flooded. No works are proposed to the Winding rooms or the Western Horse Tunnel in the revised scheme, however its condition and use by bats is relevant to the Up Empty Carriage Tunnel as they are connected.

Activity surveys

- 2.3.7 In CFA₃, only two autumn swarming surveys were carried out at the Up Empty Carriage Tunnel and the Western Horse Tunnel.
- 2.3.8 In CFA₃, data collected on two static detectors at the Up Empty Carriage Tunnel and Western Horse Tunnel portals were limited by a programming fault to 30min before and after sunset.

2.4 Baseline

CFA₁

Roosting (Trees)

- 2.4.1 Climbed tree assessments were carried out at two trees in the north east corner of the ZSL Coach Park and at four trees in Council Flat gardens off Stanhope Street in 2014. Of the trees surveyed:
- two bat roosts were confirmed in one tree with two bat boxes (one roost in each box) in council flat gardens off Stanhope Street;
 - three trees in council flat gardens off Stanhope Street were identified as having high potential due to the presence of bat boxes; and
 - one tree was identified in the ZSL Coach Park as having high potential to support bats (but subsequent pruning downgraded it to negligible potential).
- 2.4.2 Two dusk emergence and one dawn re-entry survey were carried out at the three high potential trees at council flat gardens off Stanhope Street in 2014. No roosts were confirmed and only low numbers of foraging and commuting common pipistrelles (*Pipistrellus pipistrellus*) and soprano pipistrelles (*Pipistrellus pygmaeus*) were recorded.
- 2.4.3 Details of confirmed tree roosts in this area of the route are provided in Table 1.

Table 1: Additional confirmed tree roosts recorded within CFA1

Ecology survey code	Location	Ordnance Survey (OS) grid reference	Tree species	Species confirmed as utilising roost and (peak count)	Date of peak count and nature of survey	Roost type	Roost description	CFA No.	Approximate distance from the scheme (m) and orientation
010-BT4-000005	Council flat gardens off Stanhope Street	TQ290 829	Walnut	Soprano pipistrelle	12 August 2014 Climbing inspection and bat box check	Day roost of single bat or very small number of individuals, probably male(s) or non-breeding female(s).	Bat box No.1 – 15 Fresh droppings found. DNA analysis confirmed these as soprano pipistrelle.	1	Within revised scheme
010-BT4-000005	Council flat gardens off Stanhope Street	TQ290 829	Walnut	Soprano pipistrelle	12 August 2014 Climbing inspection and bat box check	Day roost of single bat or very small number of individuals, probably male(s) or non-breeding female(s).	Bat box No.2 – 30 Fresh droppings found. DNA analysis confirmed these as soprano pipistrelle.	1	Within revised scheme

Roosting (building and structures)

- 2.4.4 A total of 12 buildings or other structures were subject to initial assessment. Of these buildings and structures:
- no confirmed roosts were recorded;
 - four buildings on Park Village East and the Edinboro Castle Pub contained features with a moderate potential to support roosting bats; and
 - seven buildings and structures contained features with low or negligible potential to support roosting bats.
- 2.4.5 Two dusk emergence surveys were carried out at the Edinboro Castle Pub on Mornington Terrace. No bat roosts were recorded. Only very low numbers of distant passes of common pipistrelles were recorded.

CFA₂

Roosting (building and structures)

- 2.4.6 Due to design changes in 2014 (which meant the withdrawal of the HS1-HS2 Link option), the only area that remains within the scheme in this CFA, at the time of the 2014 surveys, is the land required for the Juniper Crescent construction compound. This area has a small number of buildings including the former Primrose Hill Station.
- 2.4.7 Only one building which falls within the land required for the Juniper Crescent construction compound was surveyed in 2014. This building was the former Primrose Hill Station on Regent's Park Road. The upper part of this building could not be surveyed due to access constraints but there are two railway tunnels beneath the building, one of which comprises an operational line, which could be accessed via Network Rail land. The tunnels were found to have features with moderate potential to support roosting bats and were subject to a subsequent dusk emergence survey. No roosts were identified during the dusk survey. Incidental records of bats included low levels of commuting and foraging common and soprano pipistrelles.

CFA₃

Roosting (building and structures)

- 2.4.8 Five 1970s residential blocks were subject to initial assessment at Darwin Court, Gloucester Avenue in 2014. The buildings had low potential to support roosting bats, and no further surveys were required.
- 2.4.9 A complex of railway tunnels in Camden, which had already been subject to a series of bat surveys in 2013 were subject to further surveys in 2014. The 2014 surveys were simultaneous summer dusk (two visits) and single dawn emergence surveys at all known portals; physical inspections in August, September and October; and autumn swarming surveys in August and October. Results of confirmed roosts are provided in Table 2.

Table 2: Additional confirmed bat roosts in buildings/structures in CFA3

Ecology survey code	Location	OS grid reference	Building/ structure type	Species confirmed utilising roost and (peak count)	Date of peak count and nature of survey	Roost type	Roost description	CFA No.	Approximate distance from the scheme and orientation (m)
010-BS3-001009	Up Empty Carriage Tunnel (southern portal)	TQ 285 837	Disused railway tunnel	Soprano pipistrelle (2 x emerging individuals)	23 July 2014	Daytime summer roost	Cavity above metal lining (between metal lining and brick-lining).	3	Approximately 5m west of revised scheme
010-BS3-002002	Up Empty Carriage Tunnel (north-west portal)	TQ 278 843	Disused railway tunnel	Common pipistrelle (1 x emerging individual)	23 July 2014	Daytime summer roost	Inside tunnel, precise location unknown.	3	Within revised scheme
010-BS3-001009	Up Empty Carriage Tunnel (southern portal)	TQ 285 837	Disused railway tunnel	Pipistrelle sp. (1 in crevice)	23 October 2014	Daytime Transitional roost	Cavity above metal lining (between metal lining and brick-lining).	3	Approximately 5m west of revised scheme

Bat activity surveys

2.4.10 The following bat species have been recorded during the autumn swarming surveys conducted in 2014 in support of the scheme in this area:

- common pipistrelle;
- soprano pipistrelle; and
- Daubenton's (*Myotis daubentonii*).

2.4.11 Details of autumn swarming bat activity surveys in CFA3 are shown in Table 3.

Table 3: Bat activity surveys conducted within CFA3

Ecology survey code	Activity Survey	Number of surveys conducted	First survey date	Final survey date	CFA No.
010-BA3-001002	Autumn swarming: southern portal of Up Empty Carriage Tunnel	2	27 August 2014	14 October 2014	3
010-BA3-002002	Autumn swarming: north-west portal of Up Empty Carriage Tunnel	2	27 August 2014	14 October 2014	3
010-BA3-0001004	Autumn swarming: Western Horse Tunnel (towpath entrance)	2	27 August 2014	14 October 2014	3
010-BA3-0001003	Autumn swarming: Western Horse Tunnel (Gilbey's Yard entrance)	2	27 August 2014	14 October 2014	3

2.4.12 The tunnel complex was subject to two autumn swarming surveys, one in August and one in October 2014. These surveys recorded low levels of commuting and foraging behaviour but no swarming behaviour. Only common and soprano pipistrelles and occasional Daubenton's (identified by flight behaviour) were recorded. During both surveys, several of the common and soprano pipistrelle records were of social calls, possibly related to territorial defence.

2.5 Discussion

2.5.1 In CFA1 two bat box roosts were confirmed in one tree in the council flat gardens off Stanhope Street during surveys in 2014. Three other trees in this area have high roost potential due to presence of bat boxes. No evidence of roosting bats was found at Edinboro Castle Pub.

2.5.2 In CFA2, no roosts were confirmed. The tunnels below the former Primrose Hill Station on Regent's Park Road were found to have features with moderate potential

to support roosting bats and were subject to a dusk emergence survey. No roosts were identified during the dusk survey.

2.5.3 The 2014 survey findings for the complex of railway tunnels in CFA3 confirm:

- the southern portal of the Up Empty Carriage Tunnel supports a summer day roost used by single, or small numbers of common and soprano pipistrelle bats, likely to be males or non-breeding females;
- the location of one day roost within the southern portal of the Up Empty Carriage Tunnel has been confirmed in a crevice associated with an intersection between metal casing and brickwork approximately 14m in from the entrance on the south-eastern wall. A pipistrelle (exact species unconfirmed) was seen roosting inside the crevice in October 2014. A second very similar crevice feature approximately 23m in from the southern portal has a high potential to support roosting bats, although its use has not been confirmed;
- the north-west portal of the Up Empty Carriage Tunnel supports a summer day roost used by single individual common pipistrelle, likely to be a male or non-breeding female. The exact location of the roost inside the north-west portal is unconfirmed;
- the Up Empty Carriage Tunnel is used by foraging common pipistrelles, soprano pipistrelles and small numbers of brown long-eared bats (*Plecotus auritus*) and one or more *Myotis* species;
- autumn swarming surveys at each portal of the Up Empty Carriage Tunnel have identified social calling from common and soprano pipistrelle bats, which may be male bats defending breeding territories; and
- the southern portal of the Up Empty Carriage Tunnel supports hibernating bats. The species and number of individuals it supports is unknown.

2.5.4 In CFA3 the Western Horse Tunnel is unlikely to support summer roosting, hibernating or foraging bats. There have been no records of bats emerging, re-entering, or swarming at either of the tunnel entrances in 2013 or 2014.

3 Breeding birds

3.1 Introduction

3.1.1 This section of this appendix presents details of supplementary ecological baseline data relating to breeding birds relevant to the section of the scheme that will pass through CFA1. No supplementary ecological baseline data relating to breeding birds is available for CFA2 and CFA3. This should be read in conjunction with the corresponding appendix from the main ES (Volume 5: Appendix EC-002-001).

3.2 Methodology

3.2.1 Details of the standard methodology utilised for breeding bird surveys are provided in the FSMS, which is included within Volume 5: Appendix EC-002-003 of the main ES.

3.2.2 Scoping and desk study exercises undertaken in 2012/2013 can be found in Volume 5: Appendix EC-003-001 of the main ES. This baseline report focuses solely on supplementary data collected since the main ES.

3.2.3 Table 4 provides a summary of sites at which breeding birds were surveyed between September 2013 and December 2014 within CFAs 1 to 3 inclusive.

Table 4: Summary of sites at which breeding bird surveys were undertaken in CFA1

Ecology survey code	Survey site/location	OS grid reference	Habitat types included in survey	Survey date	CFA No.
010-BB1-001002	Along Public Right of Way (PRoW) around Euston station (black redstart survey visits)	TQ 294 827	Hard standing and buildings comprised of retail, commercial, housing, industrial and transport infrastructure, including rail, with some limited green spaces and gardens.	22 May 2014 10 June 2014 24 June 2014 26 June 2014 3 July 2014	1

3.3 Deviations, constraints and limitations

3.3.1 Surveys were completed using PRoW as access to rail land was not obtained.

3.3.2 In 2014 the final black redstart survey was conducted in July outside of the optimum survey period.

3.4 Baseline

CFA1

3.4.1 In 2013 rail land around Euston station in CFA1 was considered to provide suitable habitat for breeding black redstarts.

3.4.2 Black redstart surveys were carried out between May and July in 2014 in CFA1. The surveys found no evidence of black redstarts.

3.5 Discussion

3.5.1 The 2014 survey findings at the rail land in CFA1 indicate that black redstart is likely absent in this area.

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EC-003-001

SES2 and AP3 ES Appendix EC-003-001

Environmental topic:	Ecology	EC
Appendix name:	Register of local level ecological effects	003
Community forum area:	Euston - Station and Approach Camden Town Primrose Hill to Kilburn (Camden)	001

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1 Introduction

- 1.1.1 This document is an appendix which forms part of Volume 5 of the Supplementary Environmental Statement 2 (SES2) and Additional Provisions 3 Environmental Statement (AP3 ES).
- 1.1.2 Since the completion of the main Environmental Statement (ES) (November 2013) a range of supplementary ecological baseline data has been collected. Table 1 provides a summary of additional local/parish level adverse effects on ecological receptors that in light of the new data and/or design changes are considered likely to arise from the construction and operation of the scheme for the following community forum area (CFA): CFA1 Euston - Station and Approach.
- 1.1.3 There are no additional local/parish level adverse effects on ecological receptors to report for CFAs 2 or 3.
- 1.1.4 This document should be read in conjunction with Volume 2 (CFA reports) and Volume 3 (route-wide effects assessment) of the SES2 and AP3 ES. In addition, as this document focuses solely on new information obtained since publication of the main ES it should be read in conjunction with the corresponding Volume 5 technical appendix of the main ES (Volume 5: Appendix EC-003-001).

Table 1: Summary of additional local/parish level adverse effects arising from the construction/operation of the revised scheme within CFA1

CFA No.	Arising from SES2 changes or AP3 amendments ?	Designated site, 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)
1	SES2 changes	Designated site	St James's Garden Site of Local Importance (SLI)	Construction	The construction of the high speed station will result in the permanent loss of the whole of St James's Garden SLI, 1 ha. This will result in the total loss of the site leading to a permanent adverse effect on site integrity at the local/parish level.	Yes
1	SES2 changes	Habitat	Grassland and scattered trees in St James's Garden SLI	Construction	The construction of the high speed station will result in the permanent loss of 1ha of grassland and scattered trees in St James's Garden SLI. This will have a permanent adverse effect on the conservation status of these habitats at the local/parish level.	Yes
1	AP3 amendments	Habitat	Trees in Regent's Park	Construction	The construction of the replacement coach parking area at the Zoological Society of London (ZSL) London Zoo will result in the loss of eight mature and 13 semi-mature trees. This will have a permanent adverse effect on the conservation status of this habitat type at the local/parish level.	Yes
1	AP3 amendments	Species	Breeding birds in Regent's Park	Construction	The construction of the replacement coach parking area at ZSL London Zoo will result in the loss of breeding bird habitat which will have a permanent adverse effect on the conservation status if this species at the local/parish level.	Yes

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