

Appendix 10.2

Ecological Appraisal – Land west of Long Ashton P&R
and Land east of Bridge Farm

West of England Partnership

Ashton Vale to Temple Meads and Bristol City
Centre Rapid Transit

Ecological Appraisal - Land East of Bridge
Farm

April 2010

Halcrow Group Limited

West of England Partnership

Ashton Vale to Temple Meads and Bristol City
Centre Rapid Transit

Ecological Appraisal - Land East of Bridge
Farm

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West of England Partnership
Ashton Vale to Temple Meads and Bristol City
Centre Rapid Transit
Ecological Appraisal - Land East of Bridge Farm

Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Report	01.04.10	DGW
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1 Introduction

1.1 Background

Halcrow Group Ltd (Halcrow) has been appointed by the West of England Partnership to undertake an ecological appraisal of land to the east of Bridge Farm, North Somerset hereafter referred to as 'the site'. The appraisal is required to support the application for the Ashton Vale to Temple Meads and Bristol City Centre Rapid Transit scheme (AVTM RT), for which the site is proposed as exchange land for the loss of public open space.

The site is approximately 2.75ha in area and located to the west of the city of Bristol, within North Somerset district, approximately 0.6km south-east of the village of Long Ashton and 0.5km west of Aston Vale area of Bristol, centred on National Grid Reference ST 554 701.

Halcrow undertook an ecological appraisal of the application site in March 2010.

1.2 Report Structure

The report is structured as follows:

- Section 2 – *Methodology*. This section summarises the methodology used for undertaking the field survey;
- Section 3 – *Baseline Conditions*. This section describes the findings and context of the application site with respect to habitats and flora and fauna. In addition, it identifies any actual or potential protected/notable habitat or species issues which have been found; and
- Section 4 – *Conclusion*. This section sets out the conclusions and recommendations of the ecological appraisal.

2 Methodology

2.1 Desk Study

A previous desk study undertaken in September 2008 (Atkins, 2009)¹ covering an area of 2km from the proposed AVTM RT was used. The site is approximately 1km south-west of the AVTM RT route and therefore the overall desk study area is 1km. However, as the site is proposed as exchange land the potential zone of influence is considered as no greater than 1km. Records Bristol Regional Environmental Records Centre (BRERC) was consulted.

With respect to statutory designations, Natural England recommends consulting the Government's 'Multi-agency Geographic Information for the Countryside' (MAGIC) website². This source was consulted as part of the desk study.

2.2 Field Survey

An extended Phase 1 Habitat Survey of the site was undertaken by an experienced ecologist on 30th March 2010. The field survey technique adopted was at a level intermediate between the Joint Nature Conservation Committee (JNCC) standard 'Phase I' habitat survey (JNCC, 2007)³ and 'Phase II' more detailed survey. The scope and detail of the surveys undertaken follow the recommendations made by the former Institute of Environmental Assessment (1995)⁴.

The habitats were classified and mapped, and dominant plant species were recorded. Notes were taken of the more conspicuous fauna and any evidence of, or potential for, the presence of protected animals was recorded within and adjacent to the boundary of the site.

The weather conditions during the surveys were sunshine with approximately 100% cloud cover, showers and heavy rain, a brisk south-early breeze and with the temperature approximately 9-11°C.

Nomenclature for plant species follows that of Stace (2001)⁵.

2.3 Evaluation

The habitats and species evaluations are based on the guidance from the Institute of Environmental Management (IEEM, 2006)⁶. The level of value of specific ecological receptors is assigned using a

¹ Atkins (November 2009) *Ashton Vale to Temple Meads and Bristol City Centre Rapid Transit Scheme, Extended Phase 1 Habitat and Species Survey Report*, West of England Partnership (unpublished report).

² www.magic.gov.uk

³ Joint Nature Conservation Committee (2007) *Handbook for Phase I Habitat Survey – a Technique for Environmental Audit*, Revised reprint 2003, reprinted 2007, JNCC, Peterborough.

⁴ Institute of Environmental Assessment (1995) *Guidelines for Baseline Ecological Assessment*. E. & F.N. Spon.

⁵ Stace C (2001) *New Flora of the British Isles*. Second Edition. Cambridge University Press.

geographic frame of reference, i.e. international value being most important, then national, regional, county, city, local and lastly, within the immediate zone of influence of the proposals only.

Value judgements are based on various characteristics that can be used to identify ecological resources or features likely to be important in terms of biodiversity. These include site designations (such as Sites of Special Scientific Interest (SSSI)), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological resource. In terms of the latter, 'quality' can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

2.4 Limitations

The survey was undertaken in March 2010 which is a sub-optimal time of year for extended Phase 1 habitat surveys. The timing means that many herbaceous plant species may not be visible and some species of fauna may not be active. Therefore evidence of these species may not be present or recorded during this survey. However, this does not mean that these species may not be present at more favourable times of year. Recommendations for further surveys reflect these limitations.

⁶ Institute of Ecology and Environmental Management (2006) *Guidelines for Ecological Impact Assessment within the United Kingdom*.

3 Baseline Conditions

3.1 Designated Sites

Records provided by MAGIC show that there are no statutory sites designated for their biological conservation value within the site but there is one within a 1km radius of the site, namely Ashton Court Site of Special Scientific Interest (SSSI) (approximately 1.0km north of the site).

Locations of non-statutory sites designated for the biological conservation value comprises two Sites of Nature Conservation Interest (SNCI) within a 1km radius of the application site, namely Ashton Vale Fields SNCI (approximately 0.5km north-east of the site) and an SNCI approximately 0.1km from the site to the south of the railway line (desk study did not identify details).

3.2 Habitats

3.2.1 Arable land & Improved Grassland

The majority of the site is comprised of arable land and improved grassland. The arable land at the west end of the site was cropped at the time of survey and primarily bare ground and crop stubble. The fields to the east are improved grassland that is predominantly comprised of perennial rye-grass *Lolium perenne* and clover *Trifolium* sp. Also occurring in the sward is Yorkshire-fog *Holcus lanatus*, bent-grass *Agrostis* sp. and spear thistle *Cirsium vulgare*.

3.2.2 Semi-Improved Grassland

The boundaries of the arable fields comprise species-poor semi-improved, that includes ruderal species. The boundary is narrow (approximately 0.5m) and comprises Yorkshire fog, cock's-foot *Dactylis glomerata* and creeping buttercup *Ranunculus repens*, with nettle *Urtica dioica*, willowherb *Epilobium* sp. and bramble *Rubus fruticosus* agg. In a wet area at the east of the site common reed *Phragmites australis* is present.

3.2.3 Hedgerow

The hedgerows between the fields are maintained, intact species-poor hedgerows comprising predominantly hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa*, with some locally occurring dogwood *Cornus sanguinea* and field maple *Acer campestre*. The hedgerows include a few mature standard trees including ash *Fraxinus excelsior* and pedunculate oak *Quercus robur*.

3.2.4 Plantation Woodland

At the western end of the site there is a small area of dense willow *Salix* sp. planting, bordering an arable field and grassed public footpath.

3.3 Species

The only incidental species records are for birds which include great tit *Parus major*, dunnock *Prunella modularis*, blackbird *Turdus merula*, robin *Erithacus rubecula* and buzzard *Buteo buteo*.

The site provides limited opportunities for faunal species being predominantly short improved grassland and arable. Hedgerows provide potential foraging and commuting habitat for bats which

link to the railway embankment which provides a potentially significant wildlife corridor. There are records for several bat species in the vicinity of the site including noctule bat *Nyctalus noctula*, Daubenton's bat *Myotis daubentonii*, brown long-eared bat *Plecotus auritus*, soprano pipistrelle *Pipistrellus pygmaeus* and common pipistrelle *Pipistrellus pipistrellus*.

The site provides no aquatic habitat for great crested newts *Triturus cristatus*. A pond with potential for the species was noted approximately 0.1km south of the western end of the site, on the south side of the railway. Ordnance survey maps also show ponds approximately 0.1km south of the eastern end of the site, on the south side of the railway.

The rough grassland and adjacent railway embankment provide potential reptile habitat, although no evidence was noted during this survey. Both slow worm *Anguis fragilis* and grass snake *Natrix natrix* have been recorded to the north of the site at Ashton Vale.

The improved grassland provides potential badger *Meles meles* foraging habitat, with records for the species in the vicinity of the site. No evidence for the species was noted during this survey.

4 Conclusions

4.1 Designated Sites

Due to the distance from designated sites, separation from them with a high railway embankment and proposed use of the site as exchange land, it is considered that no statutory or non-statutory designated sites would be impacted.

4.2 Habitats

The habitat value of the site is currently limited with habitats considered of value within the zone of influence (site) only. Valued habitats and features should be retained (i.e. hedgerows and trees). The potential exists for significant habitat enhancements at the site including the creation of species-rich grassland, scrub and wetland. Such habitat enhancements would contribute to improving the wildlife corridor function already provided by the railway corridor.

4.3 Species

The site is considered unlikely to be of greater value than immediate zone of influence (site) due to the limited habitat features.

Bat species are known to utilise the linear features in the surrounding area and are considered likely to utilise the hedgerows within the site. Surveys for bats are only required if proposals would impact upon the linear features.

The potential for great crested newts is limited to terrestrial habitat opportunities within the site. Arable and improved grass provide sub-optimal habitat for the species. If great crested newts are present within nearby ponds it is considered highly unlikely that they would utilise the site due to optimal habitat in close proximity to the ponds and the barrier of the railway embankment (and/or culverts, tunnels beneath it). Due to the degree of protection given to the species it is recommended that ponds within 500m of the site are initially surveyed for their suitability for great crested newts with a Habitat Suitability Index⁷ (HSI) assessment, if proposals are considered to potentially impact the species.

⁷ Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10 (4), 143-155.

The site includes features suitable for reptiles only within the boundaries with the railway embankment and hedgerows. Due to the very limited extent of these features within the site it is considered that a survey for reptiles is not required unless proposals could impact upon them.

Figures

West of England Partnership

Ashton Vale to Temple Meads and Bristol City
Centre Rapid Transit

Ecological Appraisal - Land West of Long
Ashton Park & Ride Site

April 2010

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Figure 1 Habitat Plan

1 Introduction

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The site is approximately 2.76ha in area and located to the west of the city of Bristol, within North Somerset district, approximately 0.5km east of the village of Long Ashton and 0.5km west of Aston Vale area of Bristol, centred on National Grid Reference ST 557 708.

Halcrow undertook an ecological appraisal of the application site in March 2010.

1.2 Report Structure

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⁶ Institute of Ecology and Environmental Management (2006) *Guidelines for Ecological Impact Assessment within the United Kingdom*.

3 Baseline Conditions

3.1 Designated Sites

Records provided by MAGIC show that there are no statutory sites designated for their biological conservation value within the site but there is one within a 1km radius of the site, namely Ashton Court Site of Special Scientific Interest (SSSI) (approximately 0.5km north of the site).

Locations of non-statutory sites designated for the biological conservation value comprises two Sites of Nature Conservation Interest (SNCI) within a 1km radius of the application site, namely Ashton Vale Fields SNCI (approximately 0.25km south-east of the site) and Ashton Court Estate SNCI (approximately 0.7km north of the site).

3.2 Habitats

3.2.1 Marshy grassland

The majority of the site is marshy grassland, although the degree of wetness increases as the site runs south to Longmoor Brook on its southern boundary. The grassland was cattle grazed at the time of survey resulting in poaching of the soil in many locations. The sward is predominantly comprised of grasses including common bent *Agrostis capillaris*, creeping bent *Agrostis stolonifera*, Yorkshire fog *Holcus lanatus* with tussocks of tufted hair-grass *Deschampsia flexuosa* and hard rush *Juncus inflexus*. Herbaceous and ruderal species are frequent within the sward and include white clover *Trifolium repens*, creeping buttercup *Ranunculus repens*, ribwort plantain *Plantago lanceolata*, creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, teasel *Dipsacus fullonum* and common sorrel *Rumex acetosa*.

3.2.2 Scattered scrub and trees

The site field comprises significant areas of scattered scrub and trees, with evidence of both planting and natural colonisation. The majority of the scattered scrub and trees are present around the site boundaries and in the west and south. The scattered scrub and trees comprise ash *Fraxinus excelsior*, hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, pedunculate oak *Quercus robur*, field maple *Acer campestre*, silver birch *Betula pendula* and alder *Alnus glutinosa*. The vegetation beneath the trees and scrub is a continuation of the marshy grassland, although patches of ruderal species such as nettle *Urtica dioica* is a noticeable feature. In wetter areas poaching by cattle has created areas of bare ground.

3.2.3 Dense scrub

Dense scrub is present along the north, west and southern boundaries to the site field, the eastern boundary being the fence to Long Ashton Park and Ride site. Scrub comprises predominantly bramble *Rubus fruticosus* agg and blackthorn *Prunus spinosa*.

3.2.4 Drains and watercourses

The western and southern boundaries to the site field comprise a drain (west) and Longmoor Brook (south) with hedgerows, including mature trees. Mature trees include crack willow *Salix fragilis* and pedunculate oak.

3.3

Species

The only incidental species records are for birds. Numerous birds were active within the trees and scrub at the time of the survey including: chiffchaff *Phylloscopus collybita*, great tit *Parus major*, blue tit *Cyanistes caeruleus*, long-tailed tit *Aegithalos caudatus*, dunnoek *Prunella modularis*, blackbird *Turdus merula*, robin *Erithacus rubecula*, goldfinch *Carduelis carduelis*, wren *Troglodytes troglodytes*, green woodpecker *Picus viridis*, magpie *Pica pica* and mallard *Anas platyrhynchos*.

The site was included within detailed species surveys undertaken in 2009 (Atkins, 2009) for great crested newts *Triturus cristatus*, bats, dormouse *Muscardinus avellanarius*, otter *Lutra lutra*, water vole *Arvicola amphibius* and badger *Meles meles*.

Great crested newts, dormouse, otter, water vole and badger were found not present at the site, although badgers were recorded approximately 0.3km west of the site. Common pipistrelle bat *Pipistrellus pipistrellus* were recorded foraging and commuting over the linear habitat features on the boundaries of the site field, but no roosts were found present.

Reptiles have not yet been surveyed at the site, although surveys in adjacent fields have identified slow worm *Anguis fragilis* and grass snake *Natrix natrix* to be present. During this field survey evidence of previous reptile survey at the site was noted (survey refuge tiles). No reptile species was noted present during this survey.

4 Conclusions

4.1 Designated Sites

Due to the distance from designated sites and proposed use of the site as exchange land, it is considered that no statutory or non-statutory designated sites would be impacted. The site is in close proximity to Ashton Vale Field SNCI and exhibits some marshy grassland characteristics similar to it, (although the site is currently species-poor), and therefore any habitat enhancements should aim to complement the existing valued habitat at the SNCI.

4.2 Habitats

The main habitat value of the site is the marshy grassland habitat and adjacent scattered trees and scrub that provides cover, foraging and potential breeding habitat for species such as bats and birds. The marshy grassland is considered of local ecological value. Other habitats are considered of value within the zone of influence (site) only.

4.3 Species

Previous surveys have shown the site to be used by commuting and foraging bats. The linear boundary features are considered of up to local value for bats due to the connectivity with the surrounding landscape.

The site includes features suitable for reptiles such as scrub and lying dead wood habitat. It is therefore recommended that a reptile survey is undertaken at the site to determine whether reptiles are present and, if so, the species and population.

Figures

