

6 FLORA AND FAUNA

6.1 Introduction

6.1.1 E³ Ecology Ltd was appointed by Anthony Watson Chartered Architects to undertake an ecological appraisal, assessing the habitats present, the likely presence or absence of protected species or species of conservation concern, and the potential ecological impacts of developing the site.

6.1.2 The aims of the study were:

- to ascertain the types of habitat within the study area through extended Phase 1 field survey;
- to provide indications of the conservation value of the identified habitats; and
- to assess the species likely to be present and the risk of adversely affecting protected species or species of conservation concern.

6.1.3 E3 revisited the site on the 3rd April 2008 to confirm and update the findings of the original extended phase 1 survey carried out in January 2006. The consultation with Durham wildlife Trust was repeated to ensure the desk study was up to date. This is included as Appendix 5.2.

6.1.4 Full breeding bird surveys of the site commenced in April 2008, with further site visits undertaken in May and June 2008.

6.1.5 Full great crested newt surveys of a water body immediately outwith the site to the north are on-going. The initial three surveys were completed in April and May 2008 with the remaining survey to be completed.

6.1.6 A tree survey was undertaken by Waterman Environmental during October 2005, to assess the condition and potential Impacts of the proposed future development upon the semi-mature tree plantations and established hedgerows. The survey technique used was random sample 10m quadrants and mixes, as agreed with the City of Sunderland Planning Department.

6.2 Methodology

Consultation and pre-existing information on protected species at survey site

6.2.1 In compiling this report a desk top study of the area was carried out using aerial photographs and Ordnance Survey maps. Consultation was undertaken in 2006 with English Nature (now Natural England) and the Durham Wildlife Trust. Consultation with the Durham Wildlife Trust was repeated in 2008 to ensure all information obtained remained current.

6.2.2 The National Atlas of bat distribution was consulted with respect to the local bat distribution.

Habitat survey

6.2.3 The habitat survey of the proposed site was conducted using the methodology of the JNCC's Phase 1 survey, as outlined in the habitat-mapping manual. Each parcel of land was assessed by a trained surveyor and classified as one of approximately ninety habitat types. These were then mapped and the habitat information supplemented by dominant species codes. Where features of nature conservation importance were present, these were described by target notes.

6.2.4 Extended Phase 1 survey was carried out in January 2006 with an additional survey in April 2008 to update the results of the previous survey and ensure a robust assessment.

Protected Species

6.2.5 As part of the Extended Phase 1 survey, the risk of protected species being present was assessed from field signs and local knowledge. Assessment focused in particular on badger, bats and great crested newt, with detailed survey undertaken as described below. In addition, wetlands were assessed for the potential presence of otter and water vole.

6.2.6 Extended Phase 1 survey including the protected species assessment was carried out as detailed above, in January 2006 and April 2008.

Badger

6.2.7 The aim of the survey was to assess badger presence within the site and to assess the potential impacts of the proposed damage such as damage or disturbance to setts or badger territory that can be caused by factors such as land take required by the development or construction disturbance.

6.2.8 The survey was carried out over the full area of the proposed development. Field signs surveyed for included footprints, latrines, couches, hair caught on fences or brambles, snuffle holes, scratching on bark and track ways. Any setts identified were assessed with respect to likely levels of current usage.

Bats

6.2.9 A risk assessment with respect to potential impacts on bats was undertaken based on the habitats present. The Bat Mitigation Guidelines (BMG) indicate the types of

structures and landscape features that increase the risk of bats being present and this was used to undertake an initial risk assessment of potential impacts.

- Presence of trees with a high probability of use by bats. These include ancient woodland or parkland, large trees with complex growth form and trees with cavities, visible damage and loose bark. Coniferous plantation and young trees of simple form are less likely to support roosts. Except in the simplest of cases, it can be extremely difficult to be certain of the presence or absence of bat roosts in trees meeting the above criteria.
- Recent or historical records of bats on the site, or bat roosts in the general area.
- Presence of underground structures such as abandoned mines, tunnels, kilns, cellars or fortifications which provide appropriate hibernation conditions.
- Where a development has a significant habitat impact on woods, hedgerows with field trees, parkland, diverse grassland and wetland habitats potential impacts on tree roosts, foraging habitats and flight-lines should be considered.

Great Crested Newt

6.2.10 The survey was conducted using the standard methodology as published in the Herpetofauna Workers Manual (1998) and following national guidelines including those issued by English Nature in their Great Crested Newt Mitigation Guidelines (English Nature, August 2001) and Froglife's Advice Sheet 11: Surveying for (Great Crested) Newt Conservation (Froglife ,2001).

6.2.11 An initial site visit was undertaken during daylight hours to assess the habitats and terrain. Terrestrial refuge searching of the habitats adjacent to the pond was undertaken, egg searching and limited netting utilising the methods detailed below, to assess the presence/absence of fish and the range and abundance of aquatic invertebrates, an indicator of water quality and available food resource for amphibians.

6.2.12 Two further surveys have been undertaken in April 2008, utilising egg searching, limited netting where appropriate and torch survey methods as detailed below, with further surveys on-going to meet Natural England guidelines. Four surveys are required in total to determine presence/absence, with a further two surveys to determine population size should great crested newt prove to be present. **Bottle trapping was not utilised as a survey technique as the pond lies adjacent to a public footpath and the security of the traps could not be guaranteed.**

- Refuge searching
On land, newts take refuge beneath objects such as rocks, logs, moss, and discarded debris, particularly if they retain moisture. Such areas were searched

for amphibians to assess both presence and absence, and the likely value of the habitats to this taxa.

- Egg searching

Examining submerged vegetation for newt eggs was undertaken as a speedy, effective survey method for detecting the presence of great crested newts. Newts lay eggs singly and fold pliable material, usually the leaves of aquatic plants, around them. The surveyor searched for folded leaves, and then gently opened them to check for eggs. Great crested newts prefer to deposit their eggs on relatively larger-leaved plants than do the smaller newts, which make their egg locations particularly conspicuous.

- Netting

A dipnet, with a 2-4 mm mesh, was used for netting to reveal the presence of newts where other methods were unsuccessful. The technique is not very efficient in detecting adult great crested newts but is useful in capturing their larvae, and adults of the smaller species.

- Torching

Searching a pond by torchlight between dusk and midnight on mild nights was used to detect adult newts. The surveyor walked once slowly around the pond, checking for newts in the torch beam, paying particular attention to marginal vegetation, and potential display areas on the pond bottom. Where the water is reasonably clear, and vegetation is limited, this proves to be an effective way of detecting and counting newts. Water and air temperature were recorded on each site visit.

Ornithological Survey

6.2.13 An ornithological risk assessment was carried out at the study site in January 2006. The aims of this survey were to produce an assessment as to what species may typically be expected, year round, within the habitats present and so assess the conservation status and potential impacts.

6.2.14 This aim was particularly geared towards assessing the site for species of conservation concern.

6.2.15 All points within the survey site were visited and the identity and activities of all birds encountered were mapped. In addition, each separate compartment of habitat was assessed for its ornithological importance. This assessment was conducted with regard to breeding, wintering and migrant species likely to be present, with particular

emphasis on European protected birds, those on Schedule 1 of the Wildlife and Countryside Act and species of conservation concern.

6.2.16 All bird species follow the names, sequence and nomenclature recently adopted by the British Ornithologists' Union and reported in *British Birds*³. This order is based upon the evolutionary development of birds and looks set to become widely adopted as the ornithological standard in the coming years.

6.2.17 In addition to the above ornithological risk assessment, full breeding bird surveys are on-going at the site. The initial survey visit has been undertaken in April 2008, with remaining surveys timed to occur in the months of April, May and June.

6.2.18 Breeding bird surveys utilise the Territory Mapping Method. This survey technique is closely based on that adopted by the British Trust for Ornithology's Common Bird Census, and is outlined in detail in Gilbert, Gibbons and Evans¹ and Bibby, Burgess & Hill².

6.2.19 Survey will be undertaken by an experienced ornithologist who is able to identify all commonly occurring UK bird species by sight and call. Initially, the habitats are studied and assessed for their likely bird use. The surveyor then moves slowly round the site, stopping to scan for birds using high quality binoculars, and where appropriate a telescope. Birds seen or heard are recorded as accurately as possible on field maps, with key locations such as important nest sites being recorded to a 10 figure grid reference using GPS. Survey techniques use good field craft to minimise disturbance to birds, wearing dull clothes, avoiding being silhouetted against the skyline, moving slowly and then spending time in one location to allow birds to become active again.

6.2.20 The identity and activity of all birds is mapped using the British Trust for Ornithology's standard list of codes for bird species and activities. Care is taken to record as much detail as possible, such as the age and sex of the bird, singing, territorial conflicts etc. as such detail is often vital during analysis.

Site Assessment

6.2.21 The value and significance of the habitats and species found within the site was assessed against guidelines developed by the Institute of Ecology and Environmental Management for evaluating ecological features.

¹ Gilbert, G., Gibbons, D.W. & Evans, J. 1998. *Bird Monitoring Methods*. The Royal Society for the Protection of Birds, Sandy.

² Bibby, C.J., Burgess, N.D. & Hill, D.A. 2000. *Bird Census Techniques*. Second edition. Academic Press, London.

Table 6.1	
Assessment of value	
LEVEL OF VALUE	EXAMPLES
International	<p>An internationally designated site or candidate site (SPA, pSPA, SAC, cSAC, pSAC, Ramsar site, Biogenetic Reserve) or an area which the country agency has determined meets the published selection criteria for such designation, irrespective of whether or not it has yet been notified.</p> <p>A viable area of a habitat type listed in Annex I of the Habitats Directive, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring population of an internationally important species, which is threatened or rare in the UK i.e. it is a UK Red Data Book species or listed as occurring in 15 or fewer 10km squares in the UK (categories 1 and 2 in the UK BAP) or of uncertain conservation status or of global conservation concern in the UK BAP.</p> <p>A regularly occurring, nationally significant population/number of any internally important species.</p>
National	<p>A nationally designated site (SSSI, ASSI, NNR, Marine Nature Reserve) or a discrete area, which the country conservation agency has determined meets the published selection criteria for national designation (e.g. SSSI selection guidelines) irrespective of whether or not it has yet been notified.</p> <p>A viable area of a priority habitat identified in the UK BAP, or of smaller areas of such habitat, which are essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring population of a nationally important species, which is threatened or rare in the region or county.</p> <p>A regularly occurring regionally or county significant population/number of any nationally important species.</p> <p>A feature identified as of critical importance in the UK BAP.</p>
Regional	<p>Viable areas of key habitat identified in the Regional BAP or smaller areas of such habitat, which are essential to maintain the viability of a larger whole.</p> <p>Viable areas of key habitat identified as being of Regional value in the appropriate Natural Area profile.</p> <p>Any regularly occurring, locally significant population of a species listed as being nationally scarce which occurs in 16-100 10km squares in the UK or in a Regional BAP or relevant Natural Area on account of its regional rarity or localisation.</p> <p>A regularly occurring, locally significant number of a regionally important species.</p> <p>Sites that exceed the County-level designations but fall short of SSSI selection guidelines, where these occur.</p>
County/Metropolitan	<p>Semi-natural ancient woodland greater than 0.25ha.</p> <p>County/Metropolitan sites and other sites which the designation authority has determined meet the published ecological selection criteria for designation, including Local Nature Reserves selected on County/metropolitan ecological criteria (County/metropolitan sites will often have been identified in local plans).</p> <p>A viable area of habitat identified in the County BAP.</p> <p>Any regularly occurring, locally significant population of a species which is listed in a County/Metropolitan "red data book" or BAP on account of its regional rarity or localisation.</p> <p>A regularly occurring, locally significant number of a County/Metropolitan important species.</p>

LEVEL OF VALUE	EXAMPLES
District/Borough	<p>Semi-natural ancient woodland smaller than 0.25ha.</p> <p>Areas of habitat identified in a sub-County (District/Borough) BAP or in the relevant Natural Area profile.</p> <p>District sites that the designating authority has determined meet the published ecological selection criteria for designation, including Local Nature Reserves selected on District/Borough ecological criteria (District sites, where they exist, will often have been identified on local plans).</p> <p>Sites/features that are scarce within the District/Borough or which appreciably enrich the District/Borough habitat resource.</p> <p>A diverse and/or ecologically valuable hedgerow network.</p> <p>A population of a species that is listed in a District/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation.</p> <p>A regularly occurring, locally significant number of a District/Borough important species during a critical phase of its life cycle.</p>
Parish/Neighbourhood	<p>Area of habitat considered to appreciably enrich the habitat resource within the context of the Parish or neighbourhood, e.g. species-rich hedgerows.</p> <p>Local Nature Reserves selected on Parish ecological criteria.</p>

6.2.22 In addition, following the initial ornithological risk assessment the site was evaluated to provide an assessment of its ornithological value. This assessment took into account a number of criteria including the rarity of the species in question, both on a national and local scale, the diversity of species present and the quality of the surrounding habitat. This assessment will be up-dated following completion of breeding bird surveys with a further appendix to the report if breeding bird surveys result in an altered site assessment.

6.2.23 The rarity of species present on the site was assessed using a four tier system, taking into account both national and local status.

Annex 1 species

6.2.24 These are rare breeding European birds, which are afforded special protection under Annex 1 of the EC Birds Directive.

Schedule 1 species

6.2.25 These are rare breeding UK birds, which are afforded special protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

Red List species

6.2.26 These are listed by the RSPB as species of high national conservation concern. Species are included on this list if they meet one or more of the following criteria:

- Globally threatened,

- Historical population decline in UK during 1800-1995,
- Rapid (> 50%) decline in UK breeding population over last 25 years,
- Rapid (> 50%) contraction of UK breeding range over last 25 years.

Amber List species

6.2.27 These are listed by the RSPB as species of medium national conservation concern. Species are included on this list if they meet one or more of the following criteria:

- Historical population decline during 1800-1995, but now recovering with population size having more than doubled over the last 25 years.
- Moderate (25-49%) decline in UK breeding population over the last 25 years.
- Moderate (25-49%) contraction of UK breeding range over the last 25 years.
- Moderate (25-49%) decline in UK non-breeding population over the last 25 years.
- Species of European Conservation Concern.
- Five year mean of between only one and 300 breeding pairs in the UK.
- >50% of the UK breeding population in ten or fewer sites.
- >50% of the UK non-breeding population in ten or fewer sites.
- >20% of the European breeding population in the UK.
- >20% of the NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non-breeding populations in the UK.

Personnel, their qualifications and experience

6.2.28 All survey work and reporting was undertaken by Paul Massey, James Streets, Claire Snowball, Becky White and Ross Ahmed of E3 Ecology and supervised by Dr Tony Martin of E³ Ecology. Full details of qualifications and experience is provided on the E³ website, www.e3ecology.co.uk.

6.3 Results

Consultation and pre-existing information

6.3.1 A tree survey undertaken by Waterman Environmental in October 2005 concluded that the existing trees are a valuable wildlife habitat for birds and bats and that further survey work was required in order to assess the effects development may have upon protected species. The site is also reported to be used by Barn Owls for hunting, but no records of any other protected species exist for the site or immediate vicinity.

- 6.3.2 Durham Wildlife Trust holds no records of any protected species within 1km of the proposed Coaley Lane development site. Water vole are known to be present on Moors Burn/Sedgeleth, just over 1km to the south west of the site. The Trust also provided a record of Brown Hare approximately 250m to the north of the site in 2003.
- 6.3.3 One Site of Special Scientific Interest (SSSI) and three Sites of Nature Conservation Importance (SNCIs) can be found within 2km of the proposed development site. However, it is not considered that any of these designated sites will be affected by the proposed development.
- 6.3.4 Herrington Hill SSSI is located approximately 2km to the northeast of the site, just south of West Herrington, at NZ 348528. Herrington Hill is primarily designated for its magnesian limestone grassland community.
- 6.3.5 The Clouds SNCI is just north of Houghton-le-Spring at NZ 347507 approximately 1.5km southeast of the proposed development site. The Clouds is designated for its mature deciduous woodland and magnesian limestone grassland and scrub.
- 6.3.6 Herrington Hill Woodland SNCI, designated for its mixed deciduous woodland, lies approximately 1.25km to the northeast of the proposed development site at NZ 345524.
- 6.3.7 Houghton Hill Cut and Scarp SNCI lies to the east and west of the A690, north of Houghton-le-Spring, around a central grid reference of NZ 34350505. The eastern end of the SNCI is approximately 1km southeast of the proposed development site.
- 6.3.8 The National Atlas of bat distribution indicates that soprano pipistrelle and Noctule have been recorded within this 10k square.

Phase 1 Habitat Survey

- 6.3.9 The habitat map (Figure 2) shows the approximate distribution of the various vegetation communities and the approximate location of individual trees. The site is dominated by a mixture of relatively young mixed plantation broadleaved woodland, coarse MG1 grassland and tall ruderal vegetation and an area of agricultural land, most likely used for hay silage in 2006 but in wheat in 2008. The site is considered to be relatively species poor and generally of low botanical interest and nature conservation value.

Habitat Target Notes

Target Note 1

6.3.10 An area of MG1 coarse grassland mixed with tall ruderal vegetation on the corner of the site between the tarmac footpath and the plantation woodland (photograph above). The grassland component is largely dominated by coarse grasses, including *Arrhenatherum elatius*, *Dactylis glomerata* and *Holcus lanatus* and with very few herbs noticeable at this time of year. Several small



patches of tall ruderal vegetation are scattered throughout the grassland areas. These include species such as *Chamerion angustifolium*, some *Filipendula ulmaria*, *Cirsium spp.* and *Dipsacus sp.* There is also a small circular patch of *Rubus fruticosus* scrub within the grassland. There are a number of informal paths through the grassland. The area of habitat on the far side of the path is of a similar nature, as are more extensive areas to the north of the site.

6.3.11 There is a small patch of plantation broadleaf woodland on the corner of the footpath. Species include *Fraxinus excelsior*, *Quercus sp.*, *Alnus glutinosa*, *Acer pseudoplatanus* and *Fagus sylvatica*. All the trees are of a similar age and were probably all planted at the same time. Canopy trees are 5-6m tall, immature and simple in growth form, and approximately 10-15 years old. There is no under storey and the ground flora is very impoverished, consisting of grasses, a small number of herb species and large areas of bare ground.

6.3.12 Moving west from the woodland, habitats grade into an alder-hawthorn hedge on a south-facing bank. This consists of 10-12 relatively mature *Crataegus monogyna* bushes approximately 4-5m in height. No other species are present, although there is a small amount of *Rubus fruticosus* scattered throughout the base. The bank on which the hedge sits is relatively bare. This hedge and the rest of the area described in target note 1 are located outside of the proposed development area.

Target Note 2

6.3.13 An area of plantation broadleaved woodland, approximately 15+ years old (photograph above). The canopy is no more than 5 or 6m in height. Species include *Salix spp.*,



Quercus sp, *Fraxinus excelsior*, *Alnus glutinosa*, *Acer pseudoplatanus* and *Fagus sylvatica*. There is no scrub layer and the ground layer is very impoverished, primarily consisting of coarse grasses and bare ground.

6.3.14 Species within the coarse grassland ground flora within the and along the boundaries of this area include *Tussilago farfara*, *Chamerion angustifolium*, *Vicia sp.*, *Trifolium repens*, *Plantago lanceolata*, *Heracleum sphondylium*, *Dactylis glomerata*, *Arrhenatherum elatius*, *Galium aparine*, *Holcus lanatus*, *Chamerion angustifolium* and *Cirsium arvense*, with scattered but locally dense patches of *Rubus fruticosus*. Patches of bare ground are also present along the western boundary of the plantation, possibly the result of small localised fires.

6.3.15 A large hedgerow runs along the northern boundary of the plantation, which is approximately 2.5m in height and supports species such as *Fraxinus excelsior*, *Crataegus monogyna*, *Rubus fruticosus*, *Rosa canina* and *Dipsacus fullonum*, with a coarse grassland understorey. A dry ditch runs parallel to the southern side of the hedgerow. This ditch is overgrown with coarse grass species and patches of dense scrub.

Target Note 3

6.3.16 A ride through the plantation broadleaved woodland following the route of an overhead power line. Habitats consist of a mixture of coarse MG1 grassland interspersed with small areas of tall ruderal vegetation and dense stands of scrub. Coarse grassland supports a similar range of species to the coarse grassland habitats described in TN 2. The tall ruderal vegetation includes species such as *C.angustifolium*, *Cirsium sp.* and *Dipsacus sp.* with the dense stands of scrub, dominated by *Rubus fruticosus*.

Target Note 4

6.3.17 An area of plantation broadleaved woodland to the south of the power line corridor. This plantation woodland area is dominated by *Fagus sylvatica* with a scattering of *Fraxinus excelsior* and *Salix* saplings. The woodland in this section is probably only up to 5 years old. *Fagus* saplings are typically 2m in height, *Fraxinus* saplings approximately 1m tall. There is no scrub layer, although there appears to be a small number of *Rosa canina*. The ground layer is generally dominated by MG1-type coarse grasses, species composition similar to that of the coarse grassland detailed in TN 2 and TN 3. There is also a scattering of tall ruderal species, particularly *Cirsium sp.*

Target Note 5

6.3.18 Agricultural field, probably used as a silage crop. In 2006 Grasses dominated the sward, with rare forb species including *Taraxacum* agg., *Trifolium repens*, *Ranunculus repens*, *Senecio jacobea* and *Matricaria recutita*, and occasional to locally frequent *Stellaria media*. A single *Crataegus monogyna* bush is present towards the east of the field, which is surrounded by species-poor coarse grassland dominated by *Holcus lanatus* and *Galium aparine*, which lies within a small ditch/hollow. In 2008 this field was in wheat.



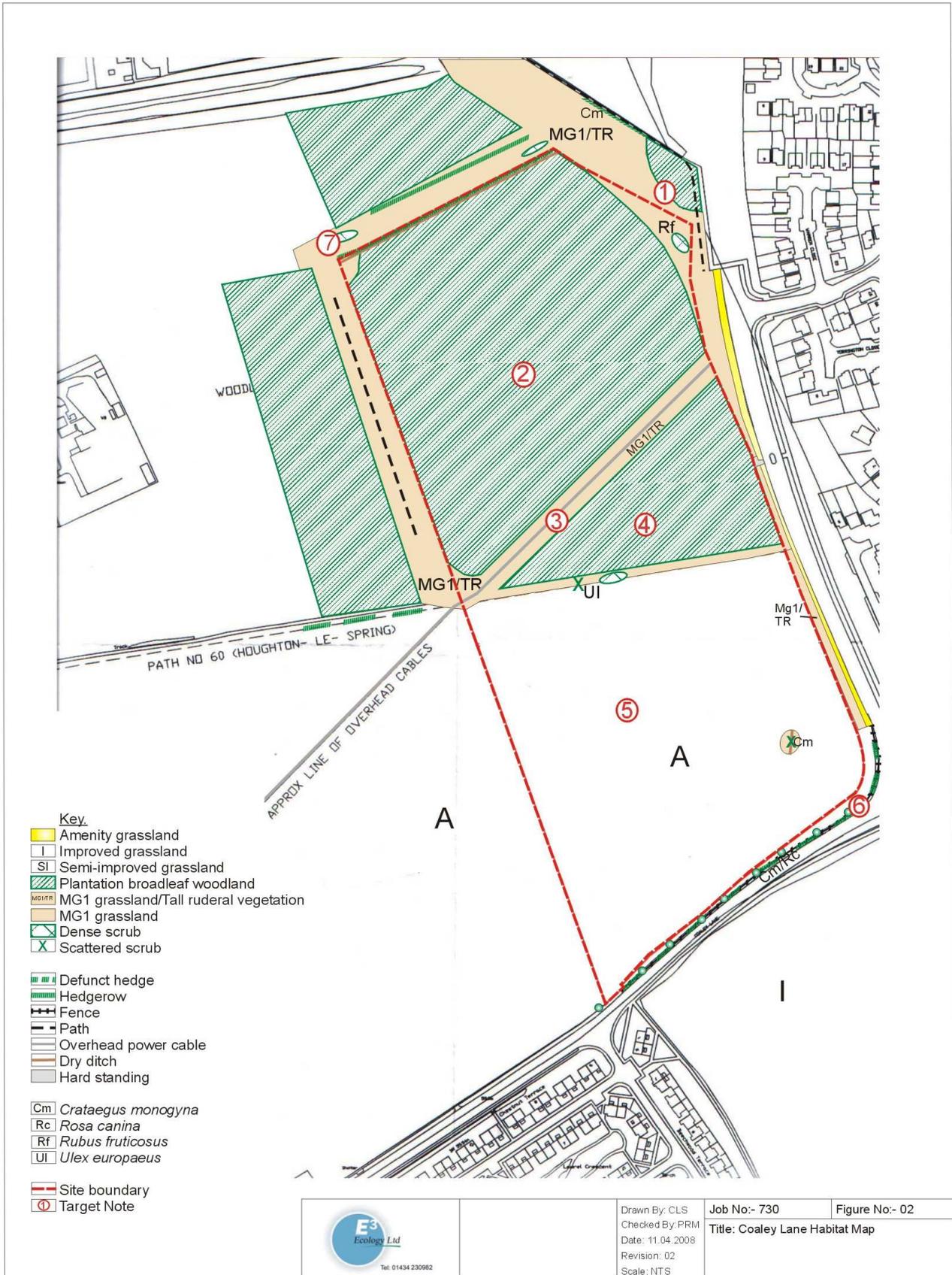
6.3.19 The western edge of this field is marked by an informal track/pathway, while coarse grassland consisting of the species listed above (TN2) runs along the eastern and northern boundaries, the latter area running adjacent to a public footpath which is heavily used by local dog-walkers. Small patches of dense *Rubus fruticosus* are present along the edges of the track to the north of the field, and scattered *Ulex europaeus* were also noted.

Target Note 6

6.3.20 A gappy/defunct hedge along the edge of the field described at TN 5, associated with the fence line along the edge of Coaley Lane. The hedge includes two main species, *Crataegus monogyna* and *Rosa canina*, along with a number of small *Fraxinus excelsior* hedgerow trees. The *Crataegus* and *Rosa* reach approximately 1.5m in height and are very gappy, both between individual bushes and at the base. The *Fraxinus* trees are up to 2m tall, young and have a simple growth form. There are also a few small *Rubus fruticosus* plants within the hedge.

Target Note 7

6.3.21 Very small patch with the potential to be of slightly higher botanical interest than the adjacent areas of coarse grassland. Small quantities of possible *Centaurea nigra* (dead stems, so can't be 100% sure on I.D.) as well as *Digitalis purpurea* and *Potentilla reptans* were noted in this area, which is otherwise dominated by coarse grassland and lies outwith the site boundary.



6.4 Protected Species

Badger

- 6.4.1 No field signs suggesting the presence of badger were recorded within the survey area. Were setts to be present in the vicinity, the most likely location would be the disused railway cutting which runs east-west, approximately 75m to the north of the site. However this area was searched thoroughly and no evidence of badger activity was recorded. Disturbance of both the site and this area, through which a public footpath runs, is relatively high with abundant informal paths also present running through the vegetation. This level of disturbance is likely to dissuade badger use, should they be present in the broader area.
- 6.4.2 The plantation woodland within the survey area is relatively immature, sparse and on primarily flat ground, sub-optimal habitat for badger sett creation. However, should badger be resident in the broader area, the grassland habitat to the south of the survey area will provide some foraging opportunities.

Bats

- 6.4.3 In a wider context, the proposed development site may form part of a network of habitats that provide potential foraging habitat for bats. Small numbers of bats, particularly pipistrelles, may roost within the nearby houses, outwith the site, and forage over the grassland and woodland within the site. However, it is not considered that the partial loss of this habitat would have a significant impact on the local bat population, with higher value foraging habitat being present elsewhere. Retention of woodland belts around the margins of the proposed development will help to maintain foraging habitats for bats, and the value of these habitats will increase as the trees mature. Retained belts will link to the larger expanse of plantation which lies immediately to the west of the survey area, outwith and unaffected by the proposed development.
- 6.4.4 The trees present within the plantations are only considered to have a very low risk of supporting roosting bats, being relatively immature with simple growth forms and no visible signs of rot or cavities. There are no man-made structures within the site that could support roosts.

Otter

- 6.4.5 There is no suitable habitat within or adjacent to the site for this species and it is concluded that the species is absent.

Great Crested Newt

- 6.4.6 Three surveys have been undertaken to date at the pond within the disused railway cutting to the north of the site (pond location NZ 32987 51735) outside the application boundary and survey condition and results are detailed within the tables below. No great crested newts have been recorded, with 15 smooth newt recorded during netting during the first survey, a single smooth/palmate newt recorded during torching during the second survey and 5 smooth/palmate newts recorded during the third survey.
- 6.4.7 Durham Wildlife Trust holds no records of great crested newt within 2km of the site and The Amphibian Atlas of North East England 2008 does not contain any records for great crested newt within the tetrad within which the site lies. E³ Ecology Ltd carried out full surveys of a waterbody potentially suitable for this species approximately 800m from the site in 2007 and did not record the species.
- 6.4.8 As such it is concluded likely that pond to the north of the site does not support great crested newt, however further surveys are on-going to meet Natural England's guidelines and confirm the absence of this species. In the unlikely event the species proves to be present an appropriate mitigation strategy will be developed and a Natural England licence obtained to allow the proposed development to commence.

Survey 1 – 3 rd April 2008 (Pond Location NZ 32987 51735)							
Start time	1.45	Start air temp		11			
Finish Time	2.00	Finish air temp		8			
Moon	Not visible	Water temp		10			
Cloud	100	Water Conditions and turbidity (0-5)		3-4			
Wind and other factors affecting survey	-	Invert diversity and spp		Good			
Water level comments	OK	Vegetation (%) and spp		15% grasses and rush			
	Adults		Juveniles		Eggs	Larvae	Comments
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>			
Great Crested							
Smooth/ Palmate	2	1					15 smooth newts, recorded during netting
Frog							
Toad	25	25					
Fish	None						
Water fowl	none						

Survey 2 – 10th April 2008 (Pond Location NZ 32987 51735)							
Start time	2.15	Start air temp	5.5				
Finish Time	2.30	Finish air temp	5.4				
Moon	Not visible	Water temp	6.8				
Cloud	1/4	Water Conditions and turbidity (0-5)	3-4				
Wind and other factors affecting survey	-	Invert diversity and spp	Good				
Water level comments	High	Vegetation (%) and spp	20% grasses and rush				
	Adults		Juveniles		Eggs	Larvae	Comments
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>			
Great Crested							
Smooth/Palmate	1						
Frog							
Toad	6	7					
Fish	None						
Water fowl	none						

Survey 3 – 24th April 2008 (Pond Location NZ 32987 51735)							
Start time	23.15	Start air temp	10				
Finish Time	23.45	Finish air temp	10				
Moon	1/4	Water temp	7				
Cloud	10%	Water Conditions and turbidity (0-5)	2				
Wind and other factors affecting survey	-	Invert diversity and spp	Good				
Water level comments	High	Vegetation (%) and spp	20% grasses and rush				
	Adults		Juveniles		Eggs	Larvae	Comments
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>			
Great Crested							
Smooth/Palmate	5						
Frog							
Toad	23						
Fish	None						
Water fowl	none						

Water Vole

6.4.9 There is no suitable habitat within or adjacent to the site for this species and it is concluded that the species is absent. The Wildlife Trust hold records of this species being present on Moor Burn/Sedgelech, approximately 1km distant from the site, however the proposed development will not impact on this location.

Red Squirrel

6.4.10 No field signs suggesting the presence of this species were recorded and both the site and the surrounding area lacks any habitat considered likely to support this species.

Ornithological Survey

6.4.11 During the walkover survey undertaken in January 2006 a total of 23 species were recorded from the study site. These species were: Pheasant, Sparrowhawk, Kestrel, Woodpigeon, Wren, Dunnock, Robin, Blackbird, Song Thrush, Redwing, Mistle Thrush, Goldcrest, Coal Tit, Blue Tit, Great Tit, Magpie, Jackdaw, Carrion Crow, Chaffinch, Greenfinch, Goldfinch, Siskin and Reed Bunting.

6.4.12 In addition the risk assessment identified a further eleven species that would regularly be expected to occur on the site. These species are: Collared Dove, Swift, Swallow, House Martin, Fieldfare, Blackcap, Chiffchaff, Willow Warbler, Long-tailed Tit and Starling. Thirteen species of conservation concern, as designated by the RSPB, may occur regularly on the study site. Seven of these species were actually recorded on the site during the walkover survey, whilst the remaining six were identified as likely to occur through the risk assessment. Table 6.3.1 details these species, their status at the survey site and whether they were recorded by the survey (S) or through the risk assessment (RA).

Recorded during survey (S) or through risk assessment (RA)			
Species	Status on study site	S	RA
Kestrel	Resident species occasionally hunting over the site, but nesting outwith.	X	
Swallow	Non-breeding summer visitor foraging over the site in very small numbers.		X
House Martin	Non-breeding summer visitor foraging over the site in very small numbers.		X
Meadow Pipit	Winter visitor, and possible breeder, within the grassland areas in very small numbers.		X
Dunnock	Probable resident breeder, in very small numbers, within plantation.	X	
Fieldfare	Winter visitor, in small numbers, to plantation.		X
Song Thrush	Probable resident breeder, in very small numbers, within plantation.	X	
Redwing	Winter visitor, in small numbers, to plantation.	X	
Mistle Thrush	Possible resident breeder, in very small numbers, within plantation.	X	
Willow Warbler	Possible summer breeder, in very small numbers, within plantation.		X
Goldcrest	Resident visitor, and possible breeder, within plantation.	X	
Starling	Possible resident breeder, in very small numbers, in plantation.		X
Reed Bunting	Resident visitor, and possible breeder, within plantation.	X	
Red fill= species on RSPB National Red List of Birds of Conservation Concern ³			
Orange fill= species on RSPB National Amber List of Birds of Conservation Concern ³			

6.4.13 Breeding bird surveys are on-going at the site and the above assessment will be revised following completion of this work.

6.4.14 The first breeding bird survey visit produced a range of species similar to that originally identified during the risk assessment. Initial results from the breeding bird survey indicate that 21 species may be breeding within the site, including eight species of national conservation concern.

6.4.15 This initial breeding bird survey supports the conclusion that the Coaley Lane site is of Low ornithological value, the risk assessment is a worst-case scenario

assessment based on the nature of the habitats and birds recorded during the walkover survey, and it is unlikely that the breeding bird survey will result in the site being classed as being of greater ornithological value.

Invertebrates

6.4.16 The range of habitats found within the survey area, such as the trees, scrub and grassland, are likely to provide habitat for a range of common butterfly and moth species. It is considered likely that nine species of butterfly may occur in the survey area with some regularity. These species are Small White, Orange Tip, Large White, Green-veined White, Small Tortoiseshell, Peacock, Painted Lady, Red Admiral and Common Blue.

6.5 Conclusion

Site Assessment

6.5.1 Overall the habitats present within the proposed development site are considered to be of Low ecological value, mainly consisting of immature plantation broadleaved woodland, tall ruderal vegetation, areas of Mg1 coarse grassland and small areas of *Rubus fruticosus* scrub. The mature, but species-poor, hedgerows at the edge of the site are of low quality, although the presence of breeding birds increases the value slightly. The majority of the length of the hedgerow would be retained intact within the proposed development. The habitats present within the site are quite commonly duplicated throughout the surrounding area where there are a number of similar grassland fields and young plantations.

Protected Species

6.5.2 There are considered to be no issues on the site with regard to protected species, excluding nesting birds. Full surveys are on-going with respect to great crested newts, however initial survey work and the desk study indicate the likelihood of the species being present is low. Further survey work to meet Natural England guidelines is on-going to confirm the absence of this species.

6.5.3 No field signs suggesting the presence of badger were found within the survey area and the desk study produced no records of them within 2km of the site. There remains the low possibility that the grassland areas are used as foraging habitat. However, if no works are proposed within 30m of a sett, then there is no requirement for licensing. A checking survey will be carried out prior to development works commencing and a licence obtained should any new outlier setts have been created and be affected by the proposed development.

- 6.5.4 In a wider context, the proposed development site may form part of a network of habitats that provide potential foraging habitat for bats. However, there are no man-made structures within the site that could provide suitable roosting opportunities and all the trees present are considered to have only a very low risk of supporting roosts. As the woodland belt to the west of the development is being retained, as it matures the habitat available for foraging bats will be enhanced.
- 6.5.5 No field signs suggesting the presence of otter, or water vole were recorded and the lack of suitable wetlands within the site or its immediate surroundings makes the habitat wholly unsuitable for these species. No evidence of red squirrel was recorded at the site and the risk of this species being present is considered to be low due to the nature of the habitat and surrounding area.
- 6.5.6 Newt surveys to date have recorded smooth/palmate newts within the pond within the railway cutting to the north of the site with no great crested newts recorded. The desk study, in conjunction with the results of initial survey work indicates the risk of this species being present is low. Further surveys are on-going to confirm the status of the site with respect to this species.
- 6.5.7 In the unlikely event that great crested newts prove to be present within this water body the proposed development would cause the loss of 7 hectares of terrestrial habitat within 500m of the pond and a licence will be required to allow works to proceed as there will be a risk of great crested newts being harmed or disturbed by the works. Works will not have a direct impact on this water body and with the implementation of appropriate best practice working methods with respect to protection of watercourses, indirect effects will be avoided.

Ornithology

- 6.5.8 The following assessment is based on the walkover/risk assessment undertaken in 2006 and will be revised if necessary following completion of the breeding bird surveys which are currently on-going. As stated above it is unlikely that the completion of breeding bird surveys will result in the site being classed as being of greater ornithological value.
- 6.5.9 The survey area is considered to be of low ornithological value as it only supports very small populations of a small range of common bird species. The area considered to be of most ornithological interest within the survey area is the block of immature deciduous plantation woodland. Eight species of conservation concern may potentially be breeding within the survey area. These species are Song Thrush, Starling and Reed Bunting, which are on the RSPBs red list, and Meadow Pipit, Dunnock, Mistle Thrush, Willow Warbler and Goldcrest, which are on the RSPBs

amber list. The majority of these species will be breeding and foraging in the plantation block.

6.5.10 Pre-existing information has indicated that the small areas of rough grassland within, and outwith, the site may be used by hunting Barn Owl. Although no evidence was found of this species the small areas of grassland are indeed suitable as a foraging resource. Barn Owls are specially protected, whilst breeding, under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

Impact Assessment

6.5.11 Several areas of relatively low ecological value are likely to be lost through the development of the site. These areas are:

- a block of immature deciduous plantation woodland;
- an arable field in wheat
- and several small areas of coarse Mg1-type grassland and tall ruderal vegetation.

6.5.12 Vegetation clearance, if undertaken during the bird nesting season, could result in the harm or disturbance of nesting birds.

6.5.13 There is a low risk that construction works could cause harm or disturbance to badgers and/or their setts should new outlier setts be created within or adjacent to the site prior to construction works commencing.

6.5.14 Proposals will result in a reduction of the foraging habitat available to the local bat population, however it is not considered that this reduction will have a significant impact on the local population, habitats within the site being of relatively low value. Works will not affect any bat roost sites, the only potential roost sites within the site being the immature trees and the risk of these supporting roosts being very low. The retention of tree belts around the margins of the site will ensure that commuting routes and foraging areas for bats are retained within the area, linking to unaffected habitats to the west.

6.5.15 In the unlikely event that great crested newt prove to be present within the pond to the north of the site, proposals will cause the loss of immature plantation, likely to be used by newts during the terrestrial phase of their lifecycle, within 500m of a great crested newt breeding pond. Site clearance could also potentially cause harm or disturbance to great crested newts. Completion of newt surveys is required to allow

a full assessment with respect to this species, the two surveys undertaken to date have not recorded the species as present.³

Mitigation measures

- 6.5.16 As Barn Owl have been reported to use the rough grassland on, and near, the site for hunting the development would seek to preserve areas of rough grassland around the margins of the woodland areas as habitat for small mammals.
- 6.5.17 Landscape design of the development has retained woodland areas around the margin of the site and retained the majority of the hedge lines. In addition, new structural/hedgerow planting is proposed, linking areas of retained woodland, strengthening green corridors around the margins of the site and through the centre.
- 6.5.18 Proposed planting comprises locally native species including hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, dog rose *Rosa canina*, Elder *Sambucus nigra*, Alder *Alnus glutinosa*, silver birch *Betula pendula*, ash *Fraxinus excelsior*, pedunculate oak *Quercus robur*, hazel *Corylus avellana*, and rowan *Sorbus aucuparia*.
- 6.5.19 Any vegetation clearance within the site would not be carried out during the bird-nesting season, March to September inclusive, unless an appropriately qualified ecologist has carried out a checking survey immediately prior to works commencing, showing active nests to be absent.
- 6.5.20 A badger checking survey will be carried out prior to development works commencing and a licence obtained should any new outlier setts have been created and be affected by the proposed development.
- 6.5.21 In the unlikely event that great crested newt prove to be present within the waterbody to the north of the site a full mitigation strategy will be developed and a Natural England licence will be obtained to allow the proposed development to proceed.

³Note Though the Habitat Regulations have been updated subsequent to the original survey work and assessment in 2006, this has not altered the conclusions of the updated assessment produced in 2008.