

Phase One Habitat Survey and Scoping Survey for European Protected Species on Land Adjacent to Scalegill Road, Moor Row, Cumbria

Assessment to identify habitats of conservation importance and potential for protected species in relation to a proposed development

Report for: Mr Robert Greggain

July 2015

To complete the objectives stated in this report, it was necessary for OpenSpace to base our conclusions on the best information available during the period of the project and within the limits prescribed by our client in the agreement.

No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information. We therefore cannot guarantee that the investigations fully identified the degree or extent of e.g. species presence or habitat management efficacy described in this report.

Document Information

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Phase One Habitat Survey and Scoping Survey for European Protected Species on Land Adjacent Scalegill Road, Moor Row.

1 PROJECT BACKGROUND

The general walkover survey has been commissioned by Mr Robert Greggain to provide general ecological information to support an outline planning application for proposed residential development on land adjacent Scalegill Road, Moor Row, Cumbria. Indicative plans (pers. comm. Mr Robert Greggain) are for nine residential dwellings within the southern section of the site.

To assess any potential impact from the proposed works a European Protected Species (EPS) scoping survey has been commissioned. This aims to provide information on the presence and / or the potential for EPS or other species of principal importance present on site. There may be a requirement to identify further survey work.

To ensure no offence is committed by disturbing protected species or disturbing other species of conservation concern while undertaking new construction projects, the survey examined evidence for a number of wildlife species with special protection from death, injury or disturbance.

These are species listed under Schedule five and seven of the Wildlife and Countryside Act, 1981 (as amended) and subsequent updates, and the Conservation (Natural Habitats, & c.) Regulations 2010 (as amended).

The site was also assessed for other species with protection and interest, such those listed under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. This recognises UK BAP species to be of principal importance for the conservation of biodiversity and includes reptiles, invertebrates and breeding birds (including species under the EC Birds Directive).

See Appendix 2 and 3 for additional information on wildlife legislation and species status.

2 SCOPE OF SURVEY

The survey aims to make a reasoned judgement as to the potential use of the site and adjacent habitat by European Protected Species and other species of conservation concern. The presence of any habitats of conservation concern was also noted. From information gathered during a general walkover survey over the site, an assessment will determine the suitability of the habitat for protected species (and note the potential conservation value of any habitats). Known habitat criteria for each protected species will form the basis for the assessment.

This survey does not include a full ecological survey or detailed population studies. To provide this information other survey techniques would be required to provide data for an informed and balanced opinion.

3 SURVEY METHODOLOGY

The survey area incorporated the site and the site boundaries. Where possible adjacent land was assessed / surveyed (see Figures 1.1 and 3.1).

The land and habitat within and surrounding the site were assessed for potential to support protected and important species and any signs or potential features were noted. The survey method involved a visual investigation within the proposed area, site boundaries and an assessment of adjacent land, hedgerows and trees.

Areas that could not be accessed were assessed for potential by observations made during the surveys and from information gathered during the desktop study. During a desktop study, aerial photographs and OS maps were used to look for water bodies and other features in the surrounding 500m.

A full Phase 1 Habitat survey (JNCC, 1990) was conducted. This was undertaken in the month of June in optimal time of year. The survey identifies habitat types and the boundaries between these. Plant species nomenclature follows that of Stace (2010). On completion of the field survey, the field notes are generated into a final report map with final target notes (see Appendix Four for Phase 1 Habitat Map).

Data search

The survey employed the services of the local biological records centre at Tullie House Museum (Cumbria Biodiversity Data Centre) to provide historical data. It must be noted that the species records are not comprehensive. Any lack of a record does not necessarily constitute an absence of a species from the surveyed area.

Timing

- The survey was conducted on the 11th June 2015 between the hours of 9.15 and 11.15.

Weather conditions

- Temperature 20-21°C; clouds 10%; no wind; no precipitation.

Personnel

The survey was undertaken by Patryk Gruba. Patryk is an experienced ecologist with over 4 years' experience in conducting Phase One Habitat and Scoping Surveys.

Figure 3.1. Aerial photograph of the site (showing surveyed area and adjacent land)



Figure 3.2. Aerial photograph of the surrounding habitat



4 RESULTS AND ASSESSMENT

4.1 Data Search

Species recorded within 2km include (all are within 1-2km of site unless otherwise noted):

- Common toad *Bufo bufo*: ten records; the nearest record 700m west.
- Common frog *Rana temporaria*: fourteen records; three within 1km.
- Palmate newt *Lissotriton helveticus*: four records; the nearest 500m north - from the ponds at Westlakes Science Park.
- Smooth newt *Lissotriton vulgaris*: two records, the nearest record 500m north - from the ponds at Westlakes Science Park.
- Great crested newt: two records from ponds at Cleator, 1.8km southeast from site.
- Common lizard *Zootoca vivipara*; one record from Clints Quarry, approx 2km south from the site.
- Otter *Lutra lutra*: eight records.
- Hedgehog *Erinaceus europaeus*: 92 records; 12 within 1km.
- Red squirrel *Sciurus vulgaris*: 91 records; 20 within 1km, one record from the trees adjacent to the northern site boundary
- Badger *Meles meles*; two records.

OpenSpace have records for common lizard from the area between Linethwaite and southern edge of Whitehaven; most of them along the cycle path on the opposite site of A595 road, approximately 1km west from site. Also, OpenSpace have records from 2014, for palmate newt, smooth newt, common toad and common frog in the ponds within Westlakes Science Park (the nearest pond approximately 400m north from site).

There are 19 records for bats. Species recorded include pipistrelle bats *Pipistrellus sp.*, common pipistrelle *Pipistrellus pipistrellus*, Daubenton's bat *Myotis daubentonii*, whiskered bat *Myotis mystacinus* and noctule bat *Nyctalus noctula*. There is one record of a noctule bat 600m south, but no records for bat roosts within 1km.

A number of invertebrates were recorded, including butterfly species such as wall *Lasiommata megera*, small heath *Coenonympha pamphilus* dingy skipper *Erynnis tages* and grayling *Hipparchia semele*. Moth species included small phoenix *Ecliptopera silaceata*, latticed heath *Semiothisa clathrata*, small square-spot *Diarsia rubi*, mouse moth *Amphipyra tragopoginis*, rosy rustic *Hydraecia micacea* and cinnabar *Tyria jacobaeae*.

The Cumbria Biodiversity Data Centre holds a number of historical records for bird species recorded in the area. These include red list species, such as grey partridge *Perdix perdix*, lapwing *Vanellus vanellus*, skylark *Aluada arvensis*, song thrush *Turdus philomelos*, grasshopper warbler *Locustella naevia*, spotted flycatcher *Muscicarpa striata*, starling *Sturnus vulgaris*, yellowhammer *Emberiza citrinella*, house sparrow *Passer domesticus*, tree sparrow *Passer montanus*, linnet *Carduelis cannabina*, wood warbler *Phylloscopus sibilatrix*, cuckoo *Cuculus canorus* and herring gull *Larus argentatus*.

Amber list species included: kestrel *Falco tinnunculus*, curlew *Numenius arquata*, oystercatcher *Haematopus ostralegus*, stock dove *Columba oenas*, swift *Apus apus*, swallow *Hirundo rustica*, house martin *Delichicon urbicum*, sand martin *Riparia riparia*, meadow pipit *Anthus pratensis*, dunnock *Prunella modularis*, redstart *Phoenicurus phoenicurus*, whitethroat *Sylvia communis*, wheatear *Oenanthe Oenanthe*, reed bunting *Emberiza schoeniclus*, willow warbler *Phyloscopus trochilus*, mallard *Anas platyrhynchos*, shoveler *Anas clypeata*, greylag goose *Anser anser*, pochard *Aythya ferina*, tufted duck *Aythya fuligula*, common sandpiper *Actitis hypoleucos*, eurasian woodcock *Scolopax rusticola*, redshank *Tringa totanus*, kingfisher *Alcedo atthis*, bullfinch *Pyrrhula pyrrhula*, grey wagtail *Motacilla cinerea*, pied flycatcher *Ficedula hypoleuca*, whinchat *Saxicola rubetra*, mistle thrush *Turdus viscivorus*, green woodpecker *Dendrocopos major*, little grebe *Tachybaptus ruficollis*, black-headed gull *Larus ridibundus* and Redwing *Turdus iliacus*.

Red List species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery. Amber List species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.

4.2 Site Location

The site is located at the western side of the village of Moor Row, between Scalegill Road (south), and the cycle path and disused railway (north). The Westakes Science and Technology Park is approximately 300m northwest from the site and A595 road is approximately 400m west from site. The town of Cleator Moor is 2km northeast from site and the southern edge of town of Whitehaven is 1.5km northwest.

The surrounding land comprises residential buildings, agricultural fields divided by trees and hedges, and trees / scrub along the footpath / disused railway track adjacent to the northern boundary of the site.

The River Keekle runs 700m to the east and there are numerous other springs, pools and becks within a 1km radius.

The River Ehen Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) is approximately 1.8km southeast. Clints Quarry SSSI is 2km to the south and St Bees Head SSSI is 4km west. The site is approximately 4 km west of the Lake District National Park boundary and 4.5km east from the Solway Coast and Saltom Bay. There are no other statutory designated protected areas within the immediate vicinity of the site.

The proposed residential development does not fall within any Natural England SSSI Impact Zone Risk and therefore, any risk of impact on local SSSIs/SACs/SPAs & Ramsar sites is considered unlikely.

See Figure 3.1 and 3.2 for aerial photograph of the site and surrounds.

4.3 Habitats

The site consisted of species poor semi-improved neutral grassland, amenity grassland, ruderal vegetation, dense scrub, small trees, ephemeral vegetation, hard standing, bare soil, ditch and fences.

Grassland

Species-poor semi-improved neutral grassland was present in the northwest of the site. The north section of this has been managed regularly by cutting. The western section of comprised short, secondary unmanaged grassland.

The species within the sward comprised Yorkshire Fog *Holcus lanatus*, Red Fescue *Festuca rubra*, Cocks Foot *Dactylis glomerata*, Meadow Foxtail *Alopecurus pratensis*, Perennial Rye-grass *Lolium perenne*, Rough Meadow-grass *Poa trivialis*, Ribwort Plantain, *Plantago lanceolata*, Creeping Buttercup *Ranunculus repens*, Meadow Buttercup *Ranunculus acris*, Red Clover *Trifolium pratense*, Dandelion *Taraxacum* agg., Curled Dock *Rumex crispus*, Common Mouse-ear *Cerastium fontanum* and Thistle species *Cirsium* sp.,

A small section of managed amenity grassland was present at the south of the site. The sward was cut low to the ground with Perennial Rye-grass, Red Fescue, Daisy *Bellis perennis* and Creeping Buttercup present.

Ruderal / ephemeral vegetation

The central section of the site included a heap of soil overgrown with ruderal vegetation. Species present included Rosebay Willowherb *Chamerion angustifolium*, Common Nettle *Urtica dioica*, White dead-nettle *Lamium album*, Hedge Bindweed *Calystegia sepium*, Bush Vetch *Vicia sepium*, Cleavers *Gallium aparine*, Cocksfoot *Dactylis glomerata*, Broad-leaved Dock *Rumex obtusifolius*, Ribwort Plantain and Honeysuckle. There were few scattered patches of Bramble *Rubus fruticosus* within the ruderal vegetation.

Ruderal vegetation with grassland and woodland species was present along the bunds bordering the site at the southwest and northeast. The dominant ruderal species included Rosebay Willowherb, Common Nettle, Cleavers and Common Hogweed *Heracleum sphondylium* and Willowherb specie *Epilobium sp.* Other species included Male Fern *Dryopteris filix-mas*, Pendulous Sedge *Carex pendula*, Cocksfoot, Rough Meadow-grass, Sweet Vernal-grass *Anthoxanthum odoratum*, Common Sorrel *Rumex acetosa*, Horsetail *Equisetum arvense*, Garlic Mustard *Alliaria petiolata*, Ground Elder *Aegopodium podagraria*, Herb Robert *Geranium robertianum*, Common Foxglove *Digitalis purpurea*, Meadow Buttercup, Oxeye Daisy *Leucanthemum vulgare*, Yellow-cress species *Rorippa sp.*, Ribwort Plantain, Red Clover and Thistle species.

Patches of short ephemeral vegetation with number of small ruderal species was present at the hard standing in the southwest of the site and along the edges of bare-ground at the southeast. Specie present included Birdsfoot Trefoil *Lotus corniculatus*, Black Medick *Medicago lupulina*, Common Mouse-ear, Horsetail, Herb Robert, Oxeye Daisy, Red Clover, Meadow Buttercup, Ribwort Plantain, Dandelion, Red Fescue, Yorkshire Fog and Rough Meadow Grass.

Scrub and Hedgerow

Overgrown unmanaged hedgerow / scrub bordered the site along the southwest and northeast. The dominant species present was Hawthorn *Crataegus monogyna* with Elder *Sambucus nigra*, Grey Willow *Salix cinerea* and English Oak *Quercus robur* present.

A substantial section of scrub comprising predominantly of mature Hawthorn and Bramble was present along the east of the site.

Smaller sections of scrub including Grey Willow and Bramble were present to the north and east of the site.

Young willow hedgerow was present in the southern section of the site.

Other

Mixed plantation comprising predominantly of Hawthorn, Willow species *Salix sp*, Elder, English Oak and young Spruce species *Picea sp*. was present along the disused railway track / footpath adjacent the site from the north.

A dry ditch overgrown by Soft Rush *Juncus effusus* and ruderal species was present along the bund with hedgerow bordering site from the west.

Hard-standing and bare ground with metal compounds, construction plant and materials and piles of rubble / gravel were present to the southwest and southeast of the site.

Assessment

With regard to the vegetation, most of the habitats on site were not habitats of conservation concern and therefore of low conservation interest. The species-poor semi-improved neutral grassland, amenity grassland, scrub, ruderal vegetation and ephemeral vegetation are of low conservation value, with no impacts expected with their removal and no mitigation required.

The hedgerows / line of scrub along the southwest and northeast of the site were fairly new features (planted by the owner – Mr Greggain). They were species-poor, comprised predominantly of hawthorn, and overgrown, and therefore they would not be classed as important hedgerows under Hedgerow Regulations (Defra, 1997) and under the UKBAP Priority Habitat for Hedgerows. According to indicative proposals (pers. comm.. Mr Robert Greggain) none of the hedgerows are proposed for removal.

The mixed plantation adjacent to the northern boundary of the site will not be impacted by the proposed development as all of the construction works are proposed within the southern section of the site.

A buffer zone between the hedgerows / mixed plantation and the construction footprint should put in place (see Section 5.4)

See Mitigation and Recommendations 5.1 and 5.2.

See Appendix 4 Phase One Habitat Map and Appendix 1 for Photos

4.4 Protected Species / Species of Conservation Concern

Amphibians

There are two records for great crested newt (GCN) from ponds in Cleator, approximately 1.8km southeast from the site. There are number of records for smooth newt, palmate newt, common toad and common toad. The nearest records for amphibians are from the Westlakes Science Park, 400m to the north. There are two ponds (Westlakes SP) with adjacent suitable GCN habitat within 500m of the site.

In 2014, OpenSpace undertook a great crested newt presence / absence survey within all of the ponds at the Westlakes Science Park (Plot 7A, Westlakes Science & Technology Park, Moor Row; 2014). The survey results found no evidence of GCN in any of the surveyed ponds. There appears to be no other suitable breeding ponds / features within a 500m radius from the proposed development site at Scalegill Rd Moor Row.

The grassland, ruderal vegetation and hedgerows within and along the site boundaries provide suitable foraging / commuting conditions for GCN and other amphibians. The potential hibernacula / refuge on site comprise hedgerow / extensive scrub roots along the site boundaries. There were limited hibernacula opportunities within the central section of the site and the proposed development footprint (south of the site).

There is no potential for great crested newt or other amphibian species to be present breeding on site; the potential for hibernacula is limited. Individual common toad, common frog, smooth or palmate newt may be present foraging and / or commuting through the site.

The proposed works will not impact on great crested newt populations and there is no mitigation is required. General awareness measures should consider the low risk of an individual amphibian being present on site during works (see Section 5.2).

Bats

There were 19 records for bats within 2km. Species recorded include common pipistrelle, Daubenton's bat, whiskered bat and noctule bat.

There were no structures within the proposed development site with potential to support bat roosts. The metal containers / compounds within southwest of the site had no features to support roosting bats

The scrub / small trees present within the proposed development site had no potential for roosting bats. A number of trees within the mixed plantation adjacent to the north to the site may have features suitable for roosting bats. However, these are outside of the proposed development boundary and were not assessed for the purpose of this survey; the trees will not be directly affected by the proposed works, with no direct impact on roosting bats anticipated.

The habitat on and surrounding the site offered suitable conditions for foraging and commuting bats. The habitat loss due to proposed development is minimal and considered to have negligible impact on local bat populations.

The proposed works will not directly impact on roosting bats and there is no significant habitat loss.

Both during and post works there may be a negligible / low risk of indirect impacts on local bat populations using the habitat on and around the site to forage and commute. To reduce risk of impact the recommendations on lighting (Section 5.1) should be incorporated into the site design.

Badger

There are two records for Badger within 2km from site, and no records within 1km from site. There was no evidence of badger found within the site. There were no badger setts within the survey area and no evidence of badger / badger setts within 30m from the site boundaries.

There is some connectivity to the suitable land surrounding the site and the wider habitat (fields divided by hedges and small patches of woodland) provides good conditions for this species.

The development will not impact on badger setts or local populations and therefore no mitigation measures are required.

As there are records for badger in the area there may be potential for individual badger to commute / forage within the proposed site and as a general measure during works the development should employ general awareness measures (see Section 5.2).

Breeding Birds

The trees, hedge / scrub and ruderal vegetation on and around the proposed site had potential for breeding birds and these offered suitable foraging habitat. During the site visit, there were several bird species displaying territorial/mating behaviour observed within the site; these included song thrush, chiffchaff *Phylloscopus collybita*, willow warbler, whitethroat and magpie *Pica pica*. Swallows were observed hunting insects across the site.

Trees, hedge / scrub and ruderal vegetation on site / along the perimeter of the site provide potential for breeding birds and a habitat link to surrounding land.

The habitats and features present on and close to the site provided good foraging conditions suitable to support a variety of species.

There may be risk of impact on breeding birds if vegetation clearance works are undertaken during the bird-breeding season (March-August). See Mitigation and Recommendations 5.1.

Dormouse

The site was not suitable for use by dormouse *Muscardinus avellanarius* and the small trees, scrub and hedgerows present on site did not provide the extensive cover, foraging space and food source that Dormouse requires. There are no historical records for this species in the area and it is unlikely that dormouse are present on site or adjacent land.

The proposed works will not impact on dormouse, with no mitigation required.

Otter

There are six records for otter within 2km from site; most of them are from the River Keekle to the east.

The dry ditch and other habitats / features on site do not provide suitable breeding and hunting habitat for otter. The potential for resting otter within the site boundary was negligible and restricted to the dense scrub area in the northern section of the site. The fields and corridors provided some connectivity for commuting to the River Keekle west from the site and to the ponds within Westlakes Science Park (north from the site), where signs of otter presence were recorded by OpenSpace

It is considered the works will not impact on local otter populations, with no mitigation measures required.

As otter are present within the wider habitat, there may be some negligible risk of disturbance / harm to individual otter that may move through / investigate the site. Adherence to general awareness measures (5.2) during groundworks would reduce this risk.

Red Squirrel

Red squirrel are known in the area and there are 91 records, 20 records within 1km; the nearest record the trees adjacent to the northern site boundary

The small trees / hedgerow / scrub on site offer low potential for breeding red squirrels as they are not adequate in terms of surrounding tree cover and are too exposed / fragmented for use by nesting red squirrel.

The mixed plantation along the disused railway line / footpath adjacent site from the north provided good conditions and connectivity for red squirrels; there are number of red squirrel sightings within this area. Although no squirrel drays were observed within this section, the mature trees along the footpath offer potential for red squirrel to breed.

The mixed plantation adjacent to the northern boundary of the site will not be impacted by proposed development within the southern section of the site.

Therefore, based on current advised plans for the site, there is no anticipated risk of impact to local red squirrel populations, with no mitigation required.

General awareness measures should be put in place (Section 5.2). However, if any of the large trees adjacent north of the site are planned for removal, then the trees must be checked for squirrel dreys, by a qualified ecologist, prior to removal.

Reptiles

Cumbria Biodiversity Data Centre have one record common lizard within 2km from site. Furthermore, OpenSpace have records for common lizard from the area between Linethwaite and the south of Whitehaven - most of them from the stretch of the cycle path west of the A595, approximately 1km west from the site.

The cycle path connects to the proposed site - trees and scrub along the cycle path lie adjacent the northern boundary to the site. At the northwest, the cycle path connects to the railway line in Whitehaven. Both the current railway line and the old railway line (cycle path) are known to provide suitable conditions for commuting reptile populations in west Cumbria.

The scrub, hedgerow, ruderal vegetation / grassland across the site are suitable for locally present reptile species such as common lizard and slow-worm to forage, commute and shelter. The areas of short-cut secondary grassland and hard-standing / bare ground offer suitable basking conditions for reptile species. The piles of construction materials (tin sheet etc) may provide some opportunistic refuge / basking features for reptiles, if present. .

The hedge-banks, tree roots and extensive scrub provide some opportunity for this species to refuge and hibernate.

The site is adjacent habitat that provides connectivity for reptile species. The disused railway / cycle path provides a link to the suitable habitat in the wider vicinity and known populations.

The habitat on and surrounding the site is suitable for common lizard and slow-worm and there may be risk of impact to local populations and / or harm to individual animals, if present on site. See Recommendations 5.1.

4.5 Other Species of Conservation Concern

Brown Hare (BAP Species)

There are no records for brown hare within 2km from the site. The habitat within the proposed development site provided suitable cover and food source for this species and the surrounding land offered connectivity.

However, the likelihood of breeding brown hare being present on site is considered low / negligible since the site is quite small and close to residential dwellings. The wider habitat to the north and south provides much better conditions for this species, making use of the site less likely.

There are no anticipated impacts to the local brown hare population. General awareness measures (5.2) should be adhered to reduce any risk of harm to individual animals.

Hedgehog (BAP Species)

There were 92 records for hedgehog within 2km of the site, 12 within 1km from site.

The site grounds provide suitable conditions for commuting and foraging hedgehog. The scrub and ruderal vegetation on and surrounding the site may provide some potential for breeding or nesting hedgehog.

The site is more likely to be used by this species due to its proximity to residential areas / well-established gardens and the more open agricultural habitat to the east, west and south east, all of which this species will use to commute, forage and shelter / breed.

The indicative plans suggest that the proposed development will be contained within the south of the site with minimal hedge and scrub removal. Therefore, proposed works are unlikely to impact on local hedgehog population.

There may be some risk of disturbance / injury to individual hedgehog should any scrub / ruderal vegetation removal is required. Adherence to general awareness measures (5.2) during site clearance / ground work would reduce this risk.

Polecat (BAP Species)

There was no records for polecat within 2km of the proposed development site. The proposed development site has some suitability for this species (ground cover and prey availability) and there is some connectivity to suitable land southwest and northeast. The breeding potential for this species within the survey area was negligible.

The proposed works are unlikely to impact on the local polecat population. General awareness measures (Section 5.2) should be adhered to reduce any risk of harm to individual animals.

Other

The area proposed for works and the surrounding land does not connect with any watercourses or rivers and does not provide suitable habitat for white-clawed crayfish, freshwater pearl mussel, freshwater fish (river) species or water vole. It is considered that unlikely that these species will be present within the proposed development site.

There would be no anticipated direct impact to any protected or important freshwater species, with no mitigation required.

The unmanaged grassland, trees, scrub and ruderal vegetation provide some suitable habitat for important assemblages of invertebrates. The loss of grassland, trees and scrub across the site may have some impact on important invertebrate populations, if present. Internal landscape design could provide opportunity to enhance the site for the important invertebrate populations and mitigate for any loss.

5 MITIGATION AND RECOMMENDATIONS

5.1 European Protected Species / Species of Conservation Concern

Bats

Indirect impacts in the form of increased lighting and removal of foraging habitat on site may cause disturbance to local populations of foraging and commuting bats.

It is recommended that any external lighting be minimal and below are suggestions for appropriate lighting design:

- The use of low-pressure sodium lamps or high-pressure sodium lamps instead of mercury or metal halide lamps.

- The design of the luminaire to incorporate the use of hoods, cowls, louvers and shields to direct the light to the intended area only.
- Reducing the ecological impact of the light by directing the light at a low level, preferably an angle less than 70 degrees.

Breeding birds

There is potential for birds to breed within the trees, scrub / hedgerow and ruderal vegetation / tussocky grassland.

Most of the works are currently proposed to be confined within the south of the site (hard-standing and bare ground) with negligible potential for breeding birds.

However, if the proposed design requires clearance of any trees, scrub or ruderal vegetation, then the vegetation clearance works and any works to trees should be undertaken outside of the breeding bird season (March to August inclusive).

Should works to clear the ruderal vegetation, scrub and trees commence *within the bird breeding season* (March to August inclusive) then these works should be conducted under the supervision of a suitably qualified ecologist or Ecological Clerk of Works (watching brief) who should check all areas prior to any clearance.

Reptiles

The site is connected to suitable reptile habitat and there are known populations within 1km of the site. Statutory guidelines (Natural England, 2011) state a dedicated reptile survey should be conducted if the development site provides suitable habitat for reptile species.

A presence / absence survey for reptiles should be considered and would be required to inform a full planning application.

This would consist of at least seven survey visits during March – September. The survey results would provide impact assessment and detail a mitigation / translocation scheme if required. Additional survey visits may be required to allow a population estimate and appropriate mitigation.

Invertebrates

Enhancement planting and habitat creation on site will help to minimise any impacts on invertebrate presence on site and therefore maintain provision on site for birds and other species.

5.2 General Awareness

Adherence to the following awareness measures will ensure any low risk of disturbance to individual otter, red squirrel, amphibian, hedgehog or other individual animals that may become present on site during ground work / construction is reduced:

- Before clearance works commence any areas covered by dense vegetation should be disturbed by hand (or by the contractor walking over and disturbing the ground cover) to alert any animal.
- Dense scrub / small trees removal should retain the stumps and vegetation at ground level – these areas should be cleared with care - following a fingertip search at least three days after the main body of the hedge has been removed.
- Equipment, tools or plant associated with the development should be secured, stored away for the overnight period.
- Any open pipes at the end of each working day should be capped off (or stopped) to prevent access to hedgehog and other small mammals.
- All open excavations left overnight should allow any animal a means of escape if they enter the excavation. This can be achieved by placing a wooden board or plank no less than 0.5m wide and at an angle of no more than 45° or have a similar soil slope in the excavation.
- Open excavations should be checked daily before commencing works.
- All construction materials are to be stacked safely to prevent accidental collapse.
- To prevent the encouragement of pests and scavengers no food wastes are to be deposited on site.
- Works should, where possible, reduce working around sunrise and sunset.
- During works, any lighting on site should be minimal and directed away from the surrounding habitat / hedgerows.

5.3 Recommended Planting Scheme / Habitat Enhancement

The proposed landscape plan to accompany a full planning application should be produced in accordance with the National Planning Policy Framework (NPPF) in order to '*minimise impacts on biodiversity and provide net gains in biodiversity where possible...*'. Any proposed landscape features need to be created in a way that they are suitable for and will be used by wildlife. The proposed landscape plan should also use UK native species from reputable sources.

There is opportunity to enhance the land within the northern section of the site. The following enhancement measures are recommended:

- Bird boxes should be included within the scheme. House sparrow, swallow and swift nest boxes can be attached to buildings, with other bird boxes placed on mature trees around the site.
- Bird feeders and open water areas will benefit birds.
- Bat boxes could be erected within trees / incorporated into the building's design.
- Provision of wildlife areas, buffer strips and corridors within the design, including features such as log piles and habitat houses for hedgehogs / bees / invertebrates.
- Planting beds using species of benefit to wildlife such as nectar-rich plants.
- Use of native tree and shrub species in the planting scheme. This can include creating a new species-rich hedge or planting up the gaps in the defunct hedge bordering the site from the east
- Native bulb planting along edge of the retained woodland habitat on site
- Compost provision / grass heaps should be provided; either communally or within the grounds of each new dwelling.
- Make a hole / gap measuring approx. 25cm in all fences to allow hedgehogs to commute and forage through the gardens and the new development.

5.4 Hedgerow / Trees

No large construction machinery should enter within 3m of the retained hedge / trees. If the proposed development construction zone is within 3-4m of the hedge then this report recommends large wooden boards be placed around the area to reduce compaction and appropriate fence protection should be installed before construction to restrict access to the root systems.

6 SUMMARY

In summary, the proposed development at land adjacent Scalegill Rd, Moor Row, Cumbria is considered to pose a low risk of impact to most European protected species and important habitats. Suggestions for further habitat creation and enhancement have been provided.

There are habitats on site suitable for use by local populations of reptiles, breeding birds, and bats. There is some suitability for other important species to become present on site or utilise the site opportunistically.

Recommendations on timing with regard to breeding birds, a working methodology (general good practice) for other species and further survey requirements for reptiles have been provided in this report.

An appropriate lighting scheme and landscape design have been suggested to ensure no risk to local bat populations (See Chapter 5).

All European protected species, species of conservation concern should be considered at all times during construction, and if individual animals are suspected or appear within the construction phase work must stop and further guidance to protect from harm and disturbance should be sought by contacting an approved ecologist.

This report must be made available to all contractors.

7 REFERENCES/BIBLIOGRAPHY

DEFRA (2002). The Hedgerow Regulations 1997. A Guide to the Law and Good Practice.

Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.

HMSO (1997). The Hedgerow Regulations 1997. Statutory Instrument 1997 No.1160.

HMSO (1981). Wildlife and Countryside Act 1981, Schedule One

HMSO (1994). The Conservation (Natural Habitats, &c.) Regulations 1994. Statutory Instrument 1994 No. 2716

HMSO (2007). The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. Statutory Instrument 2007 No. 1843.

HMSO (2000). Countryside and Rights of Way Act 2000.

HMSO (1992). Protection of Badgers Act 1992.

HMSO (2006). Natural Environment and Rural Communities (NERC) Act 2006.

Hundt L (2012) 2012 Bat Surveys: Good Practice Guidelines 2nd Edition, Bat Conservation Trust

JNCC, (1994). Biodiversity: The UK Action Plan

JNCC (2003). Handbook for Phase 1 habitat survey: a technique for environmental audit (revised reprint). JNCC: Peterborough.

Protected Reptiles and Built Development (2003). Kent Reptile & Amphibian Group and Kent Wildlife Trust.

Natural England (2011) 'Badgers and Development' (IN75).

Natural England (2011). Reptile Mitigation Guidelines TIN102

OpenSpace (2014) Relative Abundance Survey for Great Crested Newt (*Triturus cristatus*) at Plot 7A, Westlakes Science & Technology Park, Moor Row.

Stace, C. (1997). New Flora of the British Isles (2nd Edition). CUP, Cambridge.

TSO (2010). The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2010. Statutory Instrument 2010 No. 490.

Whitehurst, J (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough.

8 APPENDIX ONE: Photos



Photo 1. Bare ground southeast of site – proposed development footprint



Photo 2. Overgrown hedge and grassland west of the site



Photo 3. Scrub and trees adjacent site at the north-provide connectivity for some species



Photo 4. Scrub and hedgerow adjacent site northeast - provide connectivity for some species



Photo 5. Disturbed & bare ground with piled materials – suitable reptile basking / shelter



Photo 6. Ruderal vegetation / scrub in the centre of the site

9 APPENDIX TWO: Wildlife Legislation

The following are listed as priority species under the UK Biodiversity Action Plan (UKBAP) and Local Biodiversity Action Plans and / or are Annex II and or Annex IV Species under the EC Habitats Directive (see Appendix 3 for species status).

Badger	<i>Meles meles</i>
Red squirrel	<i>Sciurus vulgaris</i>
Otter	<i>Lutra lutra</i>
Water vole	<i>Arvicola amphibious</i>
Bat species (All species)	<i>Chiroptera</i>
Dormouse	<i>Muscardinus avellanarius</i>
Pine marten	<i>Martes martes</i>
Polecat	<i>Mustela putorius</i>
Brown hare	<i>Lepus europaeus</i>
Hedgehog	<i>Erinaceus europaeus</i>
Great crested newt	<i>Triturus cristatus</i>
Natterjack toad	<i>Epidalea calamita</i> (formerly <i>Bufo calamita</i>)
Common toad	<i>Bufo bufo</i>
Reptiles (All species)	<i>Squamata</i>
White-clawed crayfish	<i>Austropotamobius pallipes</i>
Salmon	<i>Salmo salar</i>
Lamprey species	<i>Lampetra/Petromyzon</i>
Bullhead	<i>Cottus gobio</i>
Barn owl (Schedule One bird)	<i>Tyto alba</i>

Any species or habitat under the EC Birds or Habitats Directive are also covered by the Environmental Liability Regulations 2009, whereby operators are required to take preventative action in cases of imminent threat of environment damage, and to remedy environmental damage that they have caused. These Regulations apply in relation to:

- (a) damage to protected species and natural habitats if:
 - (i) it has significant adverse effects on reaching or maintaining the favourable conservation status of the protected species or natural habitat; and
 - (ii) it is caused by an activity listed in Schedule 1 or by the fault or negligence of an operator whilst carrying on any other activity.

This would include species such as all bat species, otter, salmon, birds such as merlin, hen harrier and kingfisher and habitats such as dry and wet heath and blanket bog.

10 APPENDIX THREE: Species Status

Species	Latin Name	Wildlife and Countryside Act	EC Habitats Directive	Protection of Badgers Act	Bird Population Status	UKBAP	Cumbria BAP
Badger	<i>Meles meles</i>			X			
Red squirrel	<i>Sciurus vulgaris</i>	X				X	X
Otter	<i>Lutra lutra</i>	X	Annex II and IV			X	X
Water vole	<i>Arvicola amphibious</i>	X				X	X
Bat species (All species)		X	Annex IV (some Annex II)			X	X
Dormouse	<i>Muscardinus avellanarius</i>	X	Annex IV			X	X
Pine marten	<i>Martes martes</i>	X				X	
Polecat (Schedule six)	<i>Mustela putorius</i>	X				X	
Brown hare	<i>Lepus europaeus</i>					X	X
Hedgehog	<i>Erinaceus europaeus</i>					X	X
Common toad	<i>Bufo bufo</i>					X	X
Great crested newt	<i>Triturus cristatus</i>	X	Annex II and IV			X	X
Natterjack toad	<i>Epidalea calamita</i> (formerly <i>Bufo calamita</i>)	X	Annex IV			X	X
White-clawed crayfish	<i>Austropotamobius pallipes</i>	X	Annex II			X	X
Salmon	<i>Salmo salar</i>		Annex II			X	X
Lamprey species	<i>Lampetra/Petromyzon</i>		Annex II			X	X
Bullhead	<i>Cottus gobio</i>		Annex II				
Barn owl (Schedule One bird)	<i>Tyto alba</i>	X	Annex I		Amber		X
Reptile species		X				X	X

11 APPENDIX FOUR: Phase 1 Habitat Map

