

**WALLTOWN VISITOR CENTRE, GREENHEAD,
PROPOSED DEVELOPMENT
EXTENDED PHASE 1 SURVEY REPORT.**

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1. Summary

An extended Phase 1 habitat and protected species survey of Walltown Visitor Centre was conducted on 6 August 2014. A desk study also took place.

The desk study revealed that there are 2 statutory sites within 2 Km of the site; these are 2 Sites of Special Scientific Interest (SSSI's). A geological site and an acidic grassland site on Whin Sill and are both 750m distant from the site. There is also one non-statutory site incorporating the site surveyed this is Walltown Quarry and Crag Local Wildlife Site (LWS). Protected species identified by the data study has revealed the past presence of Red Squirrel, Otter, Adder, Pipistrelle 55kHz and 45kHz, Natterer's and Whiskered/Brandt's species of bat as well as foraging or commuting Noctule bats, all recorded within 1km. No other specially protected habitat or species on or in the immediate vicinity of the site was identified.

Recommendations are made with regards to the likely presence of nearby nesting birds, including swallows using the Visitor Centre.

2. Introduction

Planning consent is being sought to extend and internally redesign the layout of the Visitor Centre with two extensions/lean-to's to the south and east to provide a covered sitting area and access. The present seating area will be enclosed as a visitor centre and the existing WC's are also to be reconfigured as part of the works with new access created to the exterior of the building.

A second planning application involving the siting of temporary staff office accommodation to the south of the building will also be made.

The land is mainly amenity grass surrounding a gravel and tarmac car park, which in turn is bordered by areas planted with trees in a young to semi-mature condition. In connection with this planning application an ecological assessment of the site at Walltown was undertaken, including a desk study and field survey of the site. The results of the desk study and field survey were then combined to assess the potential ecological impact of the proposed development.

The site is located at Wall Town (NGR:NY669659) and consists of an irregular parcel of land approximately 80m long and 35m wide at the widest points. The boundaries of the site are mainly walls where present.

The site is situated 1km to the northeast of Greenhead and is located in agricultural land consisting of permanent improved grassland with boundaries of walls. Immediately to the northeast rough grassland is present on a crag with some scrub and planted saplings and also further afield. In all directions young plantations are present.

3. Methodology

The MAGIC (Multi-Agency Geographic Information for the Countryside) web site was accessed on 29 August 2014 to search for statutory designations on or near the site.

A data search from ERIC North East was made for any records of protected or notable species within 1km.

An extended Phase 1 habitat survey by Ruth Hadden was undertaken using standard methodologies (JNCC 1993), paying attention to all wildlife signs and activity. Apart from observation, binoculars (Opticron Countryman 8x42) were used where necessary and photographs taken with a digital Olympus C5050 Zoom camera.

The site was visited on 6 August 2014 to carry out the survey. The weather was fine and a total of 1 hour was spent on this small site.

Birds

The suitability of the habitats on site as breeding bird habitat was noted together with species observed during the survey period.

Badger

Signs of badgers were looked for, consisting of footprints, latrines, signs of feeding, setts, pathways and crossing points, any signs found were noted.

Red Squirrel

All trees were checked for squirrel dreys as far as was feasible and any sightings of squirrels noted.

Bats

Any trees or buildings to be affected in the proposals were examined for bat potential in the form of crevices and access points.

Amphibians and Reptiles

An amphibian search was undertaken by checking the underside of any debris on site, particularly in damp areas and any open water noted. Any basking reptiles or suitable sites for basking reptiles were noted.

Once the desk study and field survey were completed standard Institute of Ecology and Environmental Management (IEEM) guidelines were followed to assess the ecological value of the site. The magnitude of the impact of the proposed development was then also assessed and these two assessments were combined to produce a measure of the significance of the impacts. Please see Appendix 5 for guidelines and definitions used in the assessment.

4. Desk Study Results

The site lies in the Northumberland National Park and is in the Tyne Gap and Hadrian's Wall Character Area. It lies within the buffer zone of a World Heritage Site, Hadrian's Wall with the Pennine Way and the Hadrian's Wall Path passing through the site. There are 2 statutory sites within 2 Km of the site; including 2 Sites of Special Scientific Interest (SSSI's). These consist of Tilpalt Burn SSSI to the northwest, a geological site and Allolee to Walltown SSSI to the northeast, an acidic grassland site on Whin Sill, both are about 750m distant from the site. There is also one non-statutory site incorporating the site surveyed, this is Walltown Quarry and Crag a Local Wildlife Site (LWS), which also includes Quarry lake. (Magic site and ERIC North East).

Other than nesting birds, bats are a protected species that are likely to feed over the site based on its character and location. No maternity bat roosts in the near vicinity of the site are known though roosts and foraging bats of Pipistrelle 55kHz and 45kHz, Natterer's and Whiskered/Brandt's species of bat as well as foraging or commuting Noctule bats, are all known within 1km. (Own records/ ERIC North East).

There are numerous records up to 2012 for Red Squirrels (*Sciurus vulgaris*) within 1km throughout the area; however it is noticeable that there are not many recent records with 2008 being the latest a Red Squirrel was seen within 100m of the site. In 2012 and 2013 several sightings of Grey Squirrels have been made. Otter records are sparse in the area within 1km, however 3 road casualties have been noted on the Military Road and the A69. (ERIC North East. Please see Appendix 4).

There are no recent records for badger in the last 17 years in the area though Hedgehog, Hare and Grey Squirrel have been seen over the years.

Adder has been recorded recently in the area within 1km to the south.

There are no records for great-crested newts within 1km of the site (ERIC North East) and within 10+Km (Amphibian Atlas 2013). There are 2 ponds/lakes marked on the OS map within 500m of the site, Quarry Lake 100m to the east and a further lake to the north.

Notable birds that have been recorded in the area within 1km are frequent, with 10 species on the amber list, 3 on the red list and 9 Northumberland BAP species. Please see Table 1 below. (ERIC North East).

Table 1 Birds Recorded within 1km of the Site.

| Bird Species | Designation |
|--------------------------|-------------------------------------|
| Sky Lark | Bird Red List, Northumberland BAP |
| Mallard | Bird Amber List |
| Meadow Pipit | |
| Common Linnet | Bird Red List, Northumberland BAP |
| Eurasian Treecreeper | |
| Black-headed Gull | Bird Amber List |
| Rook | Northumberland BAP |
| Jackdaw | Northumberland BAP |
| Great Spotted Woodpecker | |
| Common Snipe | Bird Amber List, Northumberland BAP |
| Eurasian Oystercatcher | Bird Amber List, Northumberland BAP |
| Pied Wagtail | |
| Eurasian Curlew | Bird Amber List, Northumberland BAP |
| Northern Wheatear | Bird Amber List |
| Common Redstart | Bird Amber List |
| Willow Warbler | Bird Amber List |
| Mistle Thrush | Bird Amber List |
| Northern Lapwing | Bird Red List, Northumberland BAP |
| Carrion Crow | |
| Reed Bunting | Bird Amber List, Northumberland BAP |

5. Field Survey Results

5.1 Flora and Habitats

The main habitats recorded in the development site were:

- Amenity Grass (40%)
- Deciduous Plantation (20%)
- Hard standing (40%)

The % cover will total > 100% due to the understorey/habitat beneath the trees. These habitats are further described below and are shown on a map at Appendix 3.

Plantation Deciduous

A general mix of Birch (*Betula pubescens*), Alder (*Alnus glutinosa*), Hazel (*Corylus avellana*), Goat Willow (*Salix caprea*), Guelder-rose (*Viburnum opulus*), Blackthorn (*Prunus spinosa*), Rowan (*Sorbus aucuparia*), Aspen (*Populus tremula*) and Oak (*Quercus sp.*) are present with ground flora along the boundary of abundant Yorkshire-fog (*Holcus lanatus*) and frequent Nettle (*Urtica dioica*) and locally abundant Rosebay Willow-herb (*Chamerion angustifolium*) Please see Appendix 3 for species list.

Trees

The occasional Hawthorn (*Crataegus monogyna*), Rowan (*Sorbus aucuparia*) and Field Maple (*Acer campestre*) is present to the northeast of the visitor centre.

Amenity Grass

Amenity grass is present throughout the site and consists of abundant Perennial Ryegrass (*Lolium perenne*) and frequent White Clover (*Trifolium repens*) and Cock's-foot (*Dactylis glomerata*)

Open Water

There is no open water on site though Quarry Lake is present within 100m to the northeast.

Boundaries

Walls

The boundaries on site are 1m walls on the north boundary with 10cm curbs around the amenity grass areas in the car park. To the south there is no boundary.

Buildings and Hard standing

A stone built visitor centre is present with associated hard standing for parking and tarmac paths to the north of the centre and in the disabled parking bay.

Target Notes

1. Small bank of amenity grass consisting of unimproved grasses and herbs see Appendix 3 for species list.
2. Kiln.
3. Picnic area.
4. Crag with regenerating trees, possibly with some planting.

5.2 Wildlife

Birds

Birds or traces of birds that were seen on site included Blackbird (*Turdus merula*), Robin (*Erithacus rubecula*), Wren (*Troglodytes troglodytes*) and Chaffinch (*Fringilla coelebs*); these birds are likely to nest in the trees and shrubs around the site and Swallow (*Hirundo rustica*) an Amber List and Northumberland BAP species is nesting around the building. A nesting box to the rear of the building is also used by either a Blue Tit or Great Tit each year (Monitored by staff).

It is unlikely that ground nesting birds such as Skylarks are present within the immediate development area due to the enclosed nature to the south of the building however they are in the area. Grey Partridge, Curlew, Snipe, Lapwing, Redshank, Black Grouse (All Northumberland BAP Species) have also been recorded in the area however it is very unlikely that they are nesting behind the visitor centre.

Mammals

Bats

The area is an ideal foraging area for bats with sheltered areas along the plantation edge. Please see separate report for bats.

Red Squirrel

No red squirrels were seen on site and no drey was seen in any tree around the site.

Badger

No badger signs were noted within the site or within 30 metres. As woodland and plantations are immediately present, the site may be used by foraging badger on occasions.

Others

Moles are present in the area.

Amphibians and Reptiles

No water is present on the immediate site and no amphibians were seen under potential refuges.

No reptiles were noted at the time of the visit and although potential basking areas are present in the vicinity the immediate area is well used by people on foot and by vehicles within the car park.

6. Identified Impacts

6.1 Predicted Impacts: Flora and Habitats

The main impacts to vegetation will be during the construction phase of the development and will consist in the disturbance of a very low proportion of the site, consisting of amenity grassland.

There will be a very low magnitude impact (<4%) on habitats with negligible value with <4% of the site being affected.

6.2 Predicted Impacts: Protected Wildlife Species

Birds

Under the Wildlife and Countryside Act (1981) it is illegal to :-

- Kill, injure or take any wild bird (unless under licence);
- Take, damage or destroy a bird's nest whilst in use or being built;
- Take or destroy the egg of any wild bird;
- Disturb any wild bird listed on Schedule 1 of the Act while it is nest building or at a nest containing eggs or young, or disturb the dependant young of such a bird.

Priority species in the UK BAP are also considered to be Species of Principal Importance for the Conservation of Biodiversity in England under Section 74 of the Countryside and Rights of Way Act 2000. No UK BAP priority species of birds were found on.

Birds are likely to nest in any trees and shrubs on the development site. All bird's nests and their contents are protected under the Wildlife and Countryside Act 1981 from damage or destruction while the nests are being built or in use. Specially protected species, i.e. those that must not be disturbed whilst nesting, are very unlikely to occur on the site. Any trees or saplings that may be removed will not be cleared during the peak-nesting season (March to August inclusive).

Works that affect the nesting swallows would have a high impact, therefore timing of the works to the building will also need to be addressed with access to any active nests maintained.

There will be no major severance of habitat on the site however a moderate impact due to noise and activity disturbance will occur.

Red Squirrel

The red squirrel is included in Schedules 5 and 6 of the Wildlife & Countryside Act 1981 (WCA) which means that it is a protected species. This legislation was amended, most recently by the Countryside & Rights of Way Act 2000 (CROW) for England and Wales. The inclusion of the species in Schedule 5 means that, under Section 9 of the WCA it is an offence to:

- Intentionally kill, injure or take (capture) a red squirrel
- Intentionally or recklessly damage or destroy any structure or place a red squirrel uses for shelter or protection or disturb a red squirrel while it is occupying such a place
- Possess a dead or live wild red squirrel, or any part of a red squirrel, unless you can show that the animal was taken legally.
- Sell, or offer for sale, a wild red squirrel or any part of a wild red squirrel.

Under Section 11 of the Act, it is also illegal to:

- Set in place a trap, snare, electrical device for killing or stunning or any poisonous, poisoned or stupefying substance; use a decoy, gas or smoke, bows or cross-bows, explosives, automatic weapons or mechanically propelled vehicles which are of such a nature and so placed as to be calculated to cause bodily injury to a red squirrel.

Section 18 of the Act makes it clear that attempting to commit an offence is, legally, the same as committing the offence.

There is no disturbance planned that would affect any Red Squirrel habitat.

Badger

The badger is protected under Schedule 6 of the Wildlife & Countryside Act 1981 and in the Protection of Badgers Act 1992. Under these laws it is illegal to :-

- wilfully kill, injure, take, possess or cruelly ill-treat a badger, or attempt to do so;
- intentionally or recklessly interfere with a badger sett, this includes disturbing badgers in a sett, damaging a sett or obstructing access.

A sett is defined as 'any structure or place, which displays signs indicating current use by a badger'.

No traces of badgers were identified either as setts, latrines or foraging evidence. There will be no direct impact on badgers.

Bats

All bats are protected under the Wildlife and Countryside Act (Schedule 5). They are also included in Schedule 2 of the Conservation Regulations 1994. The Act and Regulations make it illegal to:

- Intentionally or deliberately kill, injure or capture (take) bats
- Deliberately disturb bats (whether in a roost or not)
- Damage, destroy or obstruct access to bat roosts

The Countryside and Rights of Way Act 2000 extended the protection given to bats to cover *reckless* damage or disturbance.

A bat roost is interpreted as 'any structure or place which is used for shelter or protection', whether or not bats are present at the time.

Bats roost within the Visitor Centre and forage over the site, however no bat roost will be lost due to the development and mitigation is proposed in the separate bat report.

Reptiles

Common reptile species, including slow worm (*Anguis fragilis*), common lizard (*Zootoca vivipara*) and Adder (*Vipera berus*), are partially protected under Sections 9(1) and 9(5) of Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This legislation protects these animals from:

- intentional killing and injury;
- selling, offering for sale, possessing or transporting for the purpose of sale or publishing advertisements to buy or sell a protected species.

No habitat where reptiles may exist will be affected.

No other protected species are likely to utilise the site.

No invasive weeds or species where it is illegal to introduce into the countryside are present.

7. Evaluation

7.1 The ecological value of the site and potential development impact

The proposed development site is situated northeast of Greenhead at Walltown Visitor Centre.

The site itself has negligible value due to the flora present. The native flora species recorded are common and representative of the widespread habitats in which they occur.

There will be a very low magnitude negative impact (<4% of the area) on habitats with a negligible value with <4% of the site area being affected.

7.2 Significance of the impacts

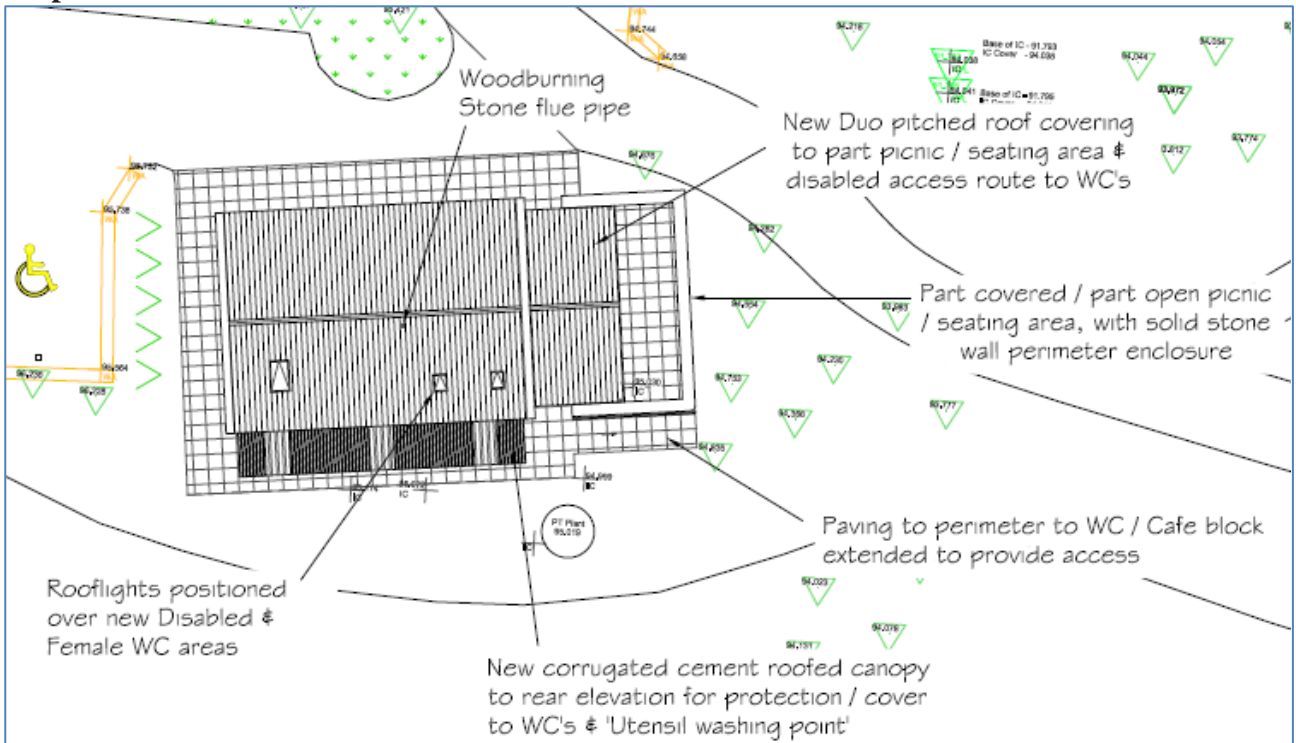
Using standard criteria (see Appendix 5) the impact of the development is likely to be of negligible ecological significance.

These assessments of the significance of the development will be further reduced when the works are carried out in such a way as to minimise any effects on nesting birds as detailed in section 8 of this report and the mitigation for bats is followed.

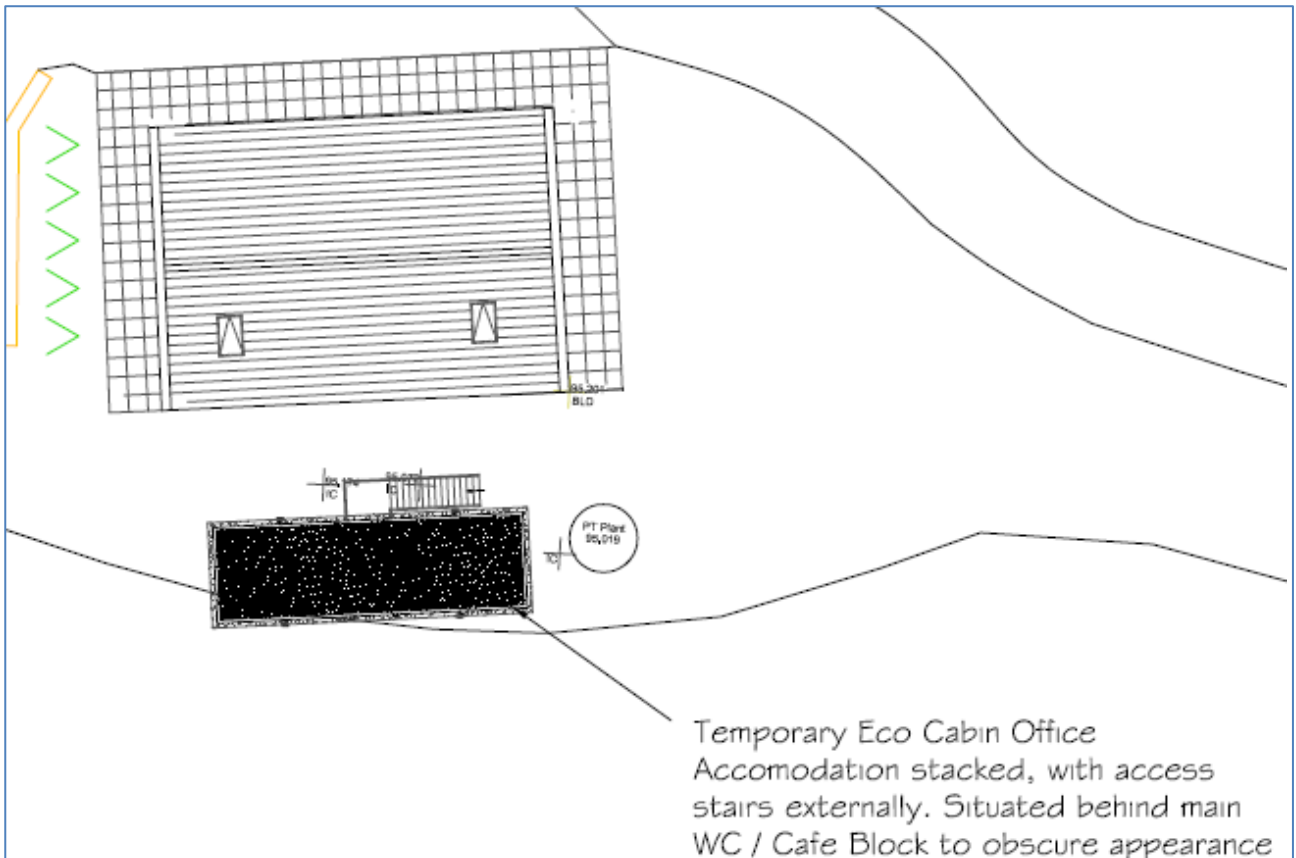
7.3 Duration of Impacts

The proposed development will be permanent and therefore have a long-term impact on the habitats present on site.

Proposals - Works to the Visitor Centre



Staff Accommodation



8. Recommendations

- To prevent any destruction of active bird's nests, the removal of any trees or saplings to be avoided during the peak-nesting season (March to August inclusive). Any nest located to be left in-situ until the nestlings have fledged, including access for any nesting swallows within the covered area of the Visitor Centre.
- In areas to be planted native shrubs are recommended for any plantings, these are Elder, Hawthorn, Blackthorn, Crab Apple, Dog Rose, Field Maple, Guelder Rose and Hazel.

9. Conclusion

- Overall the proposed site is considered to be of negligible ecological value. All native plant species recorded are common and characteristic of the widespread habitats they represent.
- The significance of the impact to the site by the development is considered to be negligible in relation to ecological resource or protected species.
- Any tree removal will be undertaken outside the bird breeding seasons.
- All nesting birds to be allowed access to the nest with minimal disturbance.

10. References

Bat Conservation Trust (2012) Bat Surveys – Good Practice Guidelines. BCT

Day & Hodgson (2003) Atlas of Wintering Birds in Northumbria.

Dony JG, Jury SL, Perring FH, (1986) English Names of Wild Flowers.

Durkin J L (2013) Amphibian Atlas of North East England.

Durkin J L (2013) Reptile Atlas of North East England.

ERIC North East

JNCC (1993) Handbook for Phase 1 habitat survey – A technique for environmental audit

MAGiC web site; Mutli-Agency Geographic Information for the Countryside - <http://www.magic.gov.uk>

Natural England (2010) Bat habitat assessment prior to arboricultural operations.



The Visitor Centre from the north.



The visitor Centre from the east.



Areas of amenity grass in the car park

Looking along the east aspect of the building.



Looking west along the planation edge



Looking west along the path





Tarmac area to the north of the Visitor Centre

Disabled parking and charging point.

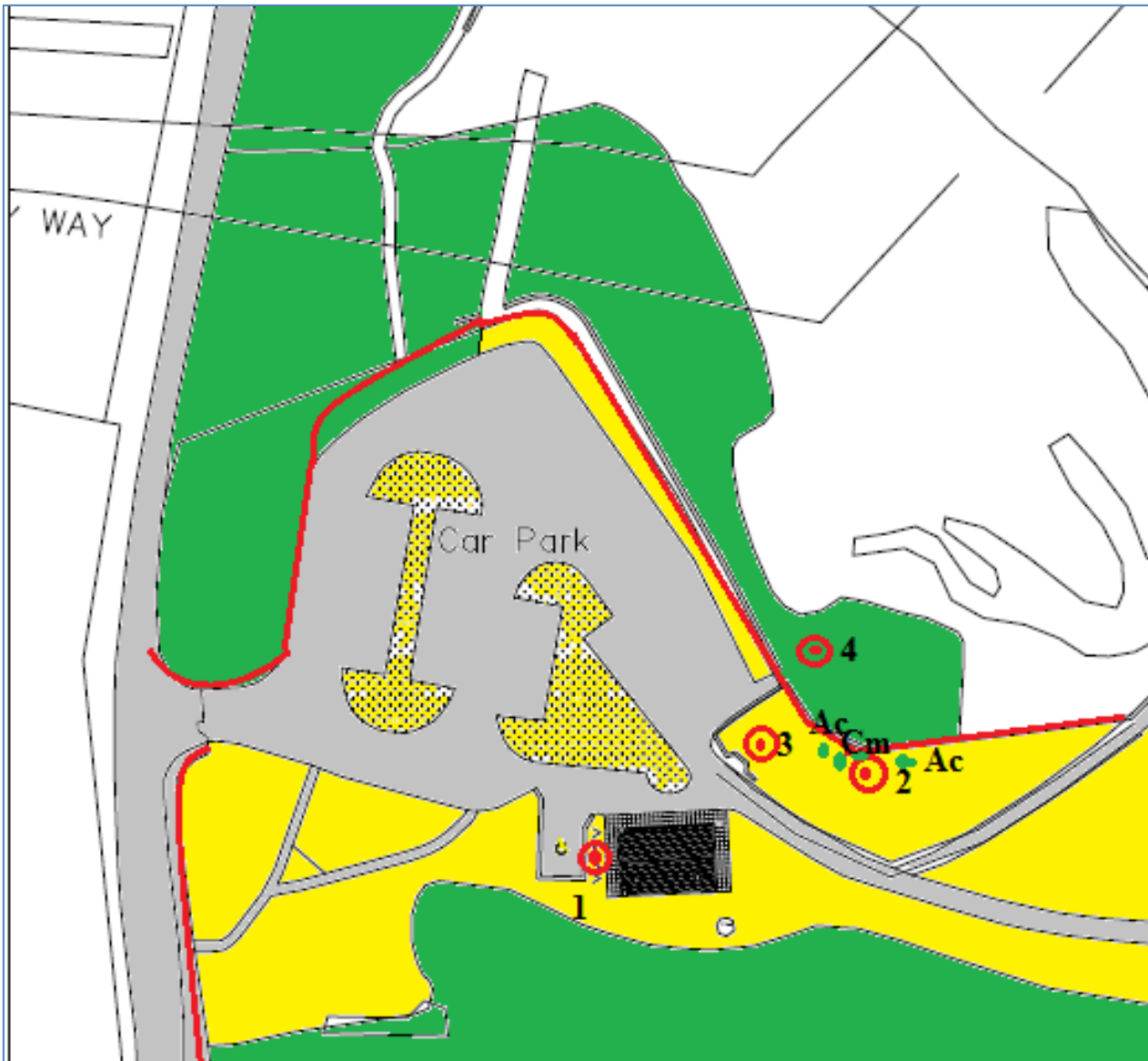


Target Note 1. Neutral grass bank



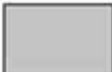


Target Note 2 Kiln.



Target Note 3 Picnic Area



KEY

| | | |
|----------------------|---|---|
| Amenity Grass |  | A |
| Plantation Deciduous |  | |
| Hard Standing |  | |
| Wall |  | |
| Target Note |  | |

PLANT CODES

Ac Field maple
 Cm Hawthorn

Plantation

| Systematic Name | Common Name | DAFOR |
|--------------------------------|---------------------|--------------|
| <i>Holcus lanatus</i> | Yorkshire-fog | A |
| <i>Aegopodium podagraria</i> | Ground-elder | F |
| <i>Agrostis capillaris</i> | Common Bent | F |
| <i>Cirsium arvensis</i> | Creeping Thistle | F |
| <i>Prunus spinosa</i> | Blackthorn | F |
| <i>Urtica dioica</i> | Common Nettle | F |
| <i>Chamerion angustifolium</i> | Rosebay Willow-herb | LA |
| <i>Lolium perenne</i> | Perennial Ryegrass | LA |
| <i>Alnus glutinosa</i> | Alder | O |
| <i>Betula pubescens</i> | Hairy Birch | O |
| <i>Corylus avellana</i> | Hazel | O |
| <i>Crataegus monogyna</i> | Hawthorn | O |
| <i>Dactylis glomerata</i> | Cock's-foot | O |
| <i>Elymus repens</i> | Common Couch | O |
| <i>Fraxinus excelsior</i> | Ash | O |
| <i>Heracleum sphondylium</i> | Hogweed | O |
| <i>Lathyrus pratensis</i> | Meadow Vetchling | O |
| <i>Quercus</i> sp. | Oak | O |
| <i>Ranunculus repens</i> | Creeping Buttercup | O |
| <i>Taraxacum officinale</i> | Common Dandelion | O |
| <i>Trifolium repens</i> | White Clover | O |
| <i>Veronica chamaedrys</i> | Germander Speedwell | O |
| <i>Viburnum opulus</i> | Guelder-rose | O |
| <i>Salix caprea</i> | Goat Willow | O |
| <i>Cerastium fontanum</i> | Common Mouse-ear | R |
| <i>Rumex obtusifolius</i> | Broad-leaved Dock | R |
| <i>Sorbus aucuparia</i> | Rowan | R |

TOTAL NUMBER OF SPECIES 27

Target Note 1 - Neutral Grass Bank

| Systematic Name | Common Name | DAFOR |
|-----------------------------|----------------------------|-------|
| <i>Dactylis glomerata</i> | Cock's-foot | F |
| <i>Ranunculus repens</i> | Creeping Buttercup | F |
| <i>Taraxacum officinale</i> | Common Dandelion | F |
| <i>Trifolium repens</i> | White Clover | LA |
| <i>Lotus corniculatus</i> | Common Bird's-foot-trefoil | LF |
| <i>Prunella vulgaris</i> | Selfheal | LF |
| <i>Alchemilla sp</i> | Lady's- mantle | O |
| <i>Bellis perennis</i> | Daisy | O |
| <i>Cerastium fontanum</i> | Common Mouse-ear | O |
| <i>Holcus lanatus</i> | Yorkshire-fog | O |
| <i>Myosotis sp.</i> | Forget-me-not | O |
| <i>Poa pratensis</i> | Smooth Meadow-grass | O |
| <i>Rumex obtusifolius</i> | Broad-leaved Dock | O |
| <i>Veronica chamaedrys</i> | Germander Speedwell | O |

TOTAL NUMBER OF SPECIES 14

Target Note 4

| Systematic Name | Common Name | DAFOR |
|------------------------------|-----------------------|-------|
| <i>Holcus mollis</i> | Creeping Soft-grass | A |
| <i>Arrhenatherum elatius</i> | False oat-grass | F |
| <i>Urtica dioica</i> | Common Nettle | F |
| <i>Centaurea nigra</i> | Common Knapweed | LF |
| <i>Achillea millefolium</i> | Yarrow | O |
| <i>Betula pubescens</i> | Hairy Birch | O |
| <i>Cirsium arvensis</i> | Creeping Thistle | O |
| <i>Dactylis glomerata</i> | Cock's-foot | O |
| <i>Ilex aquifolium</i> | Holly | O |
| <i>Prunella vulgaris</i> | Selfheal | O |
| <i>Ulex europaeus</i> | Gorse | O |
| <i>Veronica chamaedrys</i> | Germander Speedwell | O |
| <i>Dactylorhiza fuchsii</i> | Common Spotted Orchid | R |
| <i>Fraxinus excelsior</i> | Ash | R |

TOTAL NUMBER OF SPECIES 14

DAFOR SCALE D = Dominant
 A = Abundant
 O = Occasional
 F = Frequent
 R = Rare

Species recorded with 1km

| Taxon Latin Name | Recommended Common Name | No of Records |
|--|--|---------------|
| <i>Alauda arvensis</i> | Sky Lark | 2 |
| <i>Anas platyrhynchos</i> | Mallard | 4 |
| <i>Anthus pratensis</i> | Meadow Pipit | 10 |
| <i>Carduelis cannabina</i> | Common Linnet | 3 |
| <i>Certhia familiaris</i> | Eurasian Treecreeper | 1 |
| <i>Corvus corone</i> | Carrion Crow | 1 |
| <i>Corvus frugilegus</i> | Rook | 2 |
| <i>Corvus monedula</i> | Eurasian Jackdaw | 2 |
| <i>Dendrocopos major</i> | Great Spotted Woodpecker | 1 |
| <i>Emberiza schoeniclus</i> | Reed Bunting | 1 |
| <i>Gallinago gallinago</i> subsp. <i>gallinago</i> | <i>Gallinago gallinago</i> subsp. <i>gallinago</i> | 1 |
| <i>Haematopus ostralegus</i> | Eurasian Oystercatcher | 1 |
| <i>Larus ridibundus</i> | Black-headed Gull | 3 |
| <i>Motacilla alba</i> | Pied Wagtail | 2 |
| <i>Numenius arquata</i> | Eurasian Curlew | 1 |
| <i>Oenanthe oenanthe</i> | Northern Wheatear | 2 |
| <i>Phoenicurus phoenicurus</i> | Common Redstart | 1 |
| <i>Phylloscopus trochilus</i> | Willow Warbler | 1 |
| <i>Turdus viscivorus</i> | Mistle Thrush | 2 |
| <i>Vanellus vanellus</i> | Northern Lapwing | 1 |
| <i>Pinus sylvestris</i> | Scots Pine | 2 |
| <i>Gymnocarpium dryopteris</i> | Oak Fern | 2 |
| <i>Allium schoenoprasum</i> | Chives | 2 |
| <i>Andromeda polifolia</i> | Bog-rosemary | 1 |
| <i>Cirsium heterophyllum</i> | Melancholy Thistle | 2 |
| <i>Euphrasia confusa</i> | Eyebright | 4 |
| <i>Filago vulgaris</i> | Common Cudweed | 2 |
| <i>Geranium sylvaticum</i> | Wood Crane's-Bill | 4 |
| <i>Hyacinthoides non-scripta</i> | Bluebell | 6 |
| <i>Populus tremula</i> | Aspen | 2 |
| <i>Primula veris</i> | Cowslip | 6 |
| <i>Primula vulgaris</i> | Primrose | 2 |
| <i>Ranunculus hederaceus</i> | Ivy-Leaved Crowfoot | 2 |
| <i>Ribes spicatum</i> | Downy Currant | 1 |
| <i>Scleranthus annuus</i> | Annual Knawel | 4 |
| <i>Spergula arvensis</i> | Corn Spurrey | 2 |
| <i>Stachys officinalis</i> | Betony | 6 |
| <i>Coenonympha pamphilus</i> | Small Heath | 3 |
| <i>Cladonia portentosa</i> | Reindeer Moss | 2 |

| | | |
|-----------------------------------|-----------------------------|----|
| Dermatocarpon meiophyllizum | Dermatocarpon meiophyllizum | 1 |
| Leptogium palmatum | Leptogium palmatum | 1 |
| Porocyphus coccodes | Porocyphus coccodes | 1 |
| Tylothallia biformigera | Tylothallia biformigera | 1 |
| Verrucaria fuscilla | Verrucaria fuscilla | 1 |
| Plagiomnium ellipticum | Marsh Thyme-moss | 1 |
| Sphagnum capillifolium | Red Bog-moss | 1 |
| Sphagnum cuspidatum | Feathery Bog-moss | 1 |
| Sphagnum magellanicum | Magellanic Bog-moss | 1 |
| Sphagnum papillosum | Papillose Bog-moss | 1 |
| Sphagnum recurvum var. mucronatum | Flat-topped Bog-moss | 1 |
| Sphagnum tenellum | Soft Bog-moss | 1 |
| Vipera berus | Adder | 1 |
| Chiroptera | Bats | 1 |
| Erinaceus europaeus | West European Hedgehog | 3 |
| Lepus europaeus | Brown Hare | 2 |
| Lutra lutra | European Otter | 3 |
| Meles meles | Eurasian Badger | 2 |
| Myotis | Unidentified Bat | 2 |
| Myotis nattereri | Natterer's Bat | 1 |
| Nyctalus noctula | Noctule Bat | 3 |
| Pipistrellus | Pipistrelle Bat species | 1 |
| Pipistrellus pipistrellus | Common Pipistrelle | 1 |
| Pipistrellus pygmaeus | Soprano Pipistrelle | 1 |
| Sciurus carolinensis | Eastern Grey Squirrel | 14 |
| Sciurus vulgaris | Eurasian Red Squirrel | 36 |

Appendix 5: Guidelines for assessing ecological value of habitats

Table 1 IEEM Guidelines for assessing ecological value of habitats

| | |
|-----------------------------|---|
| International value | e.g. Ramsar sites, Special Protection Areas, Biosphere Reserves, Special Areas of Conservation. Sites supporting populations of internationally important species. |
| National value | e.g. SSSIs or non-designated sites meeting SSSI selection criteria, NNRs, Marine Nature Reserves, NCR Grade 1 sites. Sites containing viable areas of key habitats identified in the UK Biodiversity Action Plan. |
| Regional value | e.g. Sites containing viable areas of threatened habitats listed in a Regional BAP (or some Natural Areas), comfortably exceeding SNCI/SINC criteria, but not exceeding SSSI criteria. |
| High local value | e.g. Sites meeting the criteria for county or metropolitan designation (SNCI/SINC, CWS, etc.). Ancient semi-natural woodland, LNRs or viable areas of key habitat types listed in county BAPs/Natural Areas. |
| Moderate local value | e.g. Undesignated sites or features considered to appreciably enrich the habitat resource in the District or Borough. |
| Low local value | e.g. Undesignated sites or features that appreciably enrich the habitat resource within the Parish or Neighbourhood. |
| Negligible value | Low grade and widespread habitats. |

Table 2. Definitions of impact magnitude

| | |
|---------------------------|---|
| High magnitude | Loss (or detrimental effect) affecting >50% of the site area. |
| Medium magnitude | Loss (or detrimental effect) affecting 20–49% of the site area. |
| Low magnitude | Loss (or detrimental effect) affecting 5–19% of the site area. |
| Very low magnitude | Loss (or detrimental effect) affecting up to 4% of the site area. |

Table 3. Significance of Impacts

| Impact magnitude | Value of feature | | | | | | | | | | |
|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|---------------------|------------|------------|------------|---------------|
| | Internatio nal | National | Regional | High local | Moderate local | Low local | Negligible | | | | |
| High | Critical | Major | Major or Moderate | Moderate or Major | Minor or Moderate | Minor | Minor | Minor | Minor | Minor | or Negligible |
| Medium | Critical | Major | Major or Moderate | Moderate | Minor or Moderate | Minor | Minor | Minor | Minor | Minor | or Negligible |
| <i>Low</i> | Critical | Major or Moderate | Moderate | Moderate or Minor | Minor | Minor | Negligible or Minor | Negligible | Negligible | Negligible | |
| Very Low | Critical or Major | Moderate | Moderate | Moderate or Minor | Negligible | Negligible | Negligible | Negligible | Negligible | Negligible | |