

Whinmoor Plantation, Nr. Cawthorne

Preliminary Ecological Survey Report

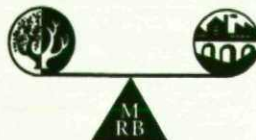
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For

Naylor Industries

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1. INTRODUCTION

1.1 Background

- 1.1.1 An extension to Bank's Wood Quarry, near Cawthorne has been proposed. A preliminary appraisal of the impacts of this quarry extension upon any existing ecological habitat on the site (primarily an area of deciduous woodland known as Whinmoor Plantation) was required.
- 1.1.2 A site visit was made on the 15th of October 2002 and a desk-based survey commenced on the 16th of October 2002.
- 1.1.3 This report presents the details of the desk-based study and site visit, a description of the habitats found, and an assessment of the nature conservation value of the site. A preliminary assessment of the potential impacts of the planned quarry extension has been made. Recommendations for further more specialised surveys have also been made.

2. SURVEY METHODOLOGY

2.1 Data search

- 2.1.1 A search of available ecological information and species records was undertaken, details of which are provided in Section 4.

2.2 Phase 1 Survey

- 2.2.1 A walk-over botanical survey was undertaken on the 15th of October 2002. The habitats found were classified according to Phase 1 Habitat types (Nature Conservancy Council 1990). The area surveyed included the site of the planned extension and the adjacent woodland. A map has been drawn up to show the nature of the habitats found on the site. All species have been given an abundance rating based on the DAFOR system. D= Dominant, A = Abundant, F= Frequent, O= Occasional, R= Rare and L= Local(ly). The habitat map is presented in Figure 1. A full species list of all the plants seen during the site visit is included in Section 5. Plant species were identified by reference to Stace (1991).

2.3 General Faunal Survey

- 2.3.1 During the site visit a walk-over faunal survey to record signs or sightings of fauna was also carried out. Any animals seen on the site were identified and a brief description of their observed activity noted. Faunal species are also listed in Section 5. The site was also searched for any general signs of animal usage, such as trackways or burrows.

2.4 Survey Constraints

- 2.4.1 The botanical survey was undertaken during the autumn months, a time which is not well suited to the identification of early-flowering woodland herbs but which did permit identification of later maturing herbs and grasses. Surveys for fauna such as birds are usually conducted over several weeks or months from March to July in order to establish breeding territories for birds present on a site. This means that at best the

survey reported here provides only a snapshot view of faunal activity on the site.

3. NATURE CONSERVATION EVALUATION METHOD

3.1 Habitats

3.1.1 The Phase 1 Habitat survey findings were examined to establish whether any habitats of particular nature conservation value were present on the site. Evaluation was by reference to the primary criteria established by Ratcliffe (1977). These criteria are: rarity, diversity, size, naturalness, fragility and typicalness.

3.2 Species

3.2.1 The faunal survey data which were gathered represent a 'snapshot' view of the animals which live on or occur within the site. They have not been assessed according to formal criteria.

4. DATA SEARCH

Data on habitats and individual species were sought through consultation with the following organisations and documentation.

- English Nature's National Map – Statutory Sites
- English Nature's Ancient Woodland Inventory
- English Nature's Grassland Inventory
- South Yorkshire Badger Group
- Barnsley MMC Register of Sites of Scientific Interest
- Barnsley Biodiversity Partnership Secretariat

The information obtained is presented in the following paragraphs:

4.1 Designated Sites

4.1.1 There is one Site of Special Scientific Interest (SSSI), Pye Flatts Meadows, which lies approximately 500metres to the south, near the A628. The site covers three meadows which contain a uniform and mature stand of neutral haymeadow grassland. A citation and boundary map are included in Appendix 1.

4.2 Protected species

4.2.1 Consultation with the South Yorkshire Badger Group revealed a high level of badger (*Meles meles*) activity throughout the whole area around the proposed extension site although there are no setts recorded in Whinmoor Plantation itself.

4.2.2 A watercourse, Ellhirst Beck runs along the northern boundary of Whinmoor Plantation, but no records of water vole (*Arvicola terrestris*) or white-clawed crayfish (*Austropotamobius pallipes*) have come to light as a result of the present data search. However, crayfish are known to be present within the Cawthorne Beck catchment.

4.3 'Second tier' sites (non-statutory sites)

- 4.3.1 Within the Barnsley District, non-statutory sites of nature conservation importance are known as Natural Heritage Sites. These sites have been identified by the Barnsley Metropolitan Borough Council which holds details of the sites' nature conservation interest.
- 4.3.2 There are no Natural Heritage Sites near to the proposed quarry extension.

4.4 Other sites of significance

- 4.4.1 Records held by Barnsley Metropolitan Borough Council indicate that there are a number of nearby sites of significance:

Hilltop, Silkstone SE 270056
Pasture with adders-tongue

Carr Woodland, Hoylandswaine SE 268056
Woodland

Small Lane Farm SE 269060
Semi-improved neutral grassland

Whin Moor Lane SE 274054
Deciduous woodland

Wool Greave SE269059
Excellent unimproved meadows. Future designation as a Natural Heritage Site is likely.

- 4.4.2 Information held on site survey cards for nearby woodlands at Bullhaw Carrs, Ellhirst Wood and Banks Bottom was also provided by Barnsley MBC. The description of Bullhaw Carrs refers to a woodland area, adjacent to Whinmoor Plantation, much of which has since been quarried. A narrow strip of this woodland still remains on the eastern side of the footpath and is included within the current proposed quarry extension. The site information for Bullhaw Carrs is included within Section 5.

Ellhirst Wood (Site Survey Card 1988)

An area of coppiced oak and birch woodland with a few mature trees, some wych elm, sycamore and ash, and an understorey of field maple, cherry, holly, hazel, rowan and hawthorn. Honeysuckle, bluebell, wood sorrel, yellow archangel and yellow pimpernel were noted in the herb layer. The botanical interest is concentrated along the streamside.

Banks Bottom (Site Survey Card 1988)

This is an area of deciduous, broad-leaved woodland on the slopes down to Banks Bottom Dike. The wood appears to comprise mainly semi-mature and young sessile-type oak with birch and rowan etc. (hazel, hawthorn, holly, ash, crab apple, Scot's pine, goat willow, sweet chestnut, wych elm were noted). In some parts there are mature sycamore and there is alder along the stream. A damp area adjacent to the stream is dominated by elder, with mosses, opposite-leaved golden saxifrage and stinging nettle. A good ground flora is present, dominated by creeping soft-grass with much yellow

archangel and bluebell.

4.4.3 Many of the ground flora species mentioned above are considered to be indicative of Ancient Woodlands.

4.5 Natural Area

4.5.1 The site lies within the Coal Measures Natural Area. The Natural Area is in a central part of Britain and occupies an area which is at the extreme northern limit of some species (such as the harvest mouse) whilst being at the southern limit of northern species.

4.5.2 The Coal Measures Natural Area is characterised by dense populations centred on a number of towns and cities that developed largely as a result of the underlying coal fields. The topography of the Natural Area is gently undulating. Natural habitats include acidic ancient and secondary woodlands, valley wetlands, neutral and acid grasslands and mixed agriculture. Canals, mill ponds and natural rivers are also important features.

4.5.3 A 'Key feature of National Significance' within the Coal Measures Natural Area is Earth Heritage. Key features of 'Local Significance' are :

- Acid Grassland
- Fen, marsh and swamp
- Lowland heathland
- Neutral grassland
- Rivers and streams
- Standing open water and canals
- Wet woodland

4.6 Ancient Woodland Inventory

4.6.1 English Nature's Ancient Woodland Inventory indicates that there are a number of ancient woodland sites in the area between Barnsley, Denby Dale and Penistone. Whinmoor Plantation, together with Bullhaw Carrs and Banks Wood is included within one such area. This site is also included within the 'Survey and Evaluation of Selected woodlands in South Yorkshire (NCC 1987)' where it is referred to as *Whincover Wood*.

4.7 Barnsley Biodiversity Action Plan

4.7.1 Barnsley Biodiversity Action Plan identified a number of habitats and species for which Action Plans have been produced. The following plans are particularly pertinent to the proposed quarry extension at Whinmoor Plantation.

Species

Bluebell
(Water Vole)
(White-clawed Crayfish)

Habitat

Upland Oak Woodland
Upland Mixed Ash Woodland
(Running Water)

(Those plans listed in brackets relate to ecological features which may be indirectly affected by the proposed quarry extension).

Table 1 Summary of the above Barnsley Biodiversity Action Plans

(**Bold text** refers to features directly affected by the proposed quarry extension)

| <i>Species/Habitat</i> | <i>Local and Legal Status</i> | <i>Proposed Local Action</i> |
|------------------------|--|--|
| Bluebell | Bluebells are located in natural and semi-natural woodland throughout the Borough. They are found in 26.65% of the Total area of the Borough. The Bluebell is now protected as a scheduled plant species under the Wildlife and Countryside Act 1981. | Identify current and past Bluebell woodlands. Field survey. Provision of information on management. Encourage 'adoption' of woodlands. |
| Water Vole | Within the Barnsley area the main watercourses which still contain this species are the Rivers Dove and Dearne, with parts of the remaining Barnsley canal system. Unfortunately mink are moving into these areas increasing the threat to remaining populations. The water vole is protected under the Wildlife and Countryside Act 1981. It is an offence to damage or destroy or obstruct access to any place which water voles use for shelter or protection. | Raise public awareness of the species. Provide training on habitat management. Carry out surveys and annual monitoring of known and possible new water vole sites. Control mink. Restore river bank as suitable habitat. |
| White-clawed Crayfish | There is evidence that this species still exists within the stream system in western Barnsley. This species is listed in Appendix III of the Bern Convention and Annexes II and IV of the EC Habitats Directive. It is also protected by Schedule 5 of the Wildlife and Countryside Act 1981. | Regular survey of watercourses. Produce information leaflet on the habitat needs of this species. Remove non-native crayfish. |

| Species/Habitat | Local and Legal Status | Proposed Local Action |
|---|---|--|
| Upland oak Woodland and Upland Mixed Ash Woodland | <p>Upland oak woodland is well-represented in Barnsley. Mainly found in the west and south-west of the Borough. This habitat is also important for the locally-rare Redstart and Wood Warbler.</p> <p>Upland mixed ash woodland is well-represented in Barnsley. Mainly found in the west of the 'M1 Woodland Belt'.</p> <p>National forestry policies include a presumption against the clearance of any broadleaved woodland for conversion to other land uses and seek to maintain the ecological interests of ancient semi-natural woodland. Felling licences will normally be required if the woods are not managed under plans approved by the Forestry Authority. Management of semi-natural woodlands has to be in accordance with guidelines published by the Forestry Authority in order to receive felling licences or grant aid.</p> | <p>Monitor planting under the Woodland Grant Scheme.</p> <p>Survey and identify ownership of existing woods. Research historical data to monitor habitat loss.</p> <p>Review and update Ancient Woodland Inventory.</p> <p>Develop strategy for habitat expansion and encourage good management practices through the provision of information and advice.</p> |
| Running Water | The Barnsley District is drained by two main rivers, the Dearne and the Don, both of which have a number of important tributaries. | <p>Ensure that highway and drainage schemes maintain access for wildlife along river and stream banks.</p> <p>Survey for Action plan species.</p> <p>Identify obstructions to otter movement, improve habitat and identify suitable breeding sites.</p> <p>Ensure that development proposals retain a riparian strip alongside watercourses.</p> |

4.7.2 A number of individual members of the Barnsley Biodiversity Partnership have been approached for their views on the biodiversity value of the Whinmoor Plantation and surrounding area. The following responses have been received from a number of these consultees.

Table 2 Consultee Responses

| Consultee | Response |
|--|---|
| Mr J. Coldwell | Has never collected or recorded at this particular location. |
| Mr D. Whitcher (South Yorkshire Badger Group) | Provided details of badger activity recorded for the survey area and its surroundings. |
| Mr G. Carr (British Trust for Ornithology) | Has recorded three RSPB red list birds in the woodland. Song thrush, willow tit and bullfinch. Skylark are also known to breed on adjacent farmland. Ellhirst Beck is considered to be potential crayfish habitat. |
| Mr R. Croxton (Yorkshire Wildlife Trust) | Recommended badger and bat surveys by suitable experienced surveyors and a survey of flora, invertebrates and birds at the appropriate time of year. Would require better restoration than that carried out on the existing quarry areas. |
| Mr T. Mayne | Consent for discharge to Ellhirst Beck would be required from the Environment Agency. The Agency would require measures to protect freshwater life such as crayfish from indirect effects of the quarry development. |

5. BASELINE ECOLOGICAL CONDITIONS

5.1 Site Description

5.1.1 The site of the proposed quarry extension is located within an area of broad-leaved woodland on the southern side of Ellhirst Beck, near to the small settlement of Hill Top, near Silkstone, South Yorkshire. (Ordnance Survey Grid Reference SE 273 058). The site lies at an altitude of 140metre AOD and slopes markedly towards Ellhirst Beck. A public footpath runs through the woodland from north to south. The surrounding area is predominantly pastoral agriculture but the eastern boundary is formed by the open area of the existing clay pit which is gradually being filled by inert material. A linear woodland belt follows the course of Ellhirst Beck to the east. This is the remaining area of the woodland known as Bullhaw Carrs and Bank's Wood, much of which has been lost to earlier clay extraction.

5.2 Survey, October 2002

5.2.1 The woodland canopy in the area of the proposed quarry extension comprises downy and silver birches, sycamore and ash with occasional hornbeam, cherry, beech and oak. There is evidence that the woodland was replanted in the past (believed to be in 1940-50 period) since none of the canopy trees is of great age except around the perimeter of the woodland, alongside Ellhirst Beck, where remnants of the original woodland survive. The understorey is sparse, comprising hawthorn, hazel and elm with occasional holly and elder although regeneration of ash saplings is abundant in throughout. There was no sign of any recent woodland management. The ground flora is dominated by bramble, and in places by ivy; however, there are areas of greater diversity and dog's mercury dominates some areas. There is also evidence of bluebells in scattered localities (seed heads visible). Grasses, ferns, dog's mercury and a variety of other woodland herbs occur in greater abundance in the areas to the east of the footpath and at least two seed spikes of a plant believed to be a helleborine (*Epipactus sp.*) were found.

5.2.2 Detailed lists of species observed within the ground flora, understorey and canopy are provided below.

Ground Flora

| Scientific Name | Common Name | Abundance |
|----------------------------------|------------------------|-----------|
| <i>Arum maculatum</i> | lords and ladies | O |
| <i>Brachypodium sylvaticum</i> | wood false-brome | LF |
| <i>Bromus ramosus</i> | hairy brome | O |
| <i>Circaea lutetiana</i> | enchanter's nightshade | LF |
| <i>Deschampsia cespitosa</i> | tufted hairgrass | O |
| <i>Dryopteris dilatata</i> | broad buckler fern | O |
| <i>Dryopteris filix-mas</i> | male fern | LF |
| <i>Elymus caninus</i> | bearded couch | LF |
| <i>Epipactus sp.</i> | helleborine | R |
| <i>Geum urbanum</i> | wood avens | LF |
| <i>Hedera helix</i> | ivy | LA |
| <i>Hyacinthoides non-scripta</i> | bluebell | LF |
| <i>Lonicera periclymenum</i> | honeysuckle | O |
| <i>Mercurialis perennis</i> | dog's mercury | LD |

Ground Flora (Cont.)

| Scientific Name | Common Name | Abundance |
|-----------------------------|-----------------------|-----------|
| <i>Milium effusum</i> | wood millet | O |
| <i>Polytrichum commune</i> | moss | L |
| <i>Pteridium aquilinum</i> | bracken | LF |
| <i>Rubus fruticosus</i> | bramble | A |
| <i>Rumex sanguineus</i> | wood dock | O |
| <i>Stachys sylvatica</i> | hedge woundwort | O |
| <i>Veronica chamaedrys</i> | Germander speedwell | L |
| <i>Viola riviniana</i> | common dog violet | O |
| Bryophytes | Mosses and liverworts | L |
| <i>Piptoporus betulinus</i> | Birch polypore fungus | LF |

Understorey

| Scientific Name | Common Name | Abundance |
|---------------------------|-------------|-----------|
| <i>Carpinus betulus</i> | hornbeam | O |
| <i>Corylus avellana</i> | hazel | O |
| <i>Crataegus monogyna</i> | hawthorn | O |
| <i>Ilex aquifolium</i> | holly | R |
| <i>Rosa canina</i> | dog rose | LF |
| <i>Rubus idaeus</i> | raspberry | L |
| <i>Sambucus nigra</i> | elder | O |
| <i>Sorbus aucuparia</i> | rowan | O |
| <i>Ulmus glabra</i> | wych elm | O |

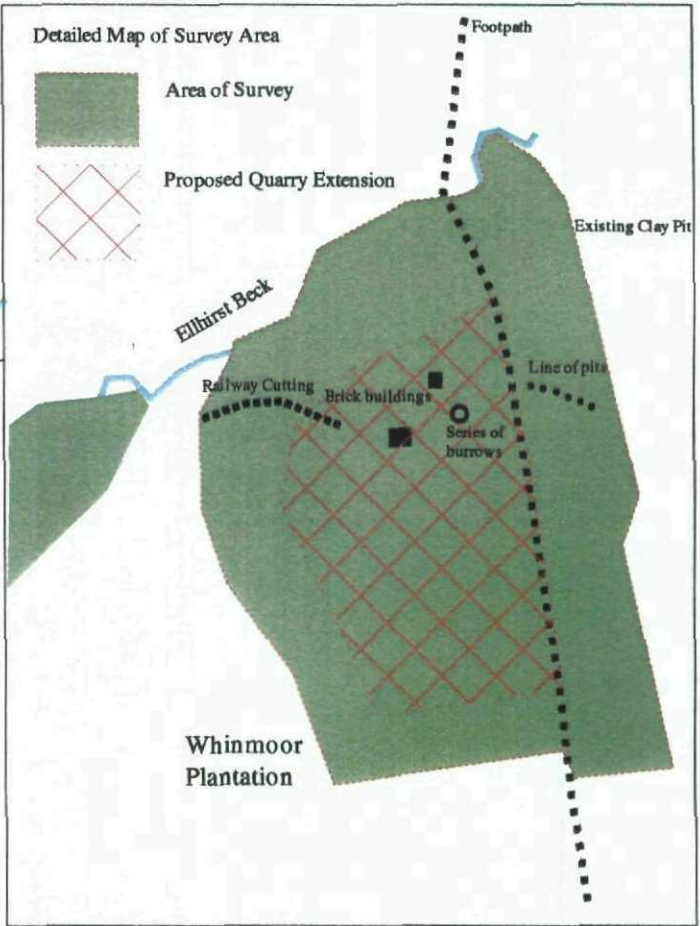
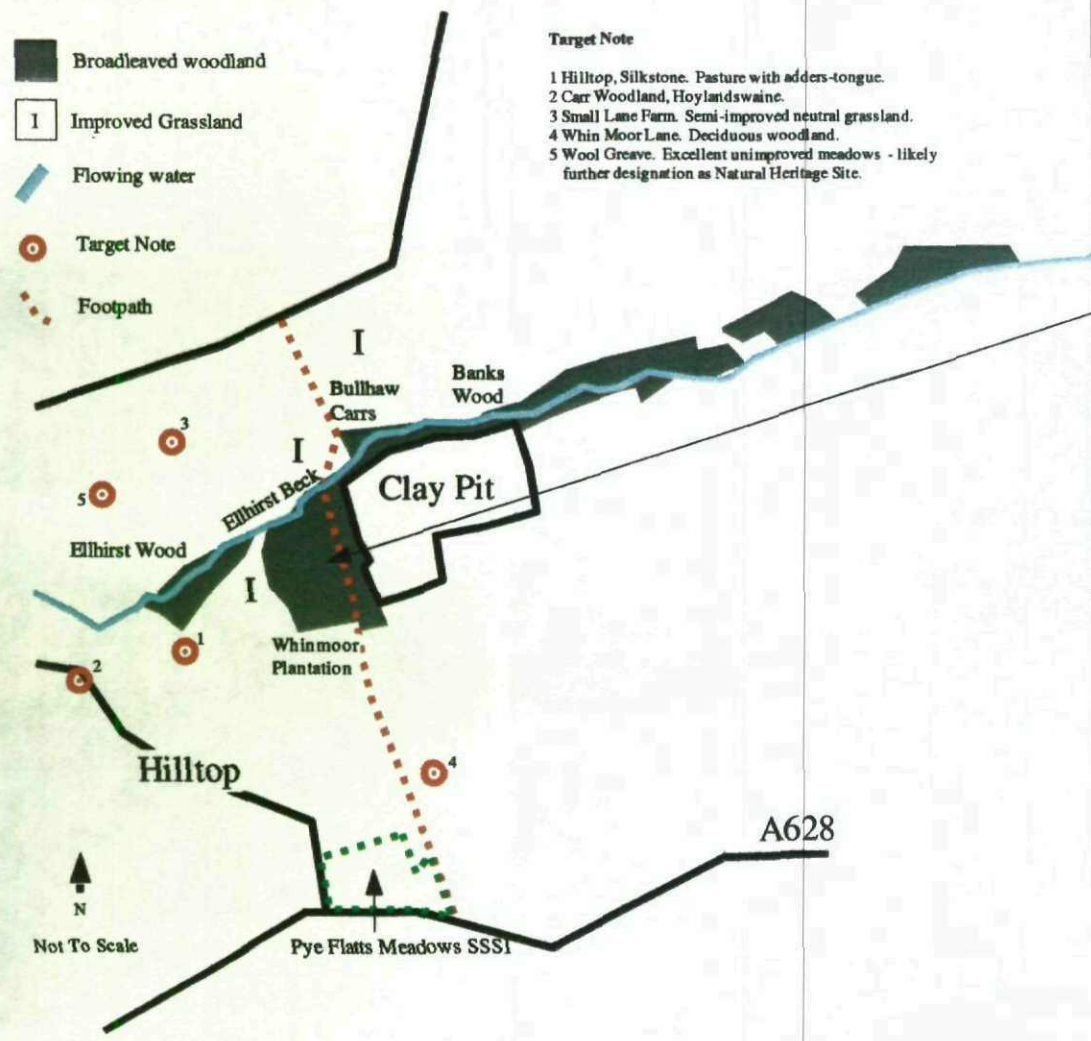
Canopy

| Scientific Name | Common Name | Abundance |
|-------------------------------|----------------|-----------|
| <i>Acer pseudoplatanus</i> | sycamore | A |
| <i>Aesculus hippocastanum</i> | horse chestnut | R |
| <i>Betula pendula</i> | silver birch | F |
| <i>Betula pubescens</i> | downy birch | O |
| <i>Fagus sylvatica</i> | beech | R |
| <i>Fraxinus excelsior</i> | ash | A |
| <i>Populus</i> sp. | poplar | R |
| <i>Prunus avium</i> | wild cherry | O |
| <i>Salix fragilis</i> | crack willow | R |
| <i>Quercus</i> sp. | oak | O |

5.3 Fauna

- 5.3.1 The survey was undertaken during a period of heavy rain and there was very little evidence of bird activity. Where access permitted, Ellhirst Beck was inspected for signs of riparian mammals such as water vole but no evidence was found.
- 5.3.2 Evidence of rabbits (*Oryctolagus cuniculus*) was found (burrowing activity and droppings) and the excavations of moles (*Talpa europaea*) were found scattered throughout the woodland.

Phase 1 Habitat Map
Whinmoor Plantation
October 2002





View of Whinmoor Plantation from existing Clay Pit.



View of Ellhirst Beck.



View of Whinmoor Plantation from the Northern side.

- 5.3.3 A series of burrow entrances was found in the woodland on the western side of the footpath. The burrows were all located within a radius of approximately 6 metres, and most were blocked by debris and a build-up of leaf litter and twigs. No evidence of fresh excavations or bedding material were found and rabbit droppings were found at one entrance. Further inspection would be required in order to determine if this could possibly be an unoccupied badger sett.
- 5.3.4 A 'fox-sized' animal was disturbed in the dense brambles on the western edge of the woodland. No clear view was gained of the animal as it ran beneath the brambles.
- 5.3.5 There is also evidence of past coal working activity in the woodland in the form of a line of pits or small excavations, larger shafts which are lined with bricks, and the remnants of brick buildings. There is also a roadway, or cutting, leading from the vicinity of Ellhirst Beck and Ellhirst Wood into the woodland. Old Ordnance Survey maps (unknown date) within the Report produced by Land Restoration and Management Ltd. show a single track mineral railway running along this cutting. A steeply sloping bank of colliery spoil forms the north-western edge of the woodland. There is little or no vegetation growing on the spoil and ivy tends to dominate the woodland ground flora in and around the old mine workings.

5.4 Historic Data

- 5.4.1 The following information comes from the Barnsley MBC Site Survey Recording Cards.

Whin Moor Plantation (From Barnsley MBC Site Survey card 1986/1988)

The woodland is described as being mainly of semi-mature sycamore (*Acer pseudoplatanus*) with a few coppiced wych elm (*Ulmus glabra*) and some semi-mature oak (*Quercus* sp.) and birch (*Betula* sp.). Much of the wood appears to have been coppiced in the past and has dominant bramble (*Rubus fruticosus*) and some hawthorn (*Crataegus monogyna*) beneath the dense canopy. Botanical interest is provided by the drain which runs through the woodland and supports wood sedge (*Carex sylvatica*) and honeysuckle (*Lonicera periclymenum*).

The following species have been recorded:

| | |
|--------------------------------|---------------------|
| <i>Acer pseudoplatanus</i> | sycamore |
| <i>Betula</i> sp. | birch |
| <i>Crataegus monogyna</i> | hawthorn |
| <i>Fraxinus excelsior</i> | ash |
| <i>Populus</i> sp. | poplar |
| <i>Quercus</i> sp. | oak |
| <i>Ulmus glabra</i> | wych elm |
| <i>Brachypodium sylvaticum</i> | wood false-brome |
| <i>Bromus ramosus</i> | hairy brome |
| <i>Holcus mollis</i> | creeping soft-grass |
| <i>Carex sylvatica</i> | wood sedge |
| <i>Geranium robertianum</i> | herb Robert |
| <i>Lonicera periclymenum</i> | honeysuckle |
| <i>Mercurialis perennis</i> | dog's mercury |

| | |
|-------------------------|-------------------|
| <i>Rubus fruticosus</i> | bramble |
| <i>Veronica montana</i> | wood speedwell |
| <i>Viola riviniana</i> | common dog violet |

Bullhaw Carrs (From Barnsley MBC Site Survey card 1986/1988)

- 5.4.3 This area of woodland lies immediately adjacent to the area of the proposed quarry extension. It is described as being of similar structure to Whin Moor Plantation but with slightly more semi-mature oak and birch with some rowan (*Sorbus aucuparia*) and holly (*Ilex aquifolium*). The ground layer is described as being better, with wood sorrel (*Rumex acetosella*), bluebells (*Hyacinthoides non-scripta*) and wood millet (*Milium effusum*) present.
- 5.4.4 Alder (*Alnus glutinosa*), wild garlic (*Alium ursinum*), angelica (*Angelica sylvestris*) and brooklime (*Veronica beccabunga*) have been noted in the vicinity of the stream.

6. NATURE CONSERVATION EVALUATION

6.1 Habitats

Size and diversity

- 6.1.1 Whinmoor Plantation itself is a relatively small area of broad-leaved woodland but was, until the relatively recent past, part of a larger area of woodland. The diversity of canopy trees is quite restricted and appears to be product of past woodland management. The understorey is not dense but does include a variety of woody species, including hazel and holly, and more notably, hornbeam. Whilst the herb layer is largely dominated by bramble, a diversity of other woodland herbs was found even in Autumn, a season not suited to surveying woodland flora.
- 6.1.2 The inclusion of Whinmoor Plantation within the Inventory of Ancient Woodlands indicates that the site has been continuously wooded as it is quite possible that survey during the Spring months would find a range of Spring-flowering herbs and bulbs which are intolerant of ground disturbance and require summer shade.
- 6.1.3 The recorded presence of a number of ancient woodland indicator species in the nearby Ellhirst and Banks Wood suggests that some of these species might also be found in Whinmoor Plantation during a Spring survey.

Rarity

- 6.1.4 Although no rare plant species were recorded during the October survey, findings did include a suite of woodland herbs which will be of limited abundance in South Yorkshire as a whole, being restricted to that proportion of the district which has remained continuously wooded. Survey in a more appropriate season would be quite likely to add to the list of woodland herbs.

Naturalness, fragility and typicalness

- 6.1.5 The canopy structure of the woodland is considered to have been strongly influenced by past felling, replanting and woodland management. Therefore the canopy, and to

7. ASSESSMENT OF IMPACTS

7.1 Description of the development

- 7.1.1 The proposed quarry extension would be sited within part of Whinmoor Plantation. The excavation would entail the removal of tree cover, stripping of topsoils, and removal of clay materials from a significant part of this woodland area. Details of the proposed restoration have not been provided by the client. A strip of woodland would remain around the perimeter of the site and the banks of Ellhirst Beck would remain unaffected by the quarrying activity.

7.2 Direct Impacts

Loss of habitat

- 7.2.1 The planned quarry extension would lead to the loss of the middle of Whinmoor Plantation causing a reduction in the continuity of woodland in the area, reducing areas of shelter and foraging for local wildlife and interrupting links between Ellhirst Beck and the countryside to the south of the proposed quarry extension. Topsoil stripping removal would lead to the loss of woodland ground flora.
- 7.2.2 Further ecological surveys would be required in order to make an informed assessment of the significance of this habitat loss; however; the indications from this preliminary assessment are that a Local Biodiversity Flagship Species (Bluebell), a Local Biodiversity Action Plan Habitat (Upland Woodland) and Ancient Woodland Inventory Site would be directly affected by the proposals. It is also possible that the foraging areas of local badger populations, and potential bat roosts, would be directly or indirectly affected.

7.3 Indirect Impacts

Disturbance of adjacent habitats

- 7.3.1 The perimeter strip of adjacent woodland would remain but there would be the following indirect impacts:
- Changes in local climate.
 - Increased light penetration into the woodland.
 - Increased risk of strong winds blowing down the exposed remaining trees.
 - Changes in local hydrology.
 - Alterations to groundwater and surface water flows patterns.
 - Increased levels of human disturbance, visual intrusion, noise and light.
 - Breeding birds might be affected by disturbance to the edge of the woodland canopy.
 - Discharges to adjacent watercourse.
 - Sediment-laden surface water runoff may all adversely affect the habitat of the adjacent Ellhirst Beck.

8. RECOMMENDATIONS

8.1 Supplementary surveys

8.1.1 In order to make a full assessment of the potential impacts of this proposed quarry development on ecological interest of the site and to allow appropriate mitigation proposals to be formulated, the following additional ecological surveys are recommended.

- Botanical survey (during April/May)
- Badger survey (winter months)
- Breeding Bird Survey
- Invertebrate Survey
- Bat-roost survey

A crayfish survey of Ellhirst Beck may also be required if new discharges are to be made to this watercourse.

9. REFERENCES

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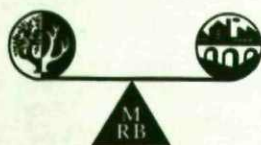
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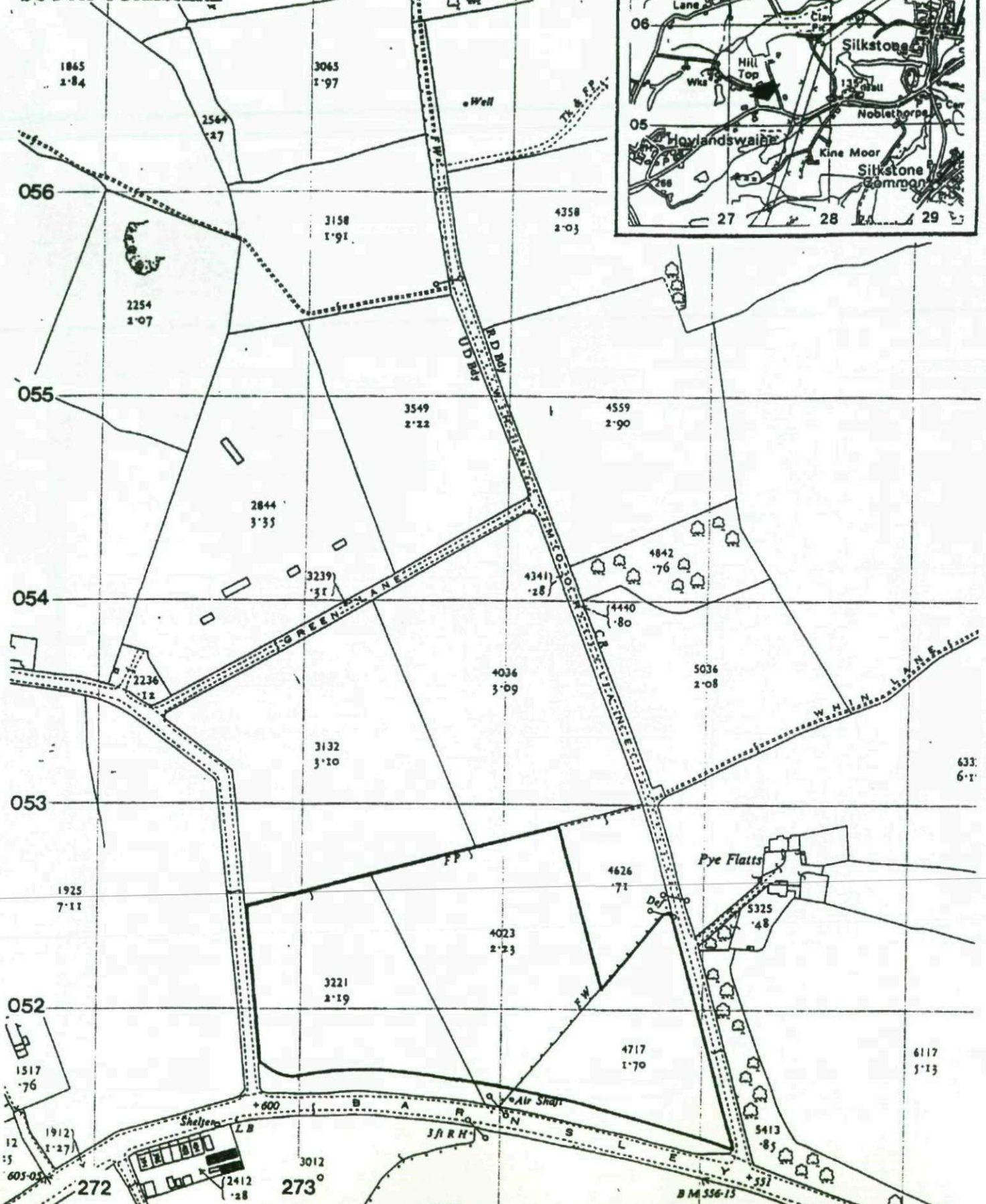
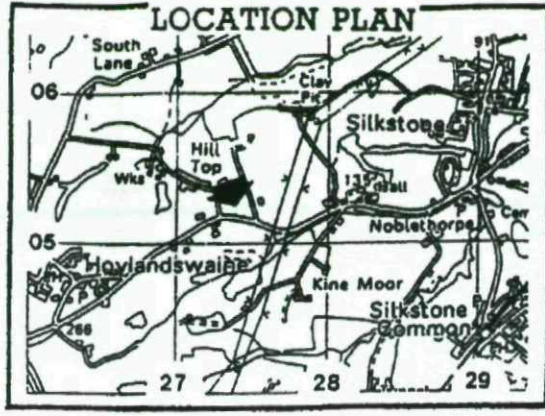
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Appendix 1
Pye Flatts Meadows SSSI



**PYE FLATTS MEADOWS
SOUTH YORKSHIRE**

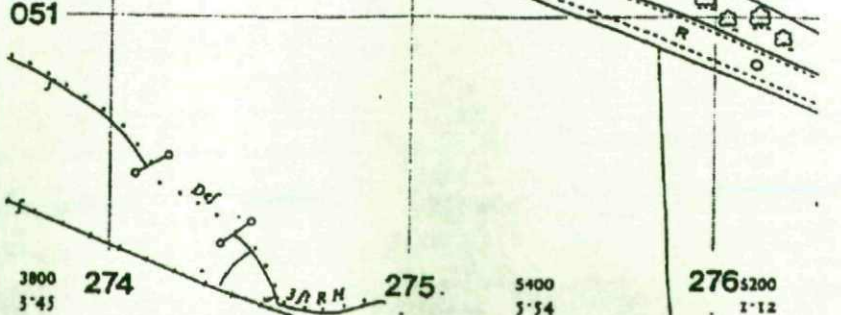


NATURE CONSERVANCY COUNCIL
 Site boundary thus 
 Scale 1:2500

0 Metres 50 100 150  Grid North

0 Yards 50 100 150

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some extent the understorey, is considered to be of un-natural origin and the present day habitat is typical of broadleaved woodland in which the original canopy trees have been felled, replanted with productive timber trees, this 'timber crop' having then been either harvested or left unmanaged, allowing the growth of self-set tree seedlings. The felling and replanting process, together with the mining activity, will have caused some disturbance to the woodland soils. This is probably the reason why bramble tends to dominate many areas of the woodland. The habitat is vulnerable to physical disturbance such as wholesale clear-felling and/ or soil disturbance.

6.2 Species

- 6.2.1 The habitat survey conducted in October 2002 included a general inspection for signs of faunal activity but this was not carried out to any formal recognised methodology. Very few faunal records were obtained during this preliminary survey, therefore additional surveys, at more appropriate times of year, are recommended.
- 6.2.2 The data search revealed that a number of RSPB Red List species have been recorded from the site (bird species whose populations or range are rapidly declining, recently or historically, and those species of global conservation concern). These were song thrush, willow tit and bullfinch (Mr G. Carr pers. comm.).
- 6.2.3 The data search also highlighted the presence of protected species (badger) in close proximity to Whinmoor Plantation and it is possible that the woodland forms part of the foraging territory of these animals.
- 6.2.4 The stream habitat provided by Ellhirst Beck is also considered potentially suitable for another protected species, freshwater crayfish.
- 6.2.5 The majority of trees within the centre of the woodland area of limited value as potential bat roosts due to their relatively small girth and lack of suitable roost cavities in bark fissures or rot holes. The more mature trees around the woodland perimeter and alongside Ellhirst Beck offer more potential for bat roost opportunities.
- 6.2.6 Given the above issues, more-detailed faunal surveys are recommended.

Date Notified: 11 December 1990

File Ref: SE 20/3

COUNTY: SOUTH YORKSHIRE

SITE NAME: PYE FLATTS MEADOWS

DISTRICT: BARNSELY

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981.

Local Planning Authority: BARNSELY METROPOLITAN BOROUGH COUNCIL

National Grid Reference: SE 274052 Area: 2.2 (ha) 5.4 (ac)

Ordnance Survey Sheet: 1:50,000: 110 1:10,000: SE 20 NE

Date Notified (under 1981 Act): 1990 Date of last revision: -

Other information:

A new site.

Description and Reasons for Notification

These three meadows are established on loamy brown earths overlying the sandstone, coal seams and ironstone bands of the Lower Coal Measures, where they outcrop at this exposed, hilly location, 180 m above sea level, 8 km to the west of Barnsley.

They contain a uniform and mature stand of neutral haymeadow grassland, the best of a number of known scattered examples in the locality.

The dominant grasses are sweet vernal grass (Anthoxanthum odoratum), common bent (Agrostis capillaris), crested dog's tail (Cynosurus cristatus), red fescue (Festuca rubra), and Yorkshire fog (Holcus lanatus). Others occur less frequently and are indicative of its special interest - quaking grass (Briza media) and yellow oat grass (Trisetum flavescens).

While plants such as ox-eye daisy (Leucanthemum vulgare), hardheads (Centaurea nigra) and yellow rattle (Rhinanthus minor) are abundant and provide an attractive feature in the landscape, others such as the adder's tongue fern (Ophioglossum vulgatum) and common eyebright (Euphrasia nemorosa), are less easily found, but help to confirm the nature conservation value of the site. The diverse list of plant species suggests the present plant cover is a product of a long period of consistent traditional agricultural management.