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ECOLOGICAL SURVEY

Blacka Moor – Strawberry Lee Pastures Grassland Transects



Adder's Tongue Fern, Strawberry Lee Pastures, Blacka Moor

May 2012

Report by: Julie Riley

Photographs by: Julie Riley

Data Collection by: Julie Riley, [REDACTED]

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1.0 INTRODUCTION

1.1 Site

Blacka Moor is located on the south-west edge of Sheffield, immediately south of the A625. It covers an area of 181 hectares (445 acres) and is centred on OS Grid Reference SK 287 806. Strawberry Lee Pastures is an area of fields and grassland towards the south-western edge of the site, covering approximately 31.64 hectares of in-bye land. It is regularly grazed by sheep.

2.0 SURVEY

2.1 Aims of study

As part of the regular monitoring of the habitats present on the nature reserve, a grassland survey was required in 2012. The aim of this was to build on the information previously collected during Phase One surveys, and give a more in-depth understanding of the plant assemblages present on the pastures.

2.1.1 Desk study

Previous Phase One surveys were reviewed to identify the main areas to target during the field survey.

2.1.2 Field survey methodology

Julie Riley undertook a field survey on the 16th May and the 30th May 2012. On the first visit she was assisted by volunteers [REDACTED] and [REDACTED] on the second visit she was assisted by [REDACTED]

Four transects were walked slowly with the start, mid and end points logged using a handheld GPS system. A simple species list was compiled along the transect and a description of the grassland habitat was noted for each transect.

The grassland has grazed to a short sward by sheep and the first survey visit was relatively early in the season for grasses; therefore it is likely that some

species have not been identified, particularly those which flower later in the season.

2.2 RESULTS

2.2.1 Field survey

Four transects were chosen which included:

Transect A: lightly grazed low-lying grassland with neutral to acid characteristics

Transect B: marshy grassland with acid characteristics on a slope

Transect C: short-sward grazed grassland with acid characteristics along the top of the pastures

Transect D: short-sward grazed grassland with wet and acid characteristics up a slope

The grid reference for the start point, mid point and end point of each transect was recorded using a handheld GPS. A line was walked between points and all species along the line and within a reasonable distance of it (approx 2 metres either side) were identified and recorded. Short descriptions of the habitats found along the transects were also made. Photographs were taken where relevant.

Back in the office, the transects were mapped onto GIS so that the survey could be repeated in future (Figures 1 and 2).

2.2.1.1 Transect A

The transect starts at the bridleway gate (SK28587 79891) and takes a line towards the south, to a small pond adjacent to the stream (SK2859079730) before going back up the gentle slope towards the stone wall and footpath sign (SK28480 79810). The grassland in this transect is on low-lying ground which is grazed by sheep.

Near the start of the transect, the grassland is relatively lush, with Yorkshire fog (*Holcus lanatus*), common bent (*Agrostis capillaries*) and fescues (probably sheep's fescue, *Festuca ovina*) most frequent, along with large amounts of sweet vernal grass (*Anthoxanthum odoratum*). The pasture is largely grasses but there are some herbs, including white clover (*Trifolium repens*), creeping buttercup (*Ranunculus repens*) and speedwell species. Along the first half of the transect, scattered single plants of the uncommon Adder's Tongue Fern (*Ophioglossum vulgatum*) were found (see cover photo).

Down near the mid-point the grassland shows more acid characteristics, with a much less lush and shorter sward dominated by sheep's fescue, with herbs including field woodrush (*Luzula campestris*), tormentil (*Potentilla erecta*) and heath bedstraw (*Galium saxatile*) in small quantities. There are some wetter-loving species present including cuckoo-flower (*Cardamine pratensis*), soft rush (*Juncus effusus*) and marsh thistle (*Cirsium palustre*), all of which occur rarely.

Towards the end of the transect the grassland is similar to that found at the beginning of the transect, showing neutral to acid characteristics. There are occasional clumps of mat grass (*Nardus stricta*) and scattered meadow vetchling (*Lathyrus praetensis*).

Overall the grassland is fairly species-poor and is closest to NVC community U4: *Festuca ovina* – *Agrostis capillaris* – *Galium saxatile* grassland.

Wildlife identified in this area included meadow pipits which were paired and active in the grass; a reed bunting which sang from a nearby tree; and a wheatear (on the 16th May). Skylark, curlew, lapwing and willow warbler were heard or seen in or adjacent to the general pasture area.

2.2.1.2 Transect B

The transect starts on the other side of the stone wall at the end of Transect A, at the beginning of the marshy grassland area (SK28460 79800), and takes a line downslope to a clump of rocks near the stream at the base of the hill (SK28410 79640). It then follows the line of rushes uphill to an area of bluebells (SK28290 79609). The grassland along this transect is lightly grazed by sheep.

Along the first half of the transect, there are large stands of soft rush interspersed with acid grassland with frequent fescue, bent grass, sweet vernal grass and clumps of Yorkshire fog. Towards the mid point downslope, mat grass becomes much more common. There are also areas of carnation sedge (*Carex panacea*) and occasional patches of heath bedstraw and tormentil. There are very few herbs compared to the areas of rush and grasses, and common lawn moss (*Rhytidiadelphus squarrosus*) is frequent.

Heading uphill to the west in the second part of the transect, there is much less species diversity, with a lot of mat grass and other lush grasses. A surprise at the end of the transect is a patch of English bluebell (*Hyacinthoides non-scripta*).

Again, the grassland is fairly species poor. Whereas some of it fits into the NVC community U4: *Festuca ovina* – *Agrostis capillaris* – *Galium saxatile* grassland, much of it is grading into community MG10 – *Holcus lanatus* – *Juncus effusus* rush pasture. Towards the end of the transect, the grassland grades into U5: *Nardus stricta* – *Galium saxatile* grassland.

Skylark and lapwing were noted adjacent to this transect, on the hill to the north.

2.2.1.3 Transect C

The transect starts at the top of the hill, at the corner of two old drystone field walls (SK28130 79690). It takes a line north towards the old gatepost in the separating drystone wall (SK28190 79820) and then takes a north-west direction to end at another junction of two walls (SK28150 79913). The grassland along this transect is more heavily grazed by sheep, particularly on the flatter hilltop, with the sward very short.

Along the first half of the transect, the grazing made it more difficult to identify grass species at the time of the survey, however sweet vernal grass is frequent and fescue (probably sheep's) and common bent are occasional to frequent. At the start of the transect there are a lot of clumps of mat grass, but these become less frequent as one moves towards the centre of the first field. There is plenty of white clover (*Trifolium repens*) and a variety of other herbs among the dominant grasses, including patches of tormentil and heath bedstraw, occasional common sorrel (*Rumex acetosa*), common mouse ear (*Cerastium fontanum*) and areas where field woodrush is locally abundant.

While moving downhill towards the central point, there are further areas of mat grass, and abundant common lawn moss on the downslope along with patches of field woodrush. There are also rarely meadow species in this area, including the base leaves of harebell (*Campanula rotundifolia*), yarrow (*Achillea millefolium*) and meadow buttercup (*Ranunculus acris*), although grass species still dominate. There are scattered bluebells present.

The grassland in this area is acidic and largely a continuation of NVC category U4: *Festuca ovina* – *Agrostis capillaris* – *Galium saxatile* grassland. However, the area with extensive mat grass at the start of the transect is closer to U5: *Nardus stricta* – *Galium saxatile* grassland. The more diverse area on the downslope fits most closely into CG10: *Festuca ovina* – *Agrostis capillaris* – *Thymus praecox* grassland subcommunity *Trifolium repens* – *Luzula campestris*.

Lapwing and skylark were spotted very close to this transect, including two skylarks performing their song flight at the same time.

2.2.1.4 Transect D

This transect starts at the gate with the small bench next to it (SK28145 80053) and heads straight uphill, with the mid-point at the end of the remnant stone wall (SK27991 79957). Then take a line towards the start of a patch of rushes (SK28005 79803).

At the start of the transect, the line runs through a very wet area which has extensive soft rush, white clover and sweet vernal grass, but also has occasional meadow vetchling, red fescue (*Festuca rubra*), carnation sedge and rarely cuckoo flower.

Following the line of the transect uphill, as the bank becomes steeper the grasses become less lush with more finer grasses present such as abundant red fescue, frequent sheep's fescue and abundant sweet vernal grass. This

area is fairly heavily grazed to a short sward, so there were some grass species that were difficult to identify. The proportion of herbs to grasses is higher on the slope, with white clover, tormentil and heath bedstraw the most frequent, but herbs still form a low percentage of the sward. Common lawn moss is frequent throughout.

Towards the crest of the hill, clumps of mat grass become more common and near the mid-point of the transect, there are clumps of mat grass and rough meadowgrass (*Poa trivialis*), patches of field woodrush and some meadow vetchling and harebell among the fescues and sweet vernal grass. Rarely, there is some mouse-ear hawkweed (*Hieracium pilosella*), wavy hair grass (*Deschampsia flexuosa*), bilberry seedlings (*Vaccinium myrtillus*), as well as rare specimens of adder's tongue fern.

Walking from the mid-point to the end of the transect, sweet vernal grass and fescue species dominate along with common bent and tussocks of other grasses including rough meadowgrass. There are some herbs in the sward including yarrow in small quantities and frequent white clover, with occasional patches of field woodrush and carnation sedge. The makeup of the sward along this part of the transect is fairly homogenous.

The grassland in this area is acidic in nature and largely fits NVC category U4: *Festuca ovina* – *Agrostis capillaris* – *Galium saxatile* grassland. However, the areas with clumps of mat grass grade into U5: *Nardus stricta* – *Galium saxatile* grassland. The more diverse area on the downslope fits most closely into CG10: *Festuca ovina* – *Agrostis capillaris* – *Thymus praecox* grassland subcommunity *Trifolium repens* – *Luzula campestris*. The wetter patch at the start of the transect has some elements of MG10: *Holcus lanatus* – *Juncus effusus* rush-pasture.

Two skylark pairs (including one carrying food) were seen along this transect, and a pair of meadow pipits were also collecting food from near the stone wall. Stonechat juveniles were being fed along the northern boundary. Curlew, cuckoo and tree pipit were heard or seen on adjacent areas of the reserve.

2.3 Transect Map (aerial photograph)

Grassland Transects at Strawberry Lee Pastures, Blacka Moor - May 2012

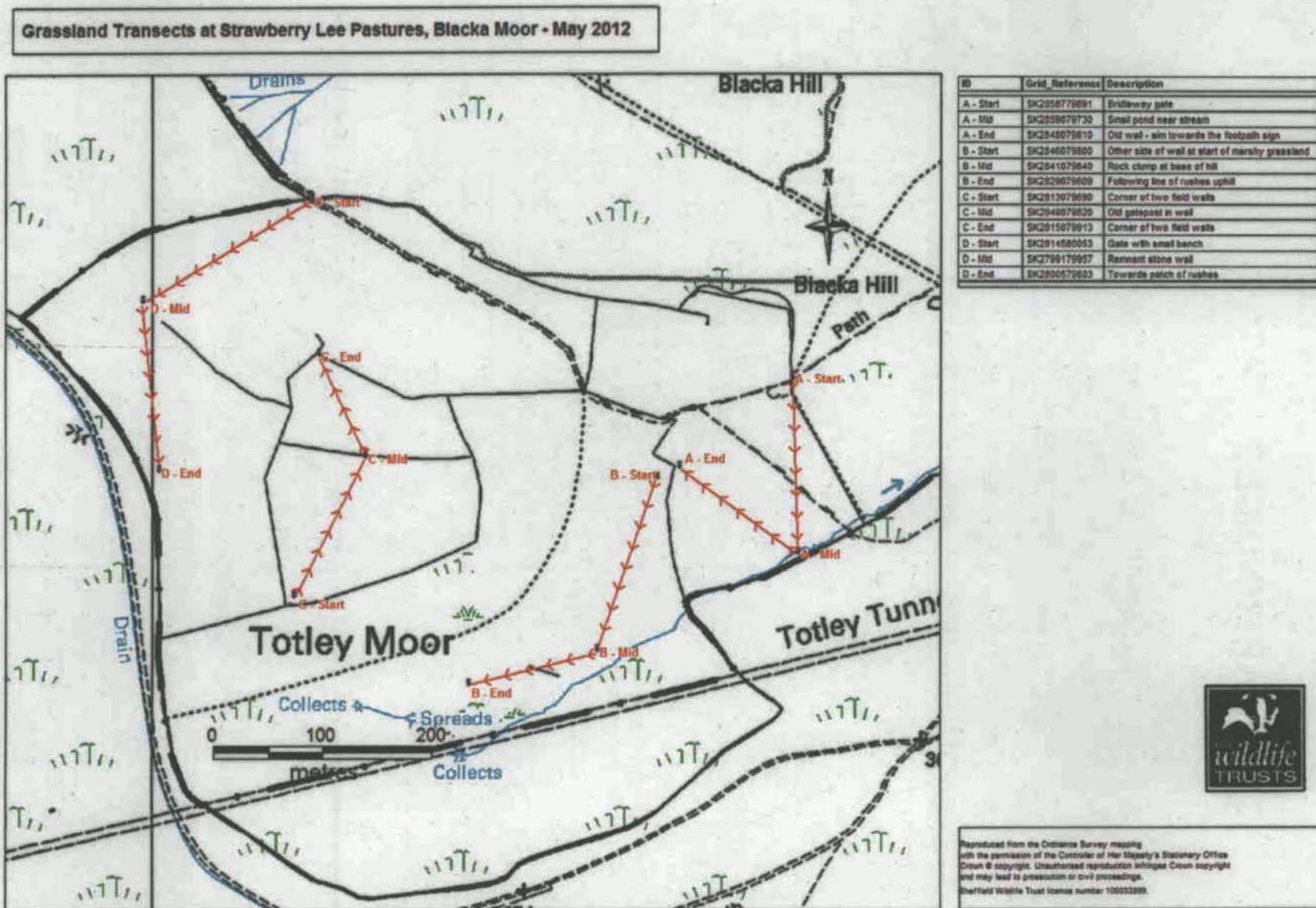


ID	Grid Reference	Description
A - Start	SK2858778891	Bridleway gate
A - Mid	SK2858778730	Small pond near stream
A - End	SK2848878810	Old wall - seen towards the footpath sign
B - Start	SK2848878808	Other side of wall at start of marshy grassland
B - Mid	SK2841878640	Rock clump at base of hill
B - End	SK2829878608	Following line of rushes uphill
C - Start	SK2813878880	Corner of two field walls
C - Mid	SK2848878820	Old gatepost in wall
C - End	SK2815878913	Corner of two field walls
D - Start	SK2814880853	Gate with small bench
D - Mid	SK2798178857	Remnant stone wall
D - End	SK2808578603	Towards patch of rushes



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2.4 Transect map (raster map)



3.0 APPENDICES

3.1 Appendix 1: Species list

Common Name	Scientific Name	Transect A	Transect B	Transect C	Transect D
Woody Species					
Bilberry (seedling)	<i>Vaccinium myrtillus</i>				x
Herbs					
Bluebell	<i>Hyacinthoides non-scripta</i>		x	x	x
Common mouse ear	<i>Cerastium fontanum</i>	x	x	x	x
Common sorrel	<i>Rumex acetosa</i>	x	x	x	x
Creeping buttercup	<i>Ranunculus repens</i>	x		x	
Cuckoo flower	<i>Cardamine pratensis</i>	x			x
Germander speedwell	<i>Veronica chamaedrys</i>				x
Harebell	<i>Campanula rotundifolia</i>			x	x
Heath bedstraw	<i>Galium saxatile</i>	x	x	x	x
Marsh thistle	<i>Cirsium palustre</i>	x	x	x	x
Meadow buttercup	<i>Ranunculus acris</i>			x	x
Meadow vetchling	<i>Lathyrus pratensis</i>	x			x
Mouse-ear hawkweed	<i>Hieracium pilosella</i>				x
Nettle	<i>Urtica dioica</i>	x	x	x	x
Ribwort plantain	<i>Plantago lanceolata</i>			x	x
Self-heal	<i>Prunella vulgaris</i>		x		
Sneezewort	<i>Achillea ptarmica</i>				x
Spear thistle	<i>Cirsium vulgare</i>	x			x
Speedwell sp.	<i>Veronica sp.</i>	x	x	x	
Thyme-leaved speedwell	<i>Veronica serpyllifolia</i>	x		x	
Tormentil	<i>Potentilla erecta</i>	x	x	x	x
Vetch sp.	<i>Vicia sp.</i>		x		
White clover	<i>Trifolium repens</i>	x	x	x	x
Yarrow	<i>Achillea millefolium</i>			x	x
Grasses, rushes & sedges					
Annual meadow grass	<i>Poa annua</i>				x
Carnation sedge	<i>Carex panicea</i>		x	x	x
Cocksfoot	<i>Dactylis glomerata</i>	x			x
Common bent	<i>Agrostis capillaris</i>	x	x	x	x
Creeping thistle	<i>Cirsium arvense</i>				x
Crested dog's tail	<i>Cynosurus cristatus</i>				x
Fescue sp.	<i>Festuca sp.</i>	x	x		
Field woodrush	<i>Luzula campestris</i>	x		x	x
Mat grass	<i>Nardus stricta</i>	x	x	x	x
Meadow foxtail	<i>Alopecurus pratensis</i>				x
Purple moor grass	<i>Molinia caerulea</i>	x			

Ecological Survey: **Name of site**

Red fescue	<i>Festuca rubra</i>		x	x	x
Rough meadow grass	<i>Poa trivialis</i>	x	x		x
Sheep's fescue	<i>Festuca ovina</i>	x	x	x	x
Soft rush	<i>Juncus effusus</i>	x	x	x	x
Sweet vernal grass	<i>Anthoxanthum odoratum</i>	x	x	x	x
Velvet bent (tentative ID)	<i>Agrostis canina</i>		x		
Wavy hair grass	<i>Deschampsia flexuosa</i>				x
Yorkshire fog	<i>Holcus lanatus</i>	x	x	x	x
Ferns & bryophytes					
Adder's tongue fern	<i>Ophioglossum vulgatum</i>	x			x
	<i>Rhytidiadelphus squarrosus</i>				
Common lawn moss		x	x	x	x
Field horsetail	<i>Equisetum arvense</i>	x	x		
Polytrichum sp.	<i>Polytrichum sp.</i>		x		

Strawberry Lee Pastures Fungi 5th November 2011
Identified & compiled by M. Senkans

<i>Clavulinopsis helvola</i>	Yellow Club
<i>Clavulinopsis luteoalba</i>	Apricot Club
<i>Clavaria fragilis</i>	White Spindles
<i>Hygrocybe calyptriformis</i>	Pink Waxcap
<i>Hygrocybe pratensis</i>	Meadow Waxcap
<i>Hygrocybe virginea</i>	Snowy Waxcap
<i>Hygrocybe laeta</i>	Heath Waxcap
<i>Hygrocybe irrigata</i>	Slimy Waxcap
<i>Hygrocybe ceracea</i>	Butter Waxcap
<i>Hygrocybe conica</i>	Blackening Waxcap
<i>Hygrocybe coccinea</i>	Scarlet Waxcap
<i>Hygrocybe chlorophana</i>	Golden Waxcap
<i>Hygrocybe glutinipes</i>	Glutinous Waxcap
<i>Hygrocybe psittacina</i>	Parrot Waxcap
<i>Mycena aetites</i>	Drab Bonnet
<i>Mycena luteoalba</i>	Ivory Bonnet
<i>Mycena leptcephala</i>	Nitrous Bonnet
<i>Mycena pura</i>	Lilac Bonnet
<i>Cystoderma amianthinum</i>	Earthy Powdercap
<i>Galerina</i> sp.	Bell sp.
<i>Agaricus campestris</i>	Field Mushroom
<i>Stropharia caerulea</i>	Blue Roundhead
<i>Stropharia semiglobata</i>	Dung Roundhead
<i>Psilocybe semilanceata</i>	Liberty Cap
<i>Panaeolus</i> sp.	Mottlegill sp.
<i>Panaeolus papilionaceus</i>	Petticoat Mottlegill
<i>Cordyceps militaris</i>	Scarlet Caterpillarclub
<i>Entoloma</i> sp.	Pinkgill sp.
<i>Entoloma conferendum</i>	Star Pinkgill
<i>Entoloma porphyrophaeum</i>	Lilac Pinkgill
<i>Rickenella fibula</i>	Orange Moss-cap
<i>Trichoglossum hirsutum</i>	Hairy Earthtongue
<i>Geoglossum</i> sp.	Earthtongue sp.
<i>Lycoperdon nigrescens</i>	Dusky Puffball
<i>Clitocybe fragrans</i>	Fragrant Funnel
<i>Clitocybe nebularis</i>	Clouded Funnel
<i>Hygrophoropsis aurantiaca</i>	False Chanterelle
<i>Mucilago crustacea</i>	Dog snot slime mould

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|------|---|----|---------------------------------------|-----|-------------------------------------|
| Site | Type | 41 | Possible quarries | 82 | Possible quarries |
| 1 | Possible spoil tip | 42 | Possible enclosure | 83 | Totley bole hill |
| 2 | Earthwork | 43 | Well (site of) | 84 | Flints (find spot) |
| 3 | Banks and hollow ways | 44 | Quarry scoops | 85 | Calm |
| 4 | Possible cairn | 45 | Hut circle | 86 | Hollow way |
| 5 | Earthwork bank | 46 | Lynchets or terraces | 87 | Blackwork oven |
| 6 | Hollow | 47 | Flints (find spot) | 88 | Possible cairns |
| 7 | Possible terraces or natural features | 48 | Barrow (approx site) | 89 | Hill fort |
| 8 | Possible earthwork bank | 49 | Field boundary | 90 | Spoil tip |
| 9 | Hollow way | 50 | Possible cairn | 91 | Possible bole site |
| 10 | White coal kiln | 51 | Possible cairns | 92 | Hollow way |
| 11 | Possible quarry scoops | 52 | Scoop | 93 | Well |
| 12 | Well (site of) | 53 | Possible cairn | 94 | Hollow way |
| 13 | Stone-walled enclosure | 54 | Possible cairns | 95 | Earthworks |
| 14 | Circular enclosure and other features | 55 | Hollow ways | 96 | Possible quarries |
| 15 | Mound | 56 | Hollow way | 97 | Bank |
| 16 | Charcoal platform | 57 | Field boundary (course of) | 98 | Quarries |
| 17 | White coal kiln | 58 | Possible enclosure | 99 | Wall |
| 18 | White coal kilns | 59 | Possible enclosure | 100 | Bridge |
| 19 | Charcoal platform | 60 | Ridge and furrow and field boundaries | 101 | Pinfold |
| 20 | White coal kilns | 61 | Culvert | 102 | Presumed rock shelter (approx site) |
| 21 | Charcoal platforms and white coal kilns | 62 | Ridge and furrow | | |
| 22 | Charcoal platforms | 63 | Possible building or sheep fold | | |
| 23 | Charcoal platforms | 64 | Ridge and furrow | | |
| 24 | Small bridge and watercourse | 65 | Mining activity | | |
| 25 | Possible white coal kiln | 66 | Pillow mound | | |
| 26 | Stone structure | 67 | Field boundary | | |
| 27 | Possible quarry | 68 | Circular depressions and scoops | | |
| 28 | Earthworks | 69 | Hollow way or track | | |
| 29 | Quarry | 70 | Brick water chamber | | |
| 30 | Axe (find spot) | 71 | Field boundaries | | |
| 31 | Enclosure or paddock (site of) | 72 | Ridge and furrow | | |
| 32 | White coal kiln | 73 | Former Strawberry Lee farm complex | | |
| 33 | Charcoal platform | 74 | Field boundaries | | |
| 34 | Possible enclosure | 75 | Two barrows (approx sites) | | |
| 35 | White coal kiln | 76 | Possible cairn | | |
| 36 | Charcoal platform | 77 | Linear depression | | |
| 37 | Charcoal platform | 78 | Stone circle | | |
| 38 | White coal kiln | 79 | Possible quarry or settlement scoops | | |
| 39 | Mining activity | 80 | Possible cairn | | |
| 40 | Possible enclosure | 81 | Pond | | |






AREA OF DETAILED SURVEY

0 500m

PROJECT BOLE HILL SURVEY, BLACKA MOOR	
TITLE RESULTS OF 2001 SURVEY	
SCALE AS SHOWN	DATE SEPT 2003
EDAS	FIGURE 3



-  BARE SOIL/STONE
-  TREE
-  SITE NUMBERS

PROJECT BOLE HILL SURVEY, BLACKA MOOR	
TITLE OVERALL SURVEY PLAN	
SCALE AS SHOWN	DATE SEPT 2003
EDAS	FIGURE 5