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V1

SIDE WOOD SURVEY 2013/2014

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1 INTRODUCTION

This is the report of a survey carried out of Side Wood on the south side of Ennerdale Water. Primarily carried out to provide a comparison with the survey of large oak trees in 1985, the opportunity has been taken to provide a more detailed topographic base map and a cartographic record of the antiquities in the wood.

2 SCOPE

The survey covers Side Wood from the lake shore to the tree line, between the bounding dry stone walls. Some features above the tree line, and areas of continuous trees above the main tree line are included.

All significant topographic features are recorded. All antiquities listed on existing surveys are recorded.

All oak trees >2m girth at 1.3m height are recorded. Other significant trees and variations in species are recorded.

3 HISTORY

In 1985 I carried out a survey of Side Wood for Mike Mills, the warden of Low Gillerthwaite Field Centre. The main aim of that survey was to identify and map all the large oaks. This was carried out using basic 'compass and pacing' survey techniques.

Simon Webb of Natural England suggested that an updated survey would provide interesting data on the losses of mature oaks in the storms of recent years.

4 AIMS

- To provide a comparison with the 1985 survey of large oaks
- To provide a topographic base map for use in other survey and conservation work
- To provide a survey of the other main tree species in the wood
- To provide a representation of the known antiquities in the wood

5 CARTOGRAPHY

5.1 Base Map

The base map is derived from LiDAR data with 2m horizontal resolution. The data was provided free of charge by Geomatics (Environment Agency) on a non-commercial basis only. This survey is carried out as a Wild Ennerdale volunteer. The LiDAR data was processed using OCAD 11.

5.2 GPS

The survey is based on GPS readings.

Side Wood is not the ideal situation for GPS. The combination of tree cover, steep slopes, and (in some places) rock faces degrades the accuracy significantly. Although the GPS unit (Garmin GPSmap 62sc) reports accuracies of 3m – 7m in the field, repeatability trials show variations of up to 12m.

Following the GPS survey, a repeat visit has been made to ensure that relative positions of adjacent features are correct.

GPS readings are reported to a precision of 1m, for simplicity of data handling. This may give a spurious indication of accuracy.

6 TOPOGRAPHIC MAP

The topographic features have been selected to show those most useful for future work. Not all of a type are shown.

Boulders Where boulders are significant in their surroundings, they are shown with one of three symbols, for boulders >1.0m, >1.5m, and >2.0m approx. Two sizes of symbol are used for both boulder groups and boulderfields/scattered boulders, so that the larger features can be distinguished.

Crags

Rock steps of 1m – 2m, if shown at all, are generally shown with the 'crossable crag' symbol. Steep faces over 2m high are generally shown with the 'uncrossable crag' symbol.

Water courses vary enormously with the weather. Many are largely subterranean, but emerge after heavy rain. Only those that appear to be visible under most weather conditions are shown.

7 TREES

7.1 Birch

The dominant species in Side Wood is birch. Where woodland is shown, birch must be assumed.

Only the most significant individual birch are shown – for instance, a large solitary specimen on the lake shore.

7.2 Oak

The 1985 survey recorded all Oaks greater than 2.0m girth. For consistency, this survey has retained that principle. Some significant oaks less than 2.0m girth (such as those in a group all of which are close to 2.0m) are also recorded. They are given a different colour symbol on the maps.

Girth is measured at breast height (about 1.3m) on the uphill side. Where there are multiple trunks, only the largest is measured. Where the trunk is leaning significantly, the measurement is taken perpendicular to the trunk.

It is the girth that is measured. This is reduced to diameter at breast height (dbh) for reporting in appendix 1.

In 1985 the trees were numbered discreetly in the field, using small galvanized nails (felt nails) with a number written on. Few of these are now visible.

Subsequently some trees were labelled with white plastic rectangles by Mike Mills whilst warden at Low Gillerthwaite Field Centre. All these are now illegible.

For this survey, each large oak has been given a number. The trees have not been physically labelled; reliance is placed on the GPS grid reference. The numbers are cross referenced between appendix 1 and the maps.

Large fallen trees are generally assumed to be oak. Many are not completely dead, but if there is a significant proportion of deadwood they are shown as fallen oak. Oaks that have fallen but survived, and sent up large new trunks ('phoenix' trees) are shown as ordinary oaks.

7.3 Other Species

No strict criteria have been adopted for other species. They have been recorded individually only where they are locally significant.

An attempt has been made to identify all the crab apple trees, as these are frequently associated with charcoal burning remains.

Some hawthorns are shown within the forest, and along the lower edge. There are many along the upper edge; these are not shown.

7.4 Deadwood

An attempt has been made to record deadwood, but with little confidence that the value can be repeated. There is much deadwood, and a large variability in the sizes.

A minimum butt diameter of 0.3m has been taken – below this the deadwood is not recorded. An estimate of the length of trunk down to a minimum tip diameter of 0.2m is made. The volume is then calculated. Where there are multiple stems, the length is adjusted accordingly. Full data is available if required.

The approximate area of the woodland, including clearings within the wood, is 27.2 Ha. The total deadwood volume is 278 m³. This gives a deadwood volume of **10.2 m³/hectare** across the woodland. 32% of this is accounted for by the large fallen trees which have been identified as oak.

This is a very different approach to that used in Jenny Woodman's study³ and cannot be directly compared. That study gave a value of **70 m³/hectare**. 90% of Woodman's records (by number, not by volume) was on timber <0.3m diameter, and would not have been recorded on the current survey.

8 COMPARISON WITH THE 1985 SURVEY

As noted above, the present survey was intended to be compatible with the 1985 survey, in recording all oaks greater than 2.0m girth.

The growth rate of the trees is not known. An often quoted rule for hardwoods is 1 inch (2.5cm) of growth per year, but this is for trees in good growing conditions. Side Wood is less than optimal. If we assume half this, then 29 years

of growth would have added $1.25 * 29 = 36.25\text{cm}$. So all trees greater than about 2.3m girth should have been identified in 1985.

The 1985 survey found 178 oaks >2m girth, including 2 fallen trees. The current survey found 198 oaks $\geq 2\text{m}$ girth, and 137 $\geq 2.3\text{m}$. An additional 31 fallen trees were recorded. This implies that growth rates are close to 0.5 inches in girth per year, but with low confidence in this number.

An attempt has been made to reconcile the two surveys, but the different techniques used make it difficult to do so with high confidence. However, 167 (including fallen trees) oaks from 1985 have been tentatively identified with trees from the current survey.

18 are considered to have fallen since 1985. This is 11%, or 0.3% per year. This figure may have been inflated by some fallen trees being misidentified as oak.

A further 9 trees from 1985 could not be associated with trees from the current survey. These may have been misidentified as oaks originally.

9 WILSON'S FILMY FERN

No record has been made of bryophytes. However, it is noted that Wilson's filmy fern occurs in comparative abundance on the rocks below the largest crag – above the original enclosure. Approximate grid ref NY 11900 13870.

10 ARCHAEOLOGY

All antiquities and possible antiquities found were recorded. They were then compared with records in the Historic Landscape Survey¹ (HLS) and the Mireside Farm report² (HER).

In many cases, the grid references quoted in the two documents did not correspond to features identified on this survey. This was confirmed by a visit to the quoted location. The features were then matched, where possible, to the current survey using the text descriptions. Even the main bloomery could not be positively identified.

Appendix 2 lists all previously recorded antiquities and new candidates. Those actually found on the survey are shown on the map in this report and on the separate topographic map. The separate antiquities map gives a fuller picture.

Seven new candidates have been identified, five of which are charcoal burners' sites.

11 MAPS

The complete map, with topographic, vegetation, and antiquity detail is presented in figure 1.

Themed maps are issued separately with this report. They are:

- 1 Topographic only – to be used for future work
- 2 Topographic + trees
- 3 Topographic + changes since 1985 – differences in large oaks
- 4 Topographic + antiquities
- 5 Hillshading. This is derived from the LiDAR data, and shows some landforms not easily visible on the contours. In particular, there is a long diagonal rake of uncertain origin in the east part of the wood.

All the maps are intended to be printed at A3 size, giving a scale of 1:4000. Many formats can be provided, including .gpx, and .shp files.

In many ways, the best way to use the map in the field is to have it visible on a gps screen. Compatible formats can be provided. For Garmin units that take Custom Maps such as the mapGPS 62, a map in Google Earth Raster format (.kmz) is available.

12 CONCLUSION

The 1985 survey has been repeated, and all large oaks have been recorded. A loss of 0.3% of large oaks per year is estimated.

An estimate of the total amount of large deadwood (butt diameter > 0.3m) has been made, giving a value of 10.2 m³/hectare.

A detailed topographic map has been created, and is available for future survey and management work.

All antiquities and potential antiquities found during the survey have been recorded, and compared with existing records. A number of new features have been tentatively identified.

REFERENCES

- 1 Oxford Archaeology North (2003) Ennerdale Historic Landscape Survey
- 2 Holly Beavitt-Pike (2011) HER consultation for Mireside Farm, Ennerdale. Provided by Lake District National Park Authority to Judith Weston
- 3 Woodman, J (2013) Comparison Of Dead Wood Composition and Forest Regeneration in Broadleaf and Coniferous Stands - 'Wild' Ennerdale, Cumbria, UK

Appendix 1 Oak Tree Records

ID	Girth (m)	OS grid ref
O 001	2.5	NY 12243 13828
O 002	3.7	NY 12154 13811
O 003	2.8	NY 12182 13787
O 004	3.1	NY 12206 13730
O 005	2.1	NY 12213 13845
O 006	1.8	NY 12209 13855
O 007	1.8	NY 12143 13844
O 008	2.2	NY 12125 13927
O 009	2.2	NY 12111 13932
O 010	2.4	NY 12115 13963
O 011	1.9	NY 12146 13939
O 012	2.5	NY 12159 13945
O 013	2.3	NY 12094 13961
O 014	3.0	NY 12002 14021
O 015	2.4	NY 11962 14019
O 016	1.8	NY 11971 14016
O 017	2.3	NY 11955 14004
O 018	2.4	NY 11973 13990
O 019	2.2	NY 11991 13980
O 020	2.5	NY 12001 13973
O 021	3.0	NY 12012 13973
O 022	1.9	NY 12025 13965
O 023	1.8	NY 12017 13948
O 024	2.9	NY 12010 13944
O 025	1.8	NY 12036 13928
O 026	2.5	NY 12052 13919
O 027	2.8	NY 12072 13929
O 028	1.8	NY 12044 13939
O 029	2.7	NY 12054 13944
O 030	2.4	NY 12124 13896
O 031	2.1	NY 12154 13885
O 032	2.5	NY 12100 13852
O 033	3.2	NY 12081 13856
O 034	2.8	NY 12031 13860

ID	Girth (m)	OS grid ref
O 035	1.5	NY 12020 13882
O 036	1.7	NY 12022 13885
O 037	1.6	NY 12023 13893
O 038	2.4	NY 12023 13891
O 039	3.9	NY 12005 13895
O 040	2.3	NY 12044 13884
O 041	2.1	NY 12043 13887
O 042	2.4	NY 12059 13875
O 043	2.6	NY 12067 13896
O 044	2.9	NY 12084 13834
O 045	2.0	NY 12011 13843
O 046	3.0	NY 12007 13858
O 047	2.7	NY 11990 13857
O 048	2.1	NY 12088 13807
O 049	2.0	NY 12089 13806
O 050	3.2	NY 12081 13784
O 051	3.1	NY 12073 13785
O 052	2.8	NY 12065 13791
O 053	2.6	NY 12040 13795
O 054	2.1	NY 12034 13806
O 055	2.5	NY 11972 13819
O 056	1.8	NY 11982 13810
O 057		Not used
O 058	2.3	NY 11935 13820
O 059	1.7	NY 11927 13812
O 060	3.7	NY 11989 13753
O 061	2.3	NY 12055 13712
O 062	2.8	NY 11939 14036
O 063	3.3	NY 11911 14002
O 064	2.5	NY 11925 14020
O 065	2.8	NY 11931 14022
O 066	2.2	NY 11919 13975
O 067	2.0	NY 11927 13975
O 068	2.6	NY 11950 13976

ID	Girth (m)	OS grid ref
O 069	1.7	NY 11973 13954
O 070	2.9	NY 11978 13949
O 071	2.9	NY 11993 13944
O 072	2.3	NY 11966 13912
O 073	2.4	NY 11963 13947
O 074	2.8	NY 11922 13961
O 075	2.7	NY 11892 13944
O 076	3.1	NY 11898 13932
O 077	2.9	NY 11898 13924
O 078	3.6	NY 11915 13913
O 079	2.9	NY 11950 13929
O 080	2.7	NY 11945 13931
O 081	2.1	NY 11985 13894
O 082	2.5	NY 11988 13889
O 083	2.7	NY 11971 13869
O 084	1.8	NY 11961 13851
O 085	2.7	NY 11934 13886
O 086	2.5	NY 11938 13891
O 087	2.0	NY 11943 13900
O 088	2.9	NY 11911 13902
O 089	2.5	NY 11777 13847
O 090	2.5	NY 11858 13847
O 091	2.1	NY 11857 13840
O 092	2.6	NY 11899 13835
O 093	2.7	NY 11906 13831
O 094	2.2	NY 11907 13820
O 095	2.3	NY 11939 13846
O 096	1.9	NY 11918 13857
O 097	1.9	NY 11915 13845
O 098	1.5	NY 11908 13842
O 099	3.1	NY 11875 13883
O 100	3.4	NY 11931 14047
O 101	2.8	NY 11693 14089
O 102	2.9	NY 11796 14043
O 103	3.1	NY 11805 14043
O 104	2.6	NY 11805 14049
O 105	3.3	NY 11824 14052
O 106	2.0	NY 11849 13995
O 107	3.8	NY 11846 13999

ID	Girth (m)	OS grid ref
O 108	2.3	NY 11859 13992
O 109	2.6	NY 11879 13995
O 110	2.3	NY 12130 13943
O 111	2.1	NY 11450 14220
O 112	3.2	NY 11786 14013
O 113	2.6	NY 11841 13961
O 114	3.0	NY 11837 13942
O 115	2.8	NY 11845 13913
O 116	2.4	NY 11765 13912
O 117	2.1	NY 11789 13955
O 118	3.6	NY 11735 14058
O 119	4.5	NY 11686 14039
O 120	2.5	NY 11766 13985
O 121	2.6	NY 11774 13973
O 122	2.1	NY 11775 13970
O 123	2.3	NY 11769 13962
O 124	2.4	NY 11764 13961
O 125	3.6	NY 11764 13947
O 126	2.6	NY 11768 13957
O 127	2.0	NY 11746 13961
O 128	2.3	NY 11739 13968
O 129	3.0	NY 11737 13971
O 130	3.3	NY 11724 13960
O 131	2.1	NY 11715 13956
O 132	1.9	NY 11793 13886
O 133	2.5	NY 11785 13883
O 134	2.9	NY 11780 13880
O 135	2.4	NY 11767 13889
O 136	3.4	NY 11742 13900
O 137	2.3	NY 11777 13872
O 138	3.6	NY 11549 14084
O 139	2.5	NY 11579 14084
O 140	4.2	NY 11588 14061
O 141	3.2	NY 11624 14047
O 142	2.4	NY 11640 14053
O 143	3.3	NY 11622 14067
O 144	3.4	NY 11593 14096
O 145	2.2	NY 11591 14101
O 146	4.3	NY 11622 14111

ID	Girth (m)	OS grid ref
O 147	2.2	NY 11531 14081
O 148	3.6	NY 11522 14084
O 149	2.2	NY 11508 14074
O 150	2.3	NY 11512 14058
O 151	2.8	NY 11510 14059
O 152	2.2	NY 11495 14059
O 153	2.1	NY 11497 14059
O 154	2.6	NY 11480 14080
O 155	2.5	NY 11325 14057
O 156	3.6	NY 11429 14105
O 157	2.1	NY 11465 14104
O 158	2.0	NY 11482 14103
O 159	3.5	NY 11476 14107
O 160	3.2	NY 11547 14109
O 161	1.6	NY 11560 14112
O 162	3.4	NY 11512 14128
O 163	4.6	NY 11500 14115
O 164	2.6	NY 11490 14109
O 165	2.9	NY 11446 14130
O 166	1.7	NY 11445 14133
O 167	2.4	NY 11445 14144
O 168	1.8	NY 11422 14167
O 169	2.6	NY 11462 14151
O 170	2.3	NY 11464 14165
O 171	2.8	NY 11481 14160
O 172	2.4	NY 11495 14140

ID	Girth (m)	OS grid ref
O 173	2.5	NY 11490 14137
O 174	2.4	NY 11527 14129
O 176	2.2	NY 11541 14136
O 177	2.6	NY 11551 14134
O 178	2.5	NY 11476 14176
O 179	2.3	NY 11517 14157
O 180	2.5	NY 11399 14193
O 181	3.2	NY 11316 14201
O 182	2.6	NY 11309 14182
O 183	2.2	NY 11057 14204
O 184	3.6	NY 10950 14291
O 185	3.1	NY 10928 14240
O 186	2.0	NY 11290 14221
O 187	2.7	NY 11228 14227
O 188	4.1	NY 11188 14227
O 189	1.8	NY 11046 14275
O 190	3.1	NY 11027 14295
O 191	2.2	NY 11068 14291
O 192	3.8	NY 11076 14299
O 193	1.7	NY 11096 14282
O 194	2.1	NY 11092 14276
O 195	2.8	NY 11125 14269
O 196	2.9	NY 11124 14273
O 197	1.9	NY 11178 14255
O 198	2.2	NY 11948 14005

Fallen Oaks

ID	Butt dia (m)	OS grid ref
OF	0.5	NY 12143 13812
OF	0.8	NY 12017 13958
OF	1	NY 12022 13939
OF	0.8	NY 12040 13929
OF	1	NY 12019 13918
OF	0.7	NY 12061 13914
OF	1.2	NY 12047 13934
OF	0.4	NY 12067 13754
OF	0.7	NY 11907 14007
OF	0.5	NY 11933 14010
OF	0.5	NY 11927 14016
OF	0.6	NY 11897 13986
OF	0.6	NY 12003 13904
OF	1	NY 11900 13872
OF	1	NY 11817 14075
OF	0.8	NY 11819 13950
OF	1	NY 11826 13923
OF	0.8	NY 11814 13922
OF	0.8	NY 11781 13938
OF	1.5	NY 11776 13937
OF	0.6	NY 11787 13957
OF	0.6	NY 11792 13960
OF	0.8	NY 11747 14007
OF	0.8	NY 11711 14036
OF	0.6	NY 11963 13989
OF still alive	1.2	NY 11608 14157
OF	0.8	NY 11958 14003
OF	0.8	NY 11900 13957
OF still standing	0.7	NY 11653 14060
OF huge	1.3	NY 11496 14092
OF standing	0.6	NY 11052 14298
OF still alive	0.8	NY 11467 14157

Appendix 2 Archaeology

HLS: Historic Landscape Survey¹

HER: Mireside Farm Consultation²

2a Antiquities in Listed in HLS or HER

Map ID	Survey	Code	OS Grid Ref	Map Symbol	Comment	Summary of description in HLS or HER
1a 1b 1c	HLS HER Current	1 32906 478	NY 11019 14309 NY 11020 14310 NY 11021 14345	Two walls	Sheepfold/building. Description fits feature known locally as boat landings	A double-celled building placed on the east side of the enclosure wall by the lakeside. It consists of a southern revetted wall, which cuts the hillside. The wall features large stones at its base and eight rough courses of dry-stone, reaching 1.4m high on its northern side.
2a 2b 2c	HLS HER Current	2 32907 1570	NY 11113 14266 NY 11113 14266 NY 11110 14257	Depression	Deep narrow depression	A well included on the OS First Edition Map 1867.
3a 3b 3c 3d	HLS HER Current Current	93 32971 1471 1486	NY 10925 14209 NY 10930 14210 NY 10916 14232 NY 10965 14300	Brown triangle	Poor candidate at 2c, better option much lower down at 2d	A small quarry scoop located to the east of the boundary wall. It is approximately 2.5m in diameter and its face is up to 0.6m high.
4a 4b 4c	HLS HER Current	94 32972 1472	NY 10860 14126 NY 10860 14130 NY 10848 14137	Brown triangle	No good candidate found. 4c is lower end of small gully	A small, circular platform cut into the valley side, to the east of Red Beck, approximately 2.5m in diameter.
5a 5b 5c	HLS HER Current	100 32978 1473	NY 11133 14081 NY 11130 14280 NY 11130 14282	Black cross	HLS and HER give different grid refs. 5c, near 5a, has some rough	A small dry-stone structure built into the steep valley side, east of Red Beck. It is of unknown date and function. The structure consists of two dry-stone walls, which are

Map ID	Survey	Code	OS Grid Ref	Map Symbol	Comment	Summary of description in HLS or HER
					stonework that does not match the description. Nothing found at 5b on lakeside	approximately 0.6m long, 0.2m wide and 0.6m high. The walls are 0.3m apart and between them is a dry-stone vault comprising densely packed stones. The first impressions would suggest that it was a culvert, but may have had some other function.
6b 6c	HLS HER Current	nil 36672 301	nil NY 11155 14225 NY 11178 14255	Brown triangle	Possibly platform below. Not convincing	Charcoal Burners' hut
7a 7b 7c	HLS HER Current	101 32979 925	NY 11502 14176 NY 11500 14180 NY 11345 14217	Black square	Description matches ruin 150m west at 7c	Lakeside. A small hut surviving as a four walled structure, approximately 3m square, which is cut into the valley side. The dry-stone walls are up to 0.6m high and 0.4m wide, consisting of four even courses of angular stones. The chimney to the south side has a lintel on top.
8a	HLS HER Current	160 nil nil	NY 12319 13879 nil nil	nil	Not found. 'west wall' does not match this area	An unusual break in the wall build where large stones would appear to function as quoins. Moreover, the west wall appears to butt up against it and would suggest that repair and not building phases influenced this deliberate division.
9a 9b 9c	HLS HER Current	170 15908 1374	NY 11590 14170 NY 11590 14170 NY 11544 14173	Brown dots	Description doesn't match location, but	The site is situated on a terrace above the southern shore of Ennerdale Water. It is not an obvious site, with

Map ID	Survey	Code	OS Grid Ref	Map Symbol	Comment	Summary of description in HLS or HER
			(low confidence)		there is a deep depression nearby. This could be remains of an excavation, but is probably a different feature. Tentatively associated with the broken ground to the west (9c)	only a small slag mound 0.3m high on the uphill side and spilling over a 2m high natural slope towards the lake. The main slag mound has a turf cover, but there is bracken in the surrounding area. There is a crab apple tree on top of the mound and several other small trees in the vicinity. Immediately to the west of the site is a low oval stone structure with a shallow ditch curving around a low mound, which may be natural. Immediately east of the site is a small stream, in which pieces of tap slag can be found. At the footpath, small slag fragments and ore fines, probably haematite, can be seen in an erosion scar. The small slag mound contains not more than two or three tonnes of slag. Geophysical survey revealed a well-defined furnace location. However it is an unusual and restricted site, compared with most other Cumbrian bloomeries (Crew 2000).
10a 10b	HLS HER Current	176 30520 nil	NY 11250 14240 NY 11250 14240 nil		Nothing found. There are two depressions at NY 11453 14186 and NY 11588 14162 which have not be associated	A possible potash kiln measuring approximately 3m by 3m, surviving as a hollow set into the slope. No exposed masonry has been recorded

Map ID	Survey	Code	OS Grid Ref	Map Symbol	Comment	Summary of description in HLS or HER
					with any previously identified feature	
11b 11c	HLS HER Current	Nil 36663 405	Nil NY 12075 13935 NY 12063 13937	Black Circle + black square	Charcoal Burners' Platform and ruin	Charcoal burning platform.
12b 12c	HLS HER Current	Nil 36664 1505	Nil NY 11485 14165 NY 11375 14217	Grey circle	Not found (12b). Could be feature to east of ruin near shore (12c)	Rectangular building foundation associated with bloomery
13b 13c	HLS HER Current	Nil 36665 1254	Nil NY 11405 14165 NY 11360 14065	Black square	Not found at this location (13b). Could be a repeat of 7b, or could be stone structure 110m up the hill at 13c (see photo). No enclosure observed at 13c	Dry-stone structure within enclosure.
14b 14c	HLS HER Current	Nil 36667 866	Nil NY 11695 14105 NY 11700 14118	Depression	Depression found nearby	Potash Pit

2b Potential antiquities not listed in HLS or HER:

Map ID	Survey	Code	OS Grid Ref	Map Symbol	Comment
15c	Current	884	NY 11789 14038	Black Circle	Charcoal Burners' platform
16c	Current	887	NY 11756 14081	Depression	Flat Scoop
17c	Current	358	NY 11992 14016	Black Circle	Charcoal Burners' site – flat, on path, black earth
18c	Current	929	NY 11729 14082	Black Circle	Charcoal burners' site
19c	Current	931	NY 11861 13965	Grey Circle	Possible Charcoal Burners' site – large hollow with raised edge
20c	Current	1075	NY 11676 13973	Black Square	Low stone walls age uncertain, currently roofed with cut birch logs and plastic sheet
21c	Current	1149	NY 11610 14054	Black Dashed line	Old path. Can be traced in similar direction up on to the fell. May have served the mines, or join with another old path down the Calder, linking the Abbey with the Gillerthwaite vaccary. At the location referenced there has been some stone clearance. Higher up it is visible as a shallow gully

2c Discounted Candidates

Three locations were identified during the survey as possible charcoal burners' sites, but have now been discounted. They are not shown on the maps. They are listed below for completeness:

Map ID	Survey	Code	OS Grid Ref	Map Symbol	Comment
	Current	575	NY 11890 14024		Possible charcoal burners' site - flat, but wet.
	Current	377	NY 11979 13969		Possible Charcoal Burners' site
	Current	416	NY 12104 13924		Possible Charcoal Burners' site

2d Off map to East




























Map ID	Survey	Code	OS Grid Ref	Map Symbol	Comment
	Current	1602	NY 12362 13849		Possible charcoal burners' site

















FIGURE 1 MAP

This map combines all the topographic, vegetation, and antiquity data on one sheet. For a clearer representation, see the themed maps issued separately.

Map symbols

	Contour		Stream
	Index Contour		Narrow marsh
	Form line		Marsh
	Gully		Trees
	Small Knoll		Rough open land
	Depression		Scattered trees
	Flat area		Path
	Impassable cliff		Stone Wall
	Passable rock face		Ruined stone wall
	Boulders		Fence
	Boulder field		Crossing point
	Boulder group		Stile
	Stony ground		
	Small ruin		
	Charcoal burner's site		

	Hawthorn (selected)
	Holly (Ilex)
	Birch (prominent)
	Crab Apple
	Ash (prominent)
	Rowan (selected)
	Sloe
	Willow
	Bird Cherry (Prunus) (Selected)
	Oak, <=2m girth, numbered
	Oak, >2m girth, numbered
	Large fallen tree, probably oak
	Deadwood, >0.3m butt diameter

	1a, 1b	HLS or HER Reference
	1c	Antiquity - this survey

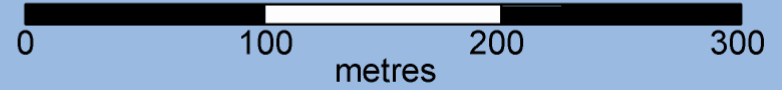
Survey 2014 © Pete Nelson Survey incomplete above tree line

Contours from Lidar data provided by Environment Agency



Lagget Conservation Surveys

SIDE WOOD West



1:3000 when printed at A4
Contour Interval 5m

