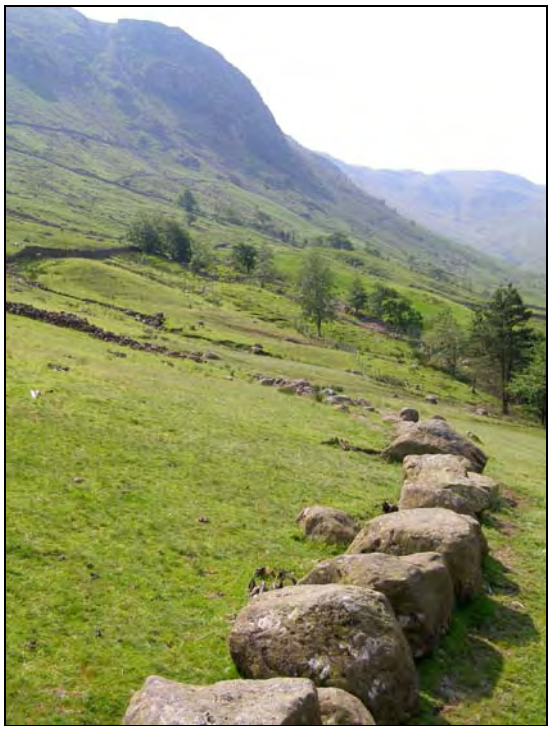

BORROWDALE
CUMBRIA

Historic Landscape Survey

Volume 1: Archaeological Report and Figures

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SUMMARY

The present report outlines the results of a landscape survey of the National Trust holdings in the Borrowdale valley, Cumbria, which comprise an area roughly 52.55km² in extent (centred on NY 260 140). This is the product of two phases of work; the first was by the National Trust Historic Landscape Survey Team in the mid-1990s and secondly, OA North was commissioned to complete the fieldwork and the report. The OA North fieldwork was undertaken between August and October 2006 and comprised a boundary survey of the Seathwaite and Seatoller landholdings.

The aim of the study was to produce a comprehensive record of the archaeological remains within the valley, to undertake a boundary survey and provide analysis of the development of the landscape. It was to assess the survival and condition of the archaeological and environmental resource within the valley and to provide management recommendations for the long term preservation of that resource.

The earliest activity in Borrowdale dates back to the Neolithic, when a band of fine-grained volcanic tuff, around the higher fells of the valley margins was exploited for axe manufacture. Axe production took place at a number of sites within the study area, including Glaramara, and there was also a series of small axe working / camp sites that extend along the line of Stake Beck towards Langstrath which perhaps indicated an early northern communication route that followed Langstrath and Borrowdale. Small localised cairnfields and funerary remains suggest a significant Bronze Age presence, and a small hillfort on Castle Crag, above Rosthwaite, testifies to activity during the Iron Age.

In the twelfth century AD substantial holdings within the valley were acquired by Fountains and Furness Abbeys and, until the Dissolution, the valley was under monastic control. Subsequently, the lands were subject to significant asset stripping with the breaking up of the monastic estates. Perhaps the most significant impact of the Dissolution on the valley, however, was the establishment of the Company of Mines Royal, which initiated a major expanse of industrial extraction of the valley's mineral resources, the principal assets being graphite, stone, iron and lead, which in varying degrees continued to be exploited up and into the twentieth century. Iron extraction and processing was an important industry for the valley in the medieval period, but diminished in relative importance in the Post-medieval period. Graphite became an important local industry, post-Dissolution, but the lodes of graphite at the Seathwaite mines became increasingly rarefied and the industry died in the late nineteenth century.

Stone quarrying was the oldest of Borrowdale's industries, notably for axe manufacture during the Neolithic period, and was also ultimately the most long lasting, continuing into the late twentieth century. The heyday of the industry was in the nineteenth and twentieth centuries when there was a major demand for Lakeland slate as a roofing material. The Honister and Yewcrag slate workings were only partly within the Borrowdale valley, but were an important part of the economy of the local area during this period.

The valley is famed for its woodland, and it was the extant natural woodlands in the medieval period, that provided the impetus for iron working in the area. The demand for charcoal

continued unabated into the Post-medieval period with some emphasis upon woodland management, in the form of coppicing and pollarding, to provide for a steady output of charcoal principally for the local iron industry, as well as to supply local agricultural and domestic needs.

Even now there is a remarkable survival of semi-native woodland in Borrowdale suggesting that the area was not subject to wholesale clear cutting, except in localised areas. Three of the 'fraternal' four Borrowdale yews, referred to by William Wordsworth in 1826, still survive and date back to AD *c* 500. The survival of a large number of old pollarded trees throughout the valley is also significant.

The archaeological resource of the valley is both significant and in relatively good condition; the management of that resource is therefore a matter of some considerable priority. Particular emphasis needs to be placed upon the preservation of the Seathwaite graphite or 'wad mines', which are under considerable threat from erosion and damage. Given the importance and survival of the valley landscape, there is a case for maintaining the distinctive characteristics of the three separate landscape zones across the study area comprising lowland pasture and meadow, fellside intake and the high fell. Permanent pasture is the ideal habitat for the preservation of both visible and buried archaeological sites; for this reason the current management of all farmland within the survey area, as either permanent pasture or pasture and meadow, should be perpetuated wherever possible. This includes the preservation of the field boundaries, which in some cases have considerable antiquity.

The distribution of trees in the landscape is an important part of the local historic landscape, and thereis a need to monitor the trees population. The broadleaf woodlands, that are such a distinctive element of the Borrowdale valley, should be carefully managed in the future in order to ensure that their quality and extent does not diminish.

Recommendations for future archaeological work include providing popular publications on the archaeology of the valley, and more detailed topographic surveys of important landscapes, such as the bloomeries, the large quarry complexes and the univallate hillfort at Castle Crag. The botanical significance of Borrowdale is profound; however very little palynological work has been undertaken to investigate the vegetational history of the valley, a situation that needs to be rectified. Targeted excavation, following current research priorities, is recommended for a rural tanning pit near Rosthwaite, Castle Crag hillfort, Black Moss Pot bloomery, as well as the sample excavation of the historic farmsteads to test the longevity of the settlement of the valley.

ACKNOWLEDGEMENTS

Between 1987 and 1996 a program of archaeological survey, boundary recording and documentary study was undertaken in order to produce a Historic Landscape Survey of Borrowdale. The work was undertaken by the Landscape Archaeologists and volunteers working for the National Trust. The people involved in this project included Bill Bevan, Andy Croft, Sarah Lewery, Janet Martin, Moya O'Mullane, Jason Siddall, Neil Stanley, David Thomason, Arnold Webster and Chris Whitfield. The text of the original survey report, written by Chris Whitfield was extensively revised by Robert Maxwell to a draft status in 1998.

The present report provides the final completed version of the Borrowdale Historic Landscape Survey. In order to bring the draft report to a conclusion further fieldwork in the form of a boundary survey of Seatoller and Seathwaite was conducted in August and September 2006, and the report was extensively revised and updated through September 2006 to March 2007. Thanks are due to Jamie Lund of the National Trust for commissioning OA North to complete the project and further fieldwork, and thanks are also due to Guy Salkeld, also of the National Trust for providing current Sites and Monuments Record information.

The 2006 survey was supervised by Peter Schofield and assisted by Kathryn Levey. The present report was revised and expanded by Peter Schofield and was edited by Jamie Quartermaine. The illustrations were produced by Peter Schofield and Rebecca Briscoe. The project was managed by Jamie Quartermaine.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 The following report is a culmination of an extended period of archaeological survey and documentary work in order to examine the archaeological, historic and cultural landscapes of Borrowdale (centred on NY 260 140). OA North was commissioned by The National Trust to firstly complete the fieldwork of the project that had been initiated by National Trust Historic Landscape Survey Team in the mid-1990s. This additional fieldwork consisted of a boundary survey of the Seathwaite and Seatoller landholdings which was carried out in August to September 2006. Secondly, the draft report of the survey, begun in 1998 was fully revised, expanded and updated. The project was undertaken according to a project brief (*Appendix 1*) produced by The National Trust, who funded the work. The study area (Fig 1) comprised roughly 52.55km² of National Trust landholdings in Borrowdale. The survey area is contained within six Ordnance Survey 1:10,000 sheets *NY 20 NE, NY 20 NW, NY 21 NE, NY 21 NW, NY 21 SE,* and *NY 21 SW*. The survey area took in the main body of the valley to the south of Derwent Water and the surrounding mountains, but did not include Watendlath and Ashness, which had already been subject to landscape survey (National Trust 1993).

1.2 THE NATIONAL TRUST LANDHOLDINGS

1.2.1 The National Trust manages almost 12,000 hectares (over 29,000 acres) in the Borrowdale area, including land in the Borrowdale, Newlands and Watendlath valleys. This includes farms, fell, common land, woodland, lakeshore, islands and half of Derwent Water. The survey area encompasses a varied composition of woodland, crags, valley floor and open fell, much of which is open access and heavily visited by the general public. The total area of the five tenanted farms within the survey area comes to approximately 1895ha with another 225.6ha of woodland, excluding Langstrath. As well as the tenanted farmhouses and buildings, the Trust also owns thirty cottages and buildings in the surrounding area ranging from a mountaineering bothy to the mansions of Derwent Island and Millbeck Towers (National Trust 2005b).

1.2.2 Within the Borrowdale valley is Brandelhow Park, located on the western shore of Derwent Water. This area of parkland and pasture has the distinction of being the first piece of land in the Lake District to be protected by the National Trust. The Trust's land ownership now extends along the shore between Hawes End and Manesty and westward to include the Cat Bells range to Dale Head. The property continues across Hindscarth and Robinson into the Coledale valley, with only one farm in the Newlands Valley. To the east of the lake is Castlerigg Fell, Walla Crag, Falcon Crag and Great Wood. The Watendlath road leads to Ashness Bridge and through Ashness Wood to Surprise View and the Watendlath Valley. South of Derwent Water, the

Borrowdale valley narrows at the Jaws of Borrowdale. To the east are the rough crags of the Borrowdale Volcanics and to the west the smooth Skiddaw Slates. The valley opens again onto what was once the bed of a glacial lake and then carries on to the Honister pass. Spur valleys head off to Stonethwaite, Greenup and Langstrath, and from Seatoller to Seathwaite. From Seathwaite, tracks lead into the heart of the Lake District fells by the mountain passes of Sty Head and Grains Gill (*ibid*).

1.3 OBJECTIVES

1.3.1 The aims of the project are set out in the project brief (*Appendix 1*) compiled by Jamie Lund, the National Trust archaeologist for the North West region, and are summarised as follows:

- to develop the draft Historic Landscape Survey report from 1998 into a complete document, making any amendments necessary, in order to provide the Trust with a comprehensive and up to date report and archive;
- to develop a series of illustrations to accompany the report that help to interpret some of the key issues or themes for the reader;
- to include copies of important maps and plans held by the National Trust within the report, and collect a series of photographs to help illustrate the report;
- undertake a boundary survey and analysis for the survey area. Records for all areas (excluding Seathwaite/Seathwaite Fell and Seatoller) exist in record form and mapping for the these is to be undertaken as a desk-based exercise. A new phase of boundary survey will be required for both Seatoller and Seathwaite Farm/Seathwaite Fell. This information will allow a GIS model of the development of the landscape to be created and used to illustrate the report;
- undertake a thorough investigation of transcribed documentary information held by the Trust adding information to the report if necessary;
- to complete the gazetteer of sites and monuments to accompany the report using information developed from a digital summary provided by the National Trust and which includes over 500 recorded sites from within the survey area;
- to complete a set of large-scale maps to accompany the report that show the distribution of recorded sites and monuments within the survey area suitable for interpretation purposes.

1.4 REPORT LAYOUT

1.4.1 It should be remembered that this report does not attempt to provide a comprehensive history of the Borrowdale valley but is a report on the archaeological landscape. It is therefore concerned principally with tracing and explaining the events that resulted in the landscape that we see today and not with cataloguing and quantifying in detail a series of historical events and documents. The emphasis of approach has been less focused on the details of the history of local land ownership and more on developing

an understanding of the activities and processes occurring on the ground and their subsequent impact on the land.

1.4.2 ***Section 1*** of the report presents a general ***Introduction*** to the survey area including information on the circumstances of the project, the extent and nature of the National Trust landholdings in the study area. It also provides the project objectives and the methodologies used in the collation of the archaeological/boundary surveys and the documentary work undertaken.

1.4.3 ***Section 2*** deals with the ***Topographical, Geological and Historical Background*** for Borrowdale. This section presents elements of the natural geography and topography of the valley, an historical background of all information known for the study area by period within the context of events occurring both regionally and nationally for that period, and a synopsis of the documented history of land ownership for the valley.

1.4.4 ***Section 3*** explores the ***Development of Enclosure*** in Borrowdale, as seen through both the historical documentary evidence and information gathered from the field and boundary surveys.

1.4.5 ***Sections 4, 5*** and ***6*** describe and explain past human activity in the valley in light of the archaeological evidence for ***Agricultural***, ***Industrial*** and ***Communication*** sites and landscape features.

1.4.6 ***Section 7*** is concerned with the ***Settlement Chronology*** of the villages, hamlets and farmsteads nestled within the valley and emphasises both the historic settlement and current settlement in light of the information recorded through The National Trust's program of Vernacular Building Survey.

1.4.7 ***Section 8*** contains a thorough assessment and explanation of the development of the ***Trees and Woodland*** encountered in Borrowdale from the post-glacial period through to present day survival.

1.4.8 ***Section 9*** provides ***General Management Recommendations*** for all aspects of the historic environment. The management recommendations are divided into thematic categories including: boundaries, buildings, landscape, woodlands etc. This section carefully highlights any positive management required to conserve the local historic environment, with the work necessary to do this. Priorities for further archaeological research in light of this report are also discussed.

1.4.9 The ***Bibliography*** lists all documents, cartographic sources and published information consulted during the production of the report.

Appendix 1 contains the ***Project Brief*** that identifies the various elements, aims and outputs of the current project.

Appendix 2 contains an ***Early Document Chronology*** to elucidate the early sources for information regarding the valley.

Appendix 3 contains the ***Place-name Evidence*** and its significance in identifying areas of historical land use.

Appendix 4 contains a breakdown of the different ***Categories of Woodland Found in Borrowdale***.

Appendix 5 provides a ***Summary of Current Woodland Management Policy in Borrowdale***.

Appendix 6 contains an expanded section on documentary ***References for Borrowdale Boundaries*** from all of the historic documents referred to in the documentary study.

Appendix 7 contains all of the relevant ***Statutory Designations*** pertinent to the management of the archaeological resource in Borrowdale.

Appendix 8 consists of a full ***Event Record*** of the history of the National Trust landholdings in Borrowdale and any archaeological works that have been undertaken upon them.

Volume 2 contains a full ***Gazetteer of Sites*** listed on the National Trust Sites and Monuments Record (NTSMR) within the limits of the present study area. To accompany the gazetteer are a series of map sheets covering the entire area that indicate the location of all identified sites, monuments and historic buildings and their NTSMR number (Figures 20-32). In addition, the maps also show the limits of Scheduled Monument areas at Seathwaite graphite mines (SM 32900) and Castle Crag hillfort (SM 23680).

1.5 METHODOLOGY OF THE BOUNDARY SURVEY

1.5.1 The initial phase of research in the Borrowdale valley was carried out by the Landscape Archaeologists of the National Trust North-West Region with volunteer help during the mid 1990s. The fieldwork involved systematic walking of the entire survey area, photographing and recording all identified archaeological sites in field notebooks and their positions were noted on a copy of the 1:10,000 scale Ordnance Survey mapping. The archaeological sites were input into the regional National Trust Sites and Monuments Record and it is these site numbers that are given in this report (Fig 2). The national Site Numbers (prefix MNA) held by the National Monuments Record in Swindon, as well as the regional NTSMR numbers are shown in the Site Gazetteer (*Appendix 9*).

1.5.2 In conjunction with the archaeological site recording, a scheme of boundary recording of all standing and relict boundaries was also undertaken. This recorded the details of all boundaries, including the position of all gates, stiles, other wall furniture and sections of repair. The survey also recorded the stratigraphic relationships (if any) between adjoining sections of walled boundaries in order to form a structural phasing of all the boundaries in Borrowdale. The initial survey undertook this element using basemaps of the study area drawn up from Ordnance Survey Second Edition, 1:2500 scale mapping, inputting both the field information and any relevant cartographic/documentary information onto pro-forma sheets.

1.5.3 The boundary survey was not completed, however, for the landholdings at Seathwaite and Seatoller, and these areas were subject to a new boundary survey by OA North in August/September 2006. In the event, it was discovered that much of the valley floor enclosure had been rebuilt, and indeed over much of the rest of the areas that were newly investigated, the relationships at the edges of walled boundaries were either missing, removed or had been rebuilt. The boundary survey subsequently had to rely to a greater extent on the nineteenth century cartographic information and documentary sources to provide a breakdown of the phased development of enclosure within Borrowdale (Figs 7-11).

1.5.4 Documentary research was conducted in the initial phase of investigation and took the form of a detailed investigation of all publicly available primary and secondary sources available at the time. The work involved consultation with the Public Record Office, Kew (PRO), the Cumbria Record Offices (Carlisle and Kendal (CRO(C) and (CRO(K)), the records of the Bankes family (for the graphite mines) held at Dorset Record Office (DRO), and The National Trust North West Regional Office archive. The present report by OA North used the archive and draft report created by the initial phase of investigation and supplemented, revised and expanded it using the 2006 fieldwork and updated the documentary study with recent archaeological/historical information not available previously. The survey archive, comprising original written records, photographs and copies of documentary information and transcripts are held in the National Trust North West Regional Office archive and the archive of the present project will be deposited there also.

2. TOPOGRAPHICAL, GEOLOGICAL AND HISTORICAL BACKGROUND

2.1 THE GEOLOGY AND GEOMORPHOLOGY OF THE BORROWDALE VALLEY

2.1.1 Borrowdale comprises a narrow U-shaped glaciated valley divided at the southern end by the high ground of the Borrowdale fells. The underlying rock types are the igneous rocks of the Borrowdale Volcanic Series, formed during the late Ordovician period, which represent the most dramatic period of Lake District rock formation. They are the result of the eruption of volcanoes some 450 million years ago and comprise hard lava beds interspersed with softer tuff bands. Some of the tuffs have been altered becoming tough and flinty and therefore more resistant to weathering (British Geological Survey 1987; Countryside Commission 1998).

2.1.2 Glaciers had a large impact on the creation of the landscape that we see today, dramatically widening and deepening the main river valleys. At the height of the glacial periods ice would have covered the whole area and spread from the central core of Scafell and Great Gable outwards. The main valleys were ground down by rock and debris carried along with the ice resulting in a number of tributary valleys, such as Gillercomb and Styhead in Seathwaite (Plate 14), being turned into hanging valleys out of which the tributary streams of Sourmilk Gill and Styhead Gill emerge as waterfalls. Hollows were also scoured out, and filled with water to create the tarns and lakes. Borrowdale is a good example of such a valley, with many of the former lakes now filled in by post-glacial deposits, although Sty Head Tarn still survives (*ibid*).

2.1.3 Classic examples of moraine from the most recent glacial period occur around Grains Gill between Stockley Bridge and Great End, as well as on the other side of the Borrowdale Fells in Langstrath where there is also a good spread of moraine debris. Close to Rosthwaite are terminal moraine ridges along the valley floor representing the frontal edge of a glacial retreat. The hamlet itself is on a rocky ridge against which the glacier came to rest depositing this small discontinuous moraine. After a slight retreat a second, larger, ridge was deposited extending from opposite Longthwaite southwards towards Borrowdale school. A third stage of retreat can be seen in deposits close to Burthwaite Bridge. In-between these morainic ridges the valley is very flat representing the remnants of the lakes formed during the retreat of the glaciers and even today after heavy rainfall these areas are subject to flooding (Hay 1944; Boardman and Walden 1994).

2.1.4 ***Summary:*** Borrowdale presents a landscape of flat but narrow valley floors, prone to flooding in some areas, flanked by dramatic and rapidly ascending fell sides and crags. Glacial activity and subsequent frost action has formed a distinctively rugged and fractured landscape which many people identify as being representative of the Lake District.

2.2 PREHISTORIC, ROMAN AND EARLY MEDIEVAL BACKGROUND

2.2.1 ***Available Palaeoecological Evidence:*** information on the development of the landscape is often recorded in pollen diagrams from sites within that study area but in Borrowdale the number of such sites is very limited with only two known. These are the diagrams from Johnny's Wood (Birks 1993), and from the Seathwaite Valley (Parker *et al* 1994, Wild *et al* 2001), with a further example from Calvert Trust Land, Bassenthwaite (NY 2360 2720) close to Borrowdale (Hodgkinson *et al* 2000, 296-7). The uplands of the Lake District have been more extensively studied and the two sites nearest to Borrowdale are Angle Tarn, below Bowfell, (Pennington 1975) and Langdale Combe (NGR SD 262083), lying close to the track from Mickleden to the Langstrath Valley (Walker 1965). Unfortunately, these upland sites are some distance from the valley floor and the pollen recorded in their sediments is probably from the vegetation on the surrounding fells rather than the valleys. The rugged terrain of the valley sides, both in the Langdale and Borrowdale valley, is likely to have inhibited the dispersal of the pollen from the lowland vegetation into the upland tarns and bogs, although local meteorological conditions are likely to have transported at least some pollen from the valley bottom into the higher altitudes.

2.2.2 ***The Palaeolithic to Mesolithic Periods (Dates c11,000 - 4500BC):*** following the retreat of the ice after the last glaciation dense woodland developed to an altitude of approximately 700 metres in the Lake District and by *c* 6000BP most native trees are thought to have been present in Cumbria (Pennington 1997, 45) with extensive areas of alder in hollows where the drainage was impeded, both in the valleys and in the uplands. Throughout most of Cumbria oak was the dominant tree in the drier parts of the valleys extending up into the uplands, with elm to be found growing at intermediate altitudes (*ibid*).

2.2.3 How and when this dense woodland changed to a more treeless landscape with pockets of woodland is of considerable archaeological interest. The earliest suggestions of clearance come from the uplands where recent evidence for burning has been recorded close to the Langdale axe factories (OA North 2004), where charred Empetrum seeds have been dated to 5968-5732 cal BC (6965±BP; KIA23485). There is also some evidence for Mesolithic disturbance in the valleys from a pollen assessment of stratified deposits on the Calvert Trust Land, Bassenthwaite (NY 2360 2720), close to Borrowdale, where mineral inwash was recorded suggesting some anthropogenic activity in the late Mesolithic/Early Neolithic (Hodgkinson *et al* 2000, 296-7). Similarly, at White Moss, near Grasmere, a further pollen assessment demonstrated some possible Mesolithic clearance activity (Hodgkinson *et al* 2000, 316-7).

2.2.4 The first evidence of human activity in the county comes from the limestone coasts of southern Cumbria. Kirkhead Cave, near Grange, appears to have been occupied during the Upper Palaeolithic Period and has produced artefacts defined typologically to this period. Radiocarbon dating of Elk antlers, considered by Gale and Hunt (1985) to be associated with the artefacts in Kirkhead Cave, produced a date of 11027-10077 cal BC (10650±200 BP). This, and other South Cumbrian material would appear to represent scattered fragmentary evidence of early hunters exploiting the megafauna

of the tundra on the edge of the retreating ice. In the succeeding Mesolithic period, the recovered evidence suggests a concentration of Mesolithic activity on coastal sites along the west and south coasts of Cumbria (Hodgkinson *et al* 2000, 35-6); although it is possible that seasonal camps may have occurred further inland that await discovery. There is also a certain amount of evidence that the caves around Morecambe Bay witnessed continued occupation during the Mesolithic period, such as the Whitbarrow Bone Cave (SD 450 860), which revealed faunal remains; there is some uncertainty, however, as to the date of this material (*op cit*, 35).

2.2.5 ***The Neolithic (4,500 - 2,300BC):*** the study area forms the northern extent of the internationally important 'Great Langdale axe factories'. The axe production sites had the largest output of stone axes in Britain, and the dispersed distribution pattern of axe findspots of petrological Group VI and variant Group XI show that these are the most commonly represented across the country (Chappell 1987; Clough and Cummins 1988; Annable 1987). The distribution of the axes is most concentrated in Eastern England (*op cit*), centred on the Yorkshire Wolds, but extend down as far as the tip of Cornwall, where the next most productive axe type (Group I) is located. The 'Great Langdale' axe factories comprise a range of Neolithic axe production sites grouped at intervals near the Seathwaite Fell Tuff outcrops which continue west from Great Langdale to Scafell Pike and north to Glaramara. The axe-making sites are widely distributed, covering some five square kilometres of fell, and range from places where very small quantities of parent material had been prised from the ground in order to make a few artefacts to large-scale quarries with associated major spoil mounds. The largest of these axe production sites (South Scree), and the site made famous by the discoveries of Bunch and Fell (1949), is at Great Langdale itself, hence the name enshrined in archaeological literature. Axes were, however, made at several other locations, in particular at Glaramara and Scafell Pike (Claris and Quartermaine 1989). Here the tuff, which has similar mechanical properties as flint, and can be worked in a regular and controlled manner, was prepared to rough-out stage for subsequent finishing away from the mountain zone, notably on the Cumbrian coastal plain, as represented by the Ehenside Tarn settlement site (Darbishire 1873).

2.2.6 The 'Great Langdale axe factory' itself consists of a variety of sites which fall into four categories, site Types A-D (Claris and Quartermaine 1989). Type A sites are defined as those exhibiting clear evidence of quarrying from outcropping rock rather than from screes or block fields. Type B sites are those being on, or close to, sources of raw material, where exploitation of naturally available blocks of fine-grained tuff was possible without the need for quarrying, in scree and boulder fields usually adjacent to outcrops. Type C sites are defined as using raw material that has detached from, and has settled far below, the parent rock. Type D sites are those where axe production is taking place away from all apparent sources of fine-grained tuff in outcrop or scree.

2.2.7 In the course of the original survey (Claris and Quartermaine 1989) ten groupings of axe flaking/quarrying sites were discovered in the study area (Fig 3). The first cluster is located on the route up to and on Seathwaite Fell (24668, 24664 and 20061). The second cluster of sites is located at Glaramara, and on the routeway down into

Borrowdale at Thorneythwaite (24665, 20116, 20117 and 20062), and the final grouping is located to the rear of the main axe working sites at Thunacar Knott and is located on the routeway down into Langstrath via Stake Beck (24691, 24670 and 24672), and would apear to define the line of a prehistoric route (Claris and Quartermaine 1989); as such this mirrors a similar pattern found at Stickle Tarn to the east of the axe factories (OA North 2005). The axe factory groups near Sprinkling Crag and Red Beck represent small numbers of relatively poorly defined sites. The sites on Glaramara, which are the most northerly of all the groups of the Axe Factory working sites, represent a greater level of production possibly due to this location on a gently sloping terrace close to a high level access route. This class of site has been classified as Type B (Claris and Quartermaine 1989), where naturally occurring blocks of tuff can be exploited without the need for quarrying. The freshly struck flakes and cores from these sites are most likely to have then been either transported across Styhead Pass to Wasdale and out to the coastal plain or over Glaramara to the north.

2.2.8 A polished hand axe of 'Cumbrian type' has also been discovered within Langstrath (20112); however, this does not reflect dispersal of tools from the axe factories as the axes removed from the axe factories were roughly worked but not polished. This axe therefore potentially reflects evidence of an episode of deforestation by Neolithic communities, and is generally unusual in the central Lake District fells, but does occur in Langdale to the south (Bradley and Edmonds 1993; Lund and Southwell 2002).

2.2.9 ***Neolithic Vegetation:*** in the uplands, the vegetation changed markedly in the Neolithic; at Angle Tarn and Langdale Coombe the values of both elm and pine pollen fell at this time (Walker 1965, Pennington 1975) and by the Bronze Age the central uplands were largely cleared of woodland (Pearsall and Pennington 1973). Clearance episodes of woodland allowed grassland to develop at Blea Tarn in Langdale to the south between 2700 BC and 2300 BC (Pennington 1973; Lund and Southwell 2002) before the forest regenerated. At Angle Tarn and Thunacar Knott, within the study area, deforestation was more permanent and blanket bog had formed soon after the woodland clearance was initiated (*ibid*). However, in the valleys of the Central Lake District, such as Borrowdale, the first major clearance probably took place *c* AD 1000 although there were some earlier clearance episodes, for example, at Johnny's Wood in Borrowdale itself (Birks 1993) and Coniston Water in the South West Lake District (Pennington 1997, 49).

2.2.10 ***The Bronze Age (2,300BC - 700BC):*** one site within the study area has been attributed as being a funerary cairn of Bronze Age date. It is located at Styhead Ghyll on land rising up by the ghyll onto Seathwaite Fell (22494) and is substantial in size (but has collapsed and been eroded on one end), measuring over 20m in diameter and between 1.5m and 3m in height, with a central depression possibly reflecting antiquarian disturbance. The only other possible Bronze Age funerary monument is a putative ring cairn on Hind Crag (28782) which measures some 5.5m in diameter with a skirt of large angular boulders covered over with a low bank of smaller rounded stones. This is generally regarded as too small for a funerary monument (Lynch 1979); however, recent work in the central Lake District fells has identified numerous potentially circular/pen-annular monuments clustered on the high ground.

Investigations of these and similar monuments within the central fells by Peter Rogers of the Lake District National Park Authority has provided a prehistoric ritual/funerary interpretation. They comprise sub-circular stone-banked ring features, often with an adjacent larger but more irregular enclosure nearby. The monuments show a lot of uniformity within the group, but have no clearly defined parallels outside the area. As such, they are particularly anomalous and a number of theories have been put forward to explain them with interpolated dates that span between the Bronze Age and the medieval periods (OA North 2005). Another site with possible prehistoric origins was identified at Ore Gap (25453); it comprises a pair of circular ring-type structures which may be morphologically similar to the ring cairns or pen-annular enclosures identified around Stickle Tarn (OA North 2005).

2.2.11 Two distinct areas of activity have been tentatively attributed to field clearance activity and cultivation in this period for Borrowdale. The first area is within the valley floor of Langstrath, where there is a collection of four clearance cairns within a small discrete area to the south of Smithymire Island (22133, 22135 and 22134). Further along the Langstrath Beck is a single clearance cairn (22190) and yet further south is a group of three clearance cairns associated with a 55m circumference embanked enclosure (22675). The location of these sites on the valley floor and the association with an enclosure suggests early clearance activity. This may demonstrate, as at Wasdale Head and Mickleden in Langdale, that there was some clearance and agricultural activity occurring on some of the valley floors during this period (National Trust 2000; Lund and Southwell 2002); although palaeobotanic work by Reading University on elements of the Mickleden system suggest that this was also or perhaps even exclusively a product of medieval activity (Quartermaine and Leech forthcoming). At Langstrath, the lack of definitive Bronze Age evidence, the limited extent of the sites, and the unsuitability of the terrain and close association of sites of a later date (bloomeries and structures) suggests that an early prehistoric date for this clearance activity may not be accurate.

2.2.12 The second area of clearance activity is on the western valley side above Rosthwaite where three sites (22118, 22260 and 22253) were located around Scaleclose Gill, Tongue Gill and Lingy Bank, which contain four, one and seven clearance cairns respectively. Such cairnfields are traditionally dated to the Bronze Age, but without absolute dating or an association with a datable monument, it is now considered that such typological dating is unsafe (Quartermaine and Claris forthcoming).

2.2.13 ***The Iron Age and Romano-British Period (700BC - AD410)***: there is very limited evidence for Iron Age activity in Borrowdale, and indeed the entire Lake District as a whole (Brennand 2007a); however, significantly, there is a scheduled univallate hillfort on Castle Crag above Rosthwaite (20125, Fig 3). The site appears as an irregularly-shaped enclosure, the irregular shape being a product of subsequent slate quarrying in the south-west corner of the monument, surrounding three artificially levelled areas. Typologically, such a monument dates from the late Bronze Age to the mid Iron Age although Carbon 14 dating of the rampart of a hillfort from Shoulthwaite, Thirlmere, has produced early medieval dates (cal AD 538-676 (AA-33591, Gu-8251, 1435±50 BP) and cal AD 560-690, (AA-33592, Gu-8250, 1400±50

BP), suggesting its construction or reoccupation during that period (LUAU 1999). The function of such places has been variously interpreted as stock enclosures, redistribution centres, places of refuge and permanent settlements but without excavation it would be impossible to apply any specific interpretation with any degree of certainty. Its position clearly gives it a commanding view along the north and south axis of the Borrowdale valley and the difficulty of access implies a defensive function.

2.2.14 On the valley floor in Langstrath is a circle of stones that has been tentatively interpreted as a roundhouse type structure and dated during the survey to between the Iron Age and the Medieval period (22193). Such a date range is problematic as it excludes the unenclosed stone-founded round houses have been dated to the Bronze Age (Quartermaine and Leech forthcoming) and the Langstrath example is geographically connected to an area of cairnfields and earthen banks of unknown date. In any case the actual description of the monument is that of a pen-annular enclosure incorporating a boulder within its construction and, as such, is similar to those identified at Stickle Tarn, Langdale (OA North 2005), which have there been very tentatively interpreted as shieling-type habitation sites (although other interpretations see them as having prehistoric origins (John Hodgson pers comm).

2.2.15 The only definitive evidence of Romano-British occupation in the valley derives from the Castle Crag hillfort (20125) where pieces of Roman Samian and other pottery, along with smelted ironwork slag, have been found. This may suggest a continuing utilisation of the site by the local population during this period. In addition, a coin of the Emperor Nero was found in Borrowdale, along with other unidentified coins, in the 1970s (Shotter 1984, 263).

2.2.16 Evidence from elsewhere in the region (Quartermaine and Leech forthcoming) indicates that the rural settlement was dispersed and of a native, non-Romanised character. Pollen evidence suggests a continuing deforestation of the valley slopes in the wider region, but the earliest evidence for clearance in the valley is from the later first millennium AD (Birks 1993).

2.2.17 ***Early Medieval (AD410 - 1066):*** there is a general lack of archaeological information for this period in the Lake District and no physical evidence at all in the Borrowdale valley. In general, land management probably continued as before as evidenced by palaeobotanic evidence from elsewhere in the Lake District (Quartermaine and Leech forthcoming). The fragile nature of early-medieval structures coupled with the extreme scarcity of pottery for this period goes some way to explaining the poverty of the archaeological record. One collapsed rectangular structure at Longthwaite (22431) has been ascribed a date of between the Early-medieval period and the Post-medieval period, but the survey description does not specifically support an early date.

2.2.18 Less direct evidence from historical sources, place-name evidence and palaeobotanical studies can be brought to bear and provides some indication of the changing character of settlement across the Northern Lakes region. Little is known of the political situation in the Lake District after the withdrawal of Roman rule. It is generally assumed (Higham 1986) that the British kingdom of Rheged centred around the Solway and may well have incorporated most or all of the Lake District. This

seems to have been subsumed into the Anglian kingdom of Northumbria by the mid-seventh century, which held sway over the area north of the Ribble and Humber until political anarchy descended in the ninth century, in part linked to the pressure of viking incursions. Prior to the Scandinavian incursions, the British population appear to have settled the better quality agricultural land, and there is a paucity of British place-names in the more central mountainous areas (Whyte 1985). The River Derwent has a British origin meaning 'abounding in oaks' and there were probably groups of British farmers in the area around Keswick prior to the arrival of the Norse (Whitfield *pers comm*). Bede mentions St Herbert's Island in Derwentwater in his *Ecclesiastical History* (Colgrave 1999) as the reputed home of this seventh-century holy man, and the site of his cell was visited as a place of pilgrimage into the fourteenth century. Stockley Bridge, just south of Seathwaite, is derived from the Old English *stocc*, a tree stump, and *leah*, a woodland clearing, meaning 'the clearing with the tree stumps' (Gambles 1980). Its location is significant, as it is part of a primary communication route out of the valley, and as the name possibly originates as early as the seventh century there is the possibility that there was clearance activity deep into the valley several hundred years before the arrival of the Norse settlers.

2.2.19 Many of the Norse settlers who came into Cumbria during the tenth and eleventh centuries came from Norse settlements in Ireland, the Isle of Mann and the Western Isles, leading the west of the region becaming quite heavily settled. The analyses of pollen deposits from peat bogs indicates major wood clearance episodes in the interior valleys (Oldfield 1969; Pennington 1970) during the second half of the first millennium. Pollen cores taken from Johnny's Wood by Professor John Birks, showed that for much of the post-glacial period the woodland consisted of dominant oak, with alder and elm. However, after the initial disturbances at Johnny's Wood, which Birks suggests relates to the Norse settlement, the character of the woodland changed to one of oak and birch with some mountain ash and holly, and sycamore and larch introduced more recently. Most importantly though, the area was not completely cleared of earlier species and indicates a continuity of woodland throughout the medieval and Post-medieval periods (Birks *pers comm*; Birks 1993; *Section 8.2.4*)

2.2.20 The place-name evidence suggests that most of the same areas occupied by British and Anglian settlers were also subject to occupation by Scandinavian peoples, and this is particularly notable in the Keswick area (Whyte 1985). Similarly, the place-names of Borrowdale are so dominated by those of Scandinavian origin that it is difficult not to draw the conclusion that it was the Scandinavians who were the first group to firmly establish themselves to any extent in the valley. Particularly common are the names that include the element *thwaite,* meaning clearing, which has been strongly associated with low-status settlements in poorer areas of lowland. It also suggests that the Scandinavian settlers found much of the valley uninhabited or sparsely settled with the valley floor thickly wooded compelling them to create clearings. This ties in with the generally accepted view that the newcomers to the region were restricted to the less agriculturally attractive, and therefore less populated, areas of land. However, the use of the thwaite word, denoting clearance, became an accepted part of the Cumbrian dialect and was still being applied to new clearings as late as the thirteenth century (Winchester 1987, 41). Evidence collected from other

areas suggests that the immigrants were relatively disorganised operating in small groups, occupying previously unclaimed land with most of the settlement activity principally occurring during the tenth century (Higham 1985).

2.2.21 This seems a likely scenario for Norse settlement in Borrowdale. In establishing small farmsteads on unclaimed land, the priority would have been to clear the thickly wooded land on the valley floor after which the first enclosures would have appeared. The presence of grazing animals would have inhibited the regeneration of the cleared woodland so a rapid decline in the extent of coverage could be expected as a result of their arrival. There is no known archaeological evidence for settlement in Borrowdale from this period. However the place-name of Seatoller, for example, derives from the *seatr (*ON) place-name element (Winchester 1987), which may suggest a transhumant shieling pasture in the upper remote reaches of the valley bottom before a permanent farm was set up later in the Medieval period. However, the use of the *seatr* place-name, along with s*cale*, continued in use into the medieval period and is not necessarily an indicator of a Norse presence.

2.3 MEDIEVAL AND POST-MEDIEVAL HISTORICAL DEVELOPMENT OF THE VALLEY

2.3.1 By the medieval period there is documentary, archaeological and palaeoecological evidence for woodland and landscape management in the Borrowdale valley (*Section 8;* Boardman and Smith 1994; Wild *et al* 2001). Also a second band of inwash was recorded at a depth of 100mm from deposits from Calvert Trust Land, Bassenthwaite (NY 2360 2720) (Hodgkinson *et al* 2000, 296-7), which is indicative of activity from the wider area and has been very approximately dated to the medieval period by comparisons with other cores from the region.

2.3.2 ***The Twelfth Century:*** Norman influence took some time to arrive in the region, and at the time of the Norman invasion Cumbria was part of the Kingdom of Strathclyde, which was a long standing dynasty centred on the Alt Clut stronghold of Dumbarton Rock, which lasted from late sixth century to some time between 1018 and 1054, when the kingdom was conquered by the Scots. It was only after the conquest of 'the land of Carlisle' in 1092 by William Rufus that the land came under Norman control and they were able to establish large feudal baronies (Plate 1). The study area was within the baronial chase of the ‘honour of Cockermouth’ (consisting of five vills [parishes/manors] and the fells between the Cocker and Derwent), which was a smaller baronial estate that had been hived off from the larger Copeland Barony around 1100 AD; however, this may have been the refounding of an existing unit of pre-Conquest land tenure in the region (Winchester 1987). The baronial chase was called Derwentfells and was the upland portion of the estate that was given over to ‘free chase’(*ibid*).

2.3.3 The type of settlement or population density that the Normans found when they established manors in the valley (including the Manor of Borrowdale) is unknown, but it is reasonable assumption that the valley was still populated by the descendants of the Norse immigrants and that there were settlements in existence. This assumption is based not only on the place-name evidence for Norse settlement (*Section 2.2.20*),

but also on the fact that the manor was essentially an agricultural production unit designed to sustain an aristocracy and which can only operate if there is a working underclass in existence to support it. Areas without a resident population, are more commonly occupied by vaccaries in this period (Winchester 1987).

2.3.4 The Manor of Borrowdale remained intact for approximately one hundred years until in 1195 an entry in the Fountains Abbey Chartulary (Lancaster 1915, No 55 and 56) records the granting of Watendlath, Langstrath and part of Stonethwaite to the Abbey by Alice de Rumeli, the granddaughter of the first Norman overlord. Although Stonethwaite is not mentioned by name in the Chartulary entry it is mentioned in a charter from Richard I confirming the monks possession of the land three years later (Walbran 1878). This grant split the land off from the main land holding creating a division within the manor. This division was to cause problems in later years (*Section 2.3.10*) after Furness Abbey bought the remainder of the Manor from Alice de Rumeli in 1209 for £156. 13s. 4d (Fig 4; Pearsall and Pennington 1973; D/Law/1/168/3)**.**

2.3.5 ***Thirteenth Century:*** documentary evidence for the region in general suggests that there was expansion of settlement, along with the colonisation of new areas, and there would have been few unsettled valleys by the end of the thirteenth century (Winchester 1987). Relations during this period between England and Scotland were exceptionally good but towards the end of the reign of Edward I, his domineering treatment of the Scots was to provoke long and disastrous wars throughout most of the following century (*Section 2.3.8*).

2.3.6 The purchase of the remainder of the Manor of Borrowdale by the monks of Furness Abbey in 1209 meant that the position of land ownership in the valley was divided. Langstrath, Watendlath, the surrounding fells and the delta plain between Derwentwater and Bassenthwaite were now in the possession of Fountains Abbey, while Furness Abbey owned all the remaining lands south of Derwentwater (Fig 4). It was clearly important that the boundary between the two abbeys be clearly defined so in 1211 a document detailing its location was drawn up (Lancaster 1915; Collingwood 1918).

2.3.7 Taxes formerly paid to the Norman overlord were now paid to the abbeys and from the last years of the twelfth century onwards the monks drained and cultivated the land, possibly building the first field walls. They also cleared great areas of waste for pastoral farming, converting large tracts of fell into pasture. The evidence of shielings, surviving predominantly within Langstrath, potentially relate to transhumant stock management from the central valley farms to the more isolated parts of the valley. Indeed, some of the later permanent farmsteads of subsequent periods (eg Seatoller) may have had transhumant origins. Much of Langstrath was still probably wooded and the clearance may have dramatically altered the vegetation and animal communities, resulting in a landscape of enclosed woodlands and open pasture (Pearsall and Pennington 1973). Although the emphasis was on wool, rye, barley and oats were also produced and stored in ‘grangia’, a term which gave the name to the nearby village of Grange (on Furness Abbey land). A thirteenth century grange is also known to have existed in Watendlath which Fountains Abbey held (National Trust 1993). Pastoral farming in the form of a vaccary, a type of demesne

cattle ranch, was in evidence at Stonethwaite in Fountains Abbey land by 1309 and the 'upland pastures and meadows of the Cumbrian forests were, indeed cattle country in the thirteenth century' (Winchester 1987; Winchester 2003). Other activity carried out includes the mining of iron ore by Fountains Abbey from nearby Ore Gap under Bowfell, which is likely to have then been taken down to bloomeries located in Langstrath (Figs 5 and 6).

2.3.8 ***Fourteenth Century:*** the period of growth experienced in the thirteenth century was cut short and reversed by a combination of war, plague (both animal and human), famine, and climatic deterioration in the following century. This resulted in the abandonment of many farms, and sometimes whole villages, especially on the more marginal land. There were almost ceaseless hostilities between Scotland and England beginning in 1296 with three particularly destructive raids in Northern England in 1316, 1322, and 1345. Dramatic as these invasions were, the communities in the interior of the Lake District largely escaped the major devastation that was taking place along the northern, eastern and western fringes (Winchester 1987). What would have effected them more seriously was a succession of bad harvests, partly as a result of the climatic deterioration, bringing famine from 1315-1317, which was followed by catastrophic cattle and sheep epidemics between 1319 and 1321. If this was not bad enough the region was visited by the Black Death in 1348, 1361, and 1362. Archaeological evidence for the period is scanty but is of direct relevance to the documented troubles of the fourteenth century. A boundary wall and fence excavated from beneath a colluvial fan in Seathwaite has revealed that for part of the valley the local woodland was being cleared and that the brushwood was being coppiced around 1300-1450 cal AD (Wild *et al* 2001); this probably related to the opening up of the valley for Cistercian sheep farming. The opening up of the area and increased grazing pressures possibly aided a prolonged period of flooding in the valley which coincided with the climatic deterioration of 'the little ice age'. The stone wall and fenceline excavated from the peat layer above the flooding layers hint at the enclosure of parts of the valley with stock boundaries in this period (LUAU 1998; Wild *et al* 2001).

2.3.9 A description of the effect these cumulative disasters had upon the region can be seen in the following descriptions where: *'at Egremont 80 acres of demesne land were sown only with spring grains and not with winter crops because of 'the enfeeblement of the neighbourhood'; another 114 lay waste for want of tenants; and there was said to be only two working ploughs in the whole town of Egremont. In 1341 the greater part of Brigham parish was said to lie uncultivated on account of the weakness of the parishioners and the widespread sheep murrain'* (Winchester 1987, 47).

2.3.10 The general increase in population and expansion of settlement that occurred in the region during the previous century may well have occurred in the valley and such an increase is likely to have led to a corresponding rise in the numbers of grazing stock, while conversely reducing the amount of available new land. This increase in population and economic activity with its subsequent demands for new land escalated the potential for friction between neighbours, and may have been one of the contributing factors that sparked a land dispute around Stonethwaite between Fountains and Furness Abbeys in 1301 (Lancaster 1915). The boundary between the

two abbeys had been recorded and agreed since 1211 and the success of Stonethwaite, as a thriving vaccary, combined with the pressure on the available land in the valley, may have triggered the dispute.

2.3.11 The disputed area centred around land located at Stonethwaite. Furness accused Fountains of ejecting 'the house of Furness from certain land, meadow, and pasture, in their possession from time beyond memory' (*ibid*). The Abbot of Fountains in reply produced the agreement of 1211 that identified the boundaries of ownership and supported their claim (Lancaster 1915; Collingwood 1918). A court decided in favour of Furness, however, Fountains refused to accept the judgement and the issue was bounced around various courts before finally going up to the king for resolution. He confiscated the land and sold it to the first bidder, which was Fountains Abbey, who bought it for forty shillings.

2.3.12 ***Fifteenth Century:*** the start of the fifteenth century saw a continuation of the problems that had beset the region for the previous hundred years particularly in northern Cumberland where there was continuing instability around the border. It wasn't until the latter half of this century that there were any signs of recovery but even then there was a marked disparity between the economics of northern and southern Cumbria with the south benefiting from the development of the wool and textile industries (Winchester 1987).

2.3.13 In Borrowdale a survey of the property of Fountains Abbey in 1418 records 41 farmsteads in existence (British Museum Add MSS 24764 f 6, in Elliot 1961). Given that Fountains Abbey owned roughly half of Borrowdale (Fig 4), this provides an indication of a vigorous population in the valley at that time, perhaps a reflection of being spared the worst of the violent disruption throughout the fourteenth century by way of the valleys relative isolation. It may even have been regarded as something of a safe haven attracting fugitives from the troubles elsewhere. Although it is extremely unlikely that it escaped the consequences of poor harvests and widespread disease, the impression is that the valley had survived this difficult period relatively well by comparison with other Lakeland areas.

2.3.14 Elsewhere in the Lake District from the middle of the fifteenth century there is evidence of recovery and some reoccupation of the abandoned land. Account books from Fountains Abbey show various payments relating to Borrowdale from this period, including the *Bursars Book 1456-1459* and *Memorandum Book of Thomas Swynton 1446-1458* (Fowler 1918). These accounts refer to a number of economic transactions that clearly indicate that Borrowdale contained a significant number of cattle during this period. The fairly considerable sum of £17 6s 8d is recorded for the sale of hay, suggesting extensive hay meadows in Stonethwaite and payment of foresters wages by the abbey tells us that active forest work was also being carried out. Other entries include two payments for the construction of river embankments highlighting the fact that the problem of flooding in the valley is by no means a recent one.

2.3.15 Borrowdale appears to have started the fifteenth century in better condition than much of the surrounding region with a well established population engaged in some arable farming but principally focused on cattle and sheep husbandry (Whitfield *pers comm*).

This is to the extent that by the fifteenth century all improvable land on the valley floor had been taken up prompting expansion of the enclosure onto the valley sides.

2.3.16 ***Sixteenth Century:*** the general pattern of the farming landscape in the sixteenth century was based on a system of open fields on the valley floor, where each farmer held several strips, which were enclosed from the fellsides by a ring garth wall; although the identification of physical evidence of a ring garth has been problematic within Borrowdale (*Section 3.2.4*). Winchester (1987) has suggested that the typical farm of this period was of a small acreage growing oats, barley, and hay but with livestock husbandry as the principal occupation. He also suggests that on average herds of between 10 and 20 cattle, a horse or two and a small flock of sheep would have been the norm.

2.3.17 The weather and soil conditions of Borrowdale probably only allowed for the near monoculture of oats with possibly a little barley. It is probable that most farms in the valley would have owned a horse not least because, in return for their customary tenancy rights, they were required to supply horsemen for duty on the border. Income would have been supplemented by a variety of woodland industries and other activities, such as spinning and weaving. Peat was cut for fuel and bracken for thatching, bedding, and potash production (*ibid*).

2.3.18 By the start of the sixteenth century evidence from elsewhere in the region gives us an idea of what may have been occurring in Borrowdale. Land around the settlements, along with the individually cultivated scattered strips on the common land, would have become increasingly more enclosed. This increasing division of the valley bottoms into small individual estates led to the rise of what became known as the yeoman or statesman farmer. Customary tenant rights handed down amongst the Lakeland communities gave them almost the same security as if they held the land freehold and the influence of the Abbey or Lord of the Manor was severely restricted by these rights (Winchester 1987). This form of stable land tenure was adopted widely in the northern Lake District in order to secure the services of the farmers in the defence of the border with Scotland, and only nominal manorial rents, payments in kind or labour services, were required by the Lord of the Manor. Winchester also states that the thirteenth century tenants in Derwentfells, for example, 'have the look of frontiersmen, paying rent for land they have colonised, but free from the labour services which encumbered most medieval countrymen' (*ibid*).

2.3.19 Evidence of the customary tenants rights in Borrowdale is provided by the Furness Abbey rental (Brownbill 1915-9) and detailed in the Duchy of Lancaster Surveys (Hall 1886). They include the right of succession of tenure from father to son and the right to sell the holding. In return they had to be prepared to serve on the Scottish border whenever required, as horsemen in summer and footmen in winter, under the Warden of the Western Marches.

2.3.20 ***The Dissolution of the Monasteries:*** one of the most significant events of the century was the Dissolution of the Monasteries. Henry VIII's commissioners began their work of closing the religious houses of the region in 1536; Furness Abbey was handed over in 1537 and Fountains in 1539. On Jan 20th 1546 the holdings of Fountains Abbey in Borrowdale were sold by the Crown for £134 14s.2d to Richard Greames of Eske in

Netherby (NTArchive 1, 37 HenVIII; Bouch and Jones 1961; Collingwood 1928). On Dissolution the holdings of Furness Abbey were added to the estates of the Duchy of Lancaster (Johnson 1981).

2.3.21 The social and economic effect of the closures on the region would have been significant; with the Dissolution went a valuable source of poor relief, as well as education, medical treatment and other services (Whitfield *pers comm*). The residents of Borrowdale were quite far removed from these social services so the disappearance of this aspect would only have had a limited effect upon them, they would have been more concerned with the change in ownership of the land. There is no reason to assume that this changeover brought ruin to the livelihoods of the tenants, as the new owners would have still required shepherds and cattlemen to look after their stock and to farm the land as before. In any case some of the farmers may have already acquired their land from the abbeys, prior to the dissolution (*Section 2.3.19*). There would probably have been a period of adjustment as the economy was reoriented to accommodate the new conditions under which it operated. One of these new conditions would have been that trade no longer flowed through the monasteries but became centred more on the local market towns such as Keswick and Kendal; the local economy and market conditions would therefore have had to change to accommodate this.

2.3.22 Other important developments in the sixteenth century included the establishment of the Company of Mines Royal (*Section 5.3.1*) and the resulting expansion of mining activity and other associated industrial enterprises. By the end of the century substantial numbers of people, up to 500 according to one report (Rollinson 1978), were employed either directly or indirectly by the Mines Royal in one aspect or another of mining operations and supply, thus providing a powerful stimulus to the local economy.

2.3.23 ***Seventeenth Century:*** the significant political event to start the century was the 1603 Union of the Crowns which represented a period of peace on the border. However, this was not necessarily a major event in the isolated Borrowdale valley. There are indications across the local area that the population growth had slowed down and many communities appear to have declined in size. The easing of pressure on the land meant the gradual reduction in the number of farmsteads and a resulting increase in the size of the remaining holdings. The rise of the yeoman farmer and his growing affluence saw a re-building of many houses in stone and the further enclosure of valley floor and fellside. King James I tried to reduce the status of the yeomen arguing that the obligations to military service were no longer in existence. In response, farmers tried to preserve their rights through litigation and by the time the matter came to be resolved King James I was dead and the case was dropped.

2.3.24 When James I became king he sold the land once held by Furness Abbey to two London entrepreneurs, William Whitmore and Jonas Verdon (Johnson 1981). They indulged in asset stripping, selling the individual farms in 1614 to 38 people (*ibid*; D/Ben/Crosthwaite Tithes/1/List of Tenements 1614). The next year, while retaining the graphite mines, they sold the 'Manor of Borrowdale' to the same thirty eight in an agreement referred to as the *'Great Deed of Borrowdale'* (Crosthwaite 1879). What

the people received by this deed was 'all the woods ...wastes, commons, stinted pastures...ways and entries'. The list of these 38 people is headed by 'Sir Wilfrid Lawson of Isel, Knight' and followed by the names of people who mostly lived in the farmsteads of upper Borrowdale. Lawson had already obtained the lands around Stonethwaite from the Greames family in 1606, and he then bought more in the valley in 1617. In 1614, just before the Great Deed of Borrowdale, Lawson bought Seathwaite and Rosthwaite off Verdon and Whitmore. It is clear that the Lawson family was a growing and powerful force in the region and, together with Wilfrid Lawson's inclusion in the Great Deed, meant that they were now the major land holder in Borrowdale owning much of the land that had previously been held by Fountains and Furness Abbeys (Johnson 1981).

2.3.25 The result of this outburst of buying and selling of land and property was that the tenants became enfranchised thereby breaking up the manor, apart from the land held by the Lawson family where the customary tenure of the manorial court survived. There are a number of documents, one as early as 1632, that refer to fines and rent to be paid to the Lawsons (*ibid*), indicating that he had taken on the role of the Lord of the Manor for his lands. Unfortunately, no documents have been discovered that detail the boundaries of the Lawson property in Borrowdale, so it is difficult to establish their true extent. There are general references to Seathwaite, Rosthwaite, and Stonethwaite and it is likely that the holdings encompassed the greater part of the valley.

2.3.26 Evidence of the growing impact of enclosure begins to filter through into the documentary record towards the end of the century. Property descriptions become filled with references to parcels of enclosed land, or closes, many of which are referred to specifically by name and were usually of arable or meadow land. It is during this period in 1659 that there is the first mention of a common field at Rosthwaite '... townefields of Rosthwaite...'. (CRO DX/241/9)

2.3.27 ***Eighteenth Century:*** a number of events occurred during this century that resulted in substantial change in the region; these included the Scottish rebellion of 1745, the development of new agricultural techniques, the enclosure movement and the advent of tourism. Profound as these developments were they took some time to have an impact on the local economy and the first half of the century saw only limited change (Whitfield *pers comm*). At the outset of the eighteenth century there was a gradual continuation of expansion of enclosure all over the region and there is no reason to suppose that this was not also the case in Borrowdale. The rise of the yeoman farmer was at its peak and there was a lot of rebuilding of farmhouses in stone. Agricultural improvements that were taking place in the south during this period were slow to reach Cumbria and there is little doubt that for, at least the first half of the century, the region was agriculturally backward and under exploited. A report by a commissioner working for the Board of Agriculture visiting the region in 1771 stated that 'Twelve of the fifteen miles from Shap to Kendal are a continued chain of mountainous moors, totally uncultivated; one dreary prospect, that makes one melancholy to behold; for the soil itself is highly capable of cultivation and of profitable uses; much of it is of a

good depth; and the spontaneous growth proves that the nature of the land is equal to many valuable uses' (Bailey and Culley 1794) (Plate 3).

2.3.28 The introduction of turnips to the agricultural economy meant that livestock could be overwintered and the annual winter slaughter need no longer occur; howeve,r in Cumbria turnips were not a common crop even by the end of the century. Peas, beans, clover or rye grass, which could improve the quality of the soil, were not commonly cultivated either. The high concentration of livestock on the commons meant they were poorly fed and not much attention was given to improving the quality of the stock.

2.3.29 The greatest impact on the landscape was the parliamentary enclosure of large areas of fell, entailing some 40,000 acres of waste land in Cumberland alone. Up until the middle of the century enclosure had been going on in a piecemeal fashion, but in the second half of the eighteenth century it became more systematic and was achieved through agreement between tenants or by Act of Parliament (Whyte 2003). One of the major effects of this increase was that it marked the beginning of the decline of the statesman farmer; as the small estates were incorporated into larger enclosures so the number of farmers declined as the size of the land holdings increased. This phenomenon, while it has its origins in the seventeenth or eighteenth centuries, is still continuing today with declining numbers of farms holding increasingly larger areas of land. Within Borrowdale the upper valley sides and tops were enclosed in at first a piecemeal then a systematic fashion where sheep grazing lands or 'dalts' were enclosed with more permanent boundary walls and as time went on more extensive areas of remote land were parcelled up as 'intakes'. The pattern of enclosure was completed by the time of the tithe mapping of the 1840s.

2.3.30 The western and central areas of the Lake District, including Borrowdale, were not affected directly by the Scottish invasion of 1745. However, one side effect of the rebellion was that it had demonstrated the inadequacy of the regions communications, and there was a resultant move towards the construction of new turnpike roads, which was prompted in part by the fear of a repeat rebellion, but more so by the commercial needs of transporting raw materials mined from the Lakes to areas of demand. This improvement was ultimately to have a far reaching effect as the combination of improved roads and the difficulty of embarking on the Grand Tour in Europe due to conflict elsewhere, resulted in the arrival of the first tourists in the area.

2.3.31 These innovations and developments, although slow to reach Cumbria, were even slower to reach the valley of Borrowdale whose inhabitants were a byword for backwardness even amongst their neighbours. It seems that tradition was firmly entrenched and change was slow to arrive, a position not helped by the near complete isolation of the valley experienced for half of the year. A description of the valley and its residents from Hutchinson's *History of Cumberland* (Hutchinson 1794, 209), states that '*the surface of the ground was very little cultivated'* and that even by the late 1760s a '*cart or any type of wheeled carriage was totally unknown in Borrowdale'*. It continues to describe how hay was not stacked in the field but carried home in bundles by pack horse and that the diet consisted of fish and mutton in summer and in

winter bacon and hung mutton. A note was also made of the unusual dialect spoken by the inhabitants and the number of different words in their vocabulary.

2.3.32 Hutchinson himself goes on to describe Rosthwaite as: *'at all times having little discourse with the rest of the country and almost totally cut off from human commerce for half the year. There are scanty patches of arable land which are cultivated with some difficulty; and their crops are late ripening, and often prey to autumnal rains, which are violent in this country, just gives them bread to eat. Their herds afford them milk, and their flocks clothes; the shepherd himself often being the manufacturer. No dye is necessary to tinge the wool, it is naturally a russet brown, and sheep and shepherds are clothed alike; both in the simple livery of nature. The procuring of fuel is among their greatest hardships. In most parts of the world this article is sought, either in pits, or on the surface of the earth. Here the inhabitants are obliged to procure it from the tops of mountains, which abounding with mossy grounds, seldom found in the valleys below, supply them with peat. The difficulty lies in conveying them from such immense heights. In doing this, they have recourse to a strange and dangerous expedient, though similar to the modes of conveyance which necessity dictates in other mountainous countries. They make their peat into bundles, and fasten it upon sledges; on each of which a man sits, and guides the machine with his foot down the precipices. We saw many tracks along the sides of mountains, made by these sledges; several of which were four or five hundred feet high, and appeared from the bottom almost perpendicular' (op cit,* 211).

2.3.33 These descriptions give a rather bleak picture of a small community existing in such relative isolation for so long that they had retained a distinctive dialect. The isolation, basic living conditions and hand to mouth existence in an unforgiving environment had stifled the introduction of new initiatives and developments. The result is a community that, for the greater part of the eighteenth century, appears to have stalled and was failing to exploit its resources to the full potential. Only towards the beginning of the nineteenth century were there signs of improvement.

2.3.34 ***Nineteenth Century:*** the start of the nineteenth century saw clear signs of improvement in the agricultural practice of the region thanks to the work of a handful of pioneers such as Philip Howard, John Curwen, and Sir James Graham. The Napoleonic wars led to an increasing demand for food and the resulting high prices meant that farmers could afford to invest more in their farms and stimulated the increased enclosure of wastes and commons. This increased activity was further boosted by the introduction of the General Enclosure Act of 1801 which extinguished the common rights (Whyte 2003) and the land re-apportioned amongst the holders of those rights and the promoters of the legislation. Burning, draining and liming turned these new enclosures into far more productive pieces of land allowing for oats to be grown on all but the rockiest of ground and capable of supporting double the amount of stock (*ibid*).

2.3.35 Although the enclosure and improvement of the common and waste land can be viewed as an important development bringing Cumbrian agriculture practice up to the same level as that found in the south, there was a price to pay. It heralded the final decline of the yeoman farmers who lost rights to common pasturage and whose small

estates were swallowed up. A further blow came with the development of factory-spun yarn which destroyed the vital income bought in by home spinning.

2.3.36 The nineteenth century was a time of growth which marked the final end to the social and economic isolation of the valley. Starting from such a low economic base in the eighteenth century Borrowdale could only expand. The opening up of the roads connecting it to the outside world, brought in tourists, which coupled with the quarrying at Honister, and later at Yewcrag, employed between 100 and 150 people; the net effect was an unprecedented burst of activity within the valley. A small service industry grew up to support this increased economic activity, such as blacksmiths and joiners and the evidence suggests a picture of growing activity with little sign of recession. This is further reflected by the steady growth in the population staring with 342 in 1801 and growing to 452 in 1851 and 506 in 1891 (Bulmer and Snape *c* 1901).

2.3.37 The improvement in the roads and extension of the rail network throughout the century brought a corresponding increase in traffic. In 1824 Jack Cawx managed to enter Borrowdale in a chaise, the first seen in the valley, although the road was so bad it almost overturned at the Grange bridge. It heralded the start of the age of mass tourism (Whitfield *pers comm*). Documents survive from 1855 that relate to the construction and improvement of the road from Keswick into the valley. A memo from the committee organising the raising of subscriptions to pay for the work refers to a diversion of 'part of the Borrowdale road leading from Bowdore Ing End towards Bowdore Stone so as to avoid the hill called Heelstep Brow' (CRO D/Law/1/170/6). Another letter refers to the levelling of the ground to improve the road ' ...we are wishing to reduce the Great Brow on Rosthwaite side of Bowder Stone and Mr Fisher will bear one quarter of the expense and the rest must be raised by subscriptions...' (CRO D/Law/1/170).

2.3.38 By the 1860s a regular coach service was running from Keswick over Honister Pass to Buttermere and by the end of the century plans were being put forward by a Whitehaven lawyer and industrialist called John Musgrave for a road over Styhead Pass (Whitfield *pers comm*).

2.3.39 From 1850 onwards wealthy incomers to the valley began constructing some of the larger houses, such as Hazel Bank, Keswick. A further sign of improving conditions and expansion within the valley was the restoration of the church in 1825 at what is now Chapel House, at the intersection of the valleys, and again in 1873 in conjunction with the construction of a school, adjacent to the church, which was then expanded in 1899 (Whitfield *pers comm*).

2.3.40 The pattern of enclosure on the valley floor and lower fellsides would have been complete by the start of the nineteenth century resembling closely the pattern existing today. It is here that the best quality land was centred and an inspection of the 1842 tithe schedule and map shows that a surprising amount of land was given over to the growing of crops. This is particularly unusual when recalling Hutchinsons comments of just under 50 years earlier that *'There are scanty patches of arable land which are cultivated with some difficulty..'* (Hutchinson 1794). The approximate percentages of the different types of land use work out at 46% for arable, 31% for meadow and 23% for pasture. Clearly, the emphasis is on the cultivation of crops and this development

maybe due to the introduction of agricultural improvements into the valley allowing for the cultivation of land previously thought of as unsuitable.

2.3.41 Meadowland was also clearly of importance and its distribution seems to be in the form of blocks of land within the valley, as opposed to the areas of pasture and arable which appear more randomly scattered. The blocks of meadowland were grouped within three areas:

i) north of Rosthwaite

ii) north-west along the valley from Stonethwaite.

iii) north along the valley from Seathwaite

The largest single block was just to the north of Rosthwaite, where the usual stone walls had been replaced by hedges and fences, and this was also true of the second area close to Stonethwaite. This is unlikely to be a coincidence, as the evidence suggests that on areas of moist ground the traditional dry stone wall was replaced by hedging or fencing and it is not unusual to find damper ground being utilised as meadow. Further evidence is provided from the field names such as Wet End, Moss and Boggs shown on the Tithe Map.

2.3.42 There are a large number of archaeological sites that most likely date from the Post-medieval period, and principally relating to either industry, agriculture or woodland management (Figs 13-15). Of the 815 sites attributed to the Post-medieval period in Borrowdale, 189 sites were agricultural, 122 were industrial and 217 were woodland management in origin (*Sections 4, 5 and 8*).

2.3.43 The landscape of the Lake District increasingly caught the attention of artists, poets and writers through the eighteenth and nineteenth centuries, and such luminaries of the 'picturesque movement' as William Wordsworth and John Ruskin were influenced by the special qualities of the Lake District landscape. The relationship between man and nature was brought into stark opposition to the developments of the industrial revolution and a tradition of environmental and landscape understanding along with conservation was developed. The National Trust was born from the respect and need for conservation of Lake District landscapes and the area was also seen as a key element of the National Park movement in the mid-twentieth century (Chris Blandford Associates, 2006).

2.3.44 ***Twentieth Century:*** The National Trust was born from the respect and need for conservation of Lake District landscapes and the area was also seen as a key element of the National Park movement in the mid-twentieth century (ibid). The National Trust set about trying to preserve the essential character of the Lake District by acquiring land. In 1900 it launched its first Lake District Appeal to buy Brandlehow Park on Derwentwater. It purchased small pockets of land threatened by development, and fells such as Gowbarrow. Only in the 1920s did it begin to acquire significant tracts of farmland such as parts of Borrowdale and Derwentwater, and with it the ability to do something positive about nurturing traditional husbandry. (ibid).

2.3.45 One of the major impacts on the countryside to occur in the region was the planting of large areas of conifer woodland by the Forestry Commission. The first planting was on Whinlatter Pass in 1919 and Ennerdale Forest was planted in 1927. An agreement reached in 1936 between Forestry Commission and the Council for the Preservation of Rural England prevented any further afforestation of the 300 square miles of the central mountains after 13,000 people signed a petition in 1935 (Whitfield *pers comm*). Forestry plantation had very little impact upon Borrowdale itself, with only small piecemeal blocks of woodland established near to Seathwaite, Seatoller and Grange, and these are very different from the large-scale Forestry Commission plantings, such as those in Ennerdale (OA North 2003).

2.3.46 After the Second World War there was a fundamental shift in the development of the region with the creation of the National Park in 1951. Rather than different valleys and areas developing at different paces according to the inclinations of the individual landowners the region began to be administered and treated as a whole. This development has been strengthened by the introduction of various conservation schemes, designations, European initiatives, and government grants. For example, 90% of the Lake District has been classified as a Less Favoured Area qualifying it for grants that aim to conserve the countryside and arrest depopulation. The entire National Park is also designated an Environmentally Sensitive Area, which once again qualifies it for conservation grants.

2.3.47 The money received through various conservation grants, combined with the revenue from 12 million visitors a year, means that the economic emphasis has fundamentally shifted from agriculture and industry to tourism and conservation. It can be argued that this is the most radical development seen in the region for many centuries and has far reaching implications for the future growth of the area.

2.3.48 The twentieth century also has seen the rapid development of infrastructure within the valley bringing it into line with all but the most isolated parts of the county. The earliest development was the continued improvement in the communication routes with a Mr John Woodend of Seatoller who operated a chain-driven car between Seatoller and Keswick in the period just before the First World War. After the war in 1920 he re-instated the service using a fourteen-seater vehicle. By 1926 the road to Keswick had been widened, and two years later five bus services were operating over the route, and then in the 1930s, the road was finally surfaced (Whitfield *pers comm*).

2.3.49 Utilities, such as water and electricity, didn't arrive until later in the century with sewage disposal works built in 1938 and again in 1949 when the first water supplies were connected to the upper valley; however, many houses still used a private supply. The arrival of electricity was delayed due to opposition to the use of overhead cables and eventually an underground cable was laid in 1961.

2.3.50 The field systems and enclosure patterns have remained virtually unchanged since the previous century (Fig 12). Before the Second World War there were three farms at Stonethwaite and four at Rosthwaite. There was very little arable farming, and what crops were grown included potato, kale and some oats. As in the previous century the slate quarries were the biggest employers and most farmers also had part-time jobs with the quarries. The advent of World War Two made little difference to the amount

of land under plough, by contrast with other areas where there was a pressure to increase the proportion of arable farming (Willy Hind *pers comm*).

2.3.51 This period also saw the acquisition of the first property by the National Trust within the survey area. The hamlet of Seathwaite was acquired by the Trust in 1944, and there then followed a steady flow of acquisitions:

Land from Banks, Dalt, and Wisings Intake in 1945, 1950, 1965, 1966, 1976.

Langstrath Intake in 1946 and 1976.

Nook and Seatoller farms in 1959.

Stonethwaite Farm and most of village - 1965.

Yew Tree Farm and Longthwaite farm land - 1976.

Previous to this Lord Leconfield owned Seatoller and the land around High Scawdale, Seathwaite was freehold and Cecil Lawson owned the remainder.

2.3.52 In 1958 the Cumberland River Board dredged parts of the river and built flood banks and gabions although this was not able to prevent serious flooding in August 1966. This flood washed away most of the bridges and many of the walls, which have now been replaced (on the same alignment, see Fig 12) by fences. As a result of this, sections of the river between Seathwaite and Thorneythwaite were straightened in an attempt to prevent a repeat occurrence.

2.3.53 Tourism has continued to grow to the point where the valley can be regarded as one of the 'honeypot' destinations within the Lake District and this has had a number of ramifications upon the valleys development. The resulting slant of the local economy towards catering for visitors has meant the appearance of campsites, cafes, car parks and other facilities within the valley.

3. THE DEVELOPMENT OF ENCLOSURE

3.1 INTRODUCTION

3.1.1 The development of the field systems was investigated by a combination of cartographic/documentary research and fieldwork. The documentary research was compiled for each boundary in the valley and predominantly looked at the morphology of the boundaries as shown on the historic cartographic sources, but also included information culled from historic documents relating to specific enclosures/dalts. The cartographic sources were predominantly of nineteenth and twentieth century origin, and were used to produce a plan showing boundary survival/fluctuation throughout the last two centuries (Fig 12).

3.1.2 A survey of all standing and relict boundaries was undertaken which included the position of all gates, stiles, other wall furniture and sections of repair. The survey also recorded the stratigraphic relationships (if any) between adjoining sections of walled boundaries in order examine the relative phasing of all the boundaries in Borrowdale. In the event, it was discovered that much of the valley floor enclosure had been rebuilt and, indeed, over much of the rest of the newly investigated areas the relationships at the edges of walled boundaries were either missing, removed or had been rebuilt. The boundary survey, therefore, had to rely to a greater extent on the nineteenth century cartographic information and documentary sources to provide a breakdown of the phased development of enclosure within Borrowdale (Figs 7-11). The village of Grange and the enclosure lands at the northern end of the study area were not investigated by the current project, being outside the National Trust land holdings.

3.2 THE MONASTIC PERIOD (PHASES 1 AND 2)

3.2.1 Whether the enclosure of land in Borrowdale began before monastic control is unclear, although it probably did occur in limited extent. The first documentary evidence for enclosure comes from an estate survey for Fountains Abbey in 1418 which records 41 farms each with an average of three acres of enclosed land (British Museum Add MSS 24764 f 6 in Elliott 1961). It is worth noting, however, that the 'acre' in this context may be a customary acre, which is three times larger than a statute acre, and it is not certain whether the enclosed land referred to was in the form of small inbyes close to the settlement or strips of an early townfield. The most likely form that these townfields took was a type that has become associated with the Cistercians (Robinson *et al* 1998), comprising a large open field, reclaimed from the waste and divided into equal parts. Shares in the field were valuable both as sources of grazing and as part of the tenants arable land. Once the protective fences had been removed from a strip after a period of cultivation, it became part of the common pasture that was stinted (Taylor 1983). The most likely hypothesis for the early development of enclosure within the valley is the initial small-scale enclosure of parcels of land associated with individual tenements and which was added to with the

creation of a number of townfields. Field evidence for the original small areas of enclosed land mentioned in documents is very hard to discern within the wall pattern of the valley today, as the expansion and rebuilding of the settlements has significantly distorted or removed all trace of them

3.2.2 Some of the enclosures may have been bounded by temporary markers such as hedges, ditches and fencing and, as such, will have left little trace in the archaeological record. This utilisation of temporary boundaries is noted in Cumberland by Elliot who wrote 'Fences which had been erected and supervised by the village frithmen to protect the crops were removed when the last sheaf of corn had been gathered' (Elliott 1959). Evidence of this exists from 1667 where a document (CRO DX/241/16) refers to the use of hedges around Rosthwaite. Field and documentary evidence suggests that this style of enclosure was more common where the ground was damp or subject to flooding.

3.2.3 The nature of at least one monastic period enclosure boundary has been elucidated by archaeological work in Seathwaite. A boundary wall and fence excavated from beneath colluvial deposits indicated that part of the valley was being exploited up for monastic sheep farming around 1300-1450 cal AD and the stone wall and fenceline feature, excavated from the peat layers, hints at the enclosure of parts of the valley with stock boundaries in this period (LUAU 1998; Wild *et al* 2001, Fig 5). This boundary has been incorporated into Phase 1 of the valleys boundary development (Figs 7-11) and within a discrete area around the site are numerous fragmentary ephemeral sections of enclosure bank with hawthorn hedge on top (every hawthorn in this part of the valley is sat upon a boundary). These boundary fragments are heavily disturbed by many prolonged periods of flooding over the centuries, and their form has both changed and degraded; it is not possible, therefore, on purely morphological grounds, to infer any direct parallels with the excavated example.

3.2.4 ***Ring Garth?:*** given the results of both documentary and field survey elsewhere in the Lake District (Winchester 1987, 59-60; Lund and Southwell 2002; National Trust 2000 and OA North 2003) there was a reasonable possibility that one of the earliest, if not the earliest, and most substantial boundary feature to emerge from the survey would be a ring garth. This feature generally took the form of a continuous wall, constructed along the break of slope with the fellside, enclosing all or part of the valley floor. During the summer it allowed stock to roam freely on the open fellside while preventing them from entering the valley floor and damaging crops being grown on the open fields; in the winter they could be brought in to graze and fertilise the valley fields safely. Examples of this type of wall, the earliest of which dates from the late twelfth century at Preston Richard, have been found at Windermere, Crosby Ravensworth, Helton, Great Langdale (National Trust 2005a), Grayrigg and Wasdale (National Trust 2000). Perhaps most significantly, such a feature has also been identified in the adjacent property of Watendlath (National Trust 1993). The limit for potential arable production in the valley is defined principally by the distribution of the Enborne and Ellerbeck soil types (Lawes Agricultural Trust 1983) and this follows closely the topographical break of slope between the valley floor and the fellside and is thus an obvious place to look for such a feature.

3.2.5 The problem with a ring garth system in Borrowdale is that not all the land that could be enclosed on the valley floor was capable of supporting arable production and therefore would not have needed enclosing. Circumstances such as low levels of sunshine, poor quality soil, flooding and wet conditions producing saturated ground all count against the widespread cultivation of crops. The correlation between the use of hedges and damp ground has already been noted (*Section 3.2.3*) and a close association between the distribution of the Enborne soil type and the use of hedges and fences as boundaries can be seen, suggesting that the areas of the valley floor with this soil type were not suitable for arable use because of poor drainage. This is supported by a soil survey report (Bendelow 1984) which noted that drainage may be required for the Enborne soil type. Further evidence comes from the tithe award of 1842 where there is only one small field of this soil type recorded as arable and all the rest were either pasture or meadow, some of which had names indicating poorly drained ground (CRO(C) D RC/8/55/4). Hutchinson's description of the valley from 1794 seems particularly relevant: 'There are scanty patches of arable land which are cultivated with some difficulty' (Hutchinson 1794, 211).

3.2.6 By contrast with valleys such as Wasdale and Great Langdale there is no documentary evidence to suggest the existence of a ring garth in the valley. Furthermore, the dual ownership of the valley between two abbeys meant that a degree of co-operation was required between them, together with an agreement on areas of responsibility for maintenance. Each abbey would have a vested interest in its own property were in contention over such issues as boundary demarcation (Brownbill 1915-9; Collingwood 1918).

3.2.7 The field evidence for such a feature is fractured and insubstantial. Some sections of wall have been identified as potential sections of a valley ring garth but are just as likely to have been part of enclosing walls for parcels of ancient coppice woodland (the possible boundaries are shown as the edges of Phase 1 enclosure on Figures 7 and 12). Many of the junctions recorded in the wall survey are inconclusive making it difficult to 'deconstruct' the network of enclosures and reveal the presence of an early enclosing wall. The original fieldwork element of this project had a specific remit to discover this type of boundary, and yet, despite extensive ground investigation, a definitive garth boundary enclosing lands farmed in the medieval period cannot be proved conclusively for the valley as a whole. This is in marked contrast with other Lakeland valleys (eg Langdale (Lund and Southwell 2002)). The flat valley floors to the north of Seathwaite (Plate 14), the east of Seatoller, west of Rosthwaite, and north and south of Stonethwaite were the original focus for farming and enclosure outside of the earlier farmsteads and small enclosures/paddocks. The problems with these areas, especially with Seathwaite, has been the destructive nature of flooding in the valley over the centuries, which has resulted in the rebuilding of enclosure boundaries on the valley floor on numerous occasions, thus obliterating any trace of earlier patterns (Millward and Robinson 1970). The pattern we see today is almost certainly the result of rebuilding at some point in the second half of the nineteenth century (Fig 12). The pattern of flooding may have necessitated the use of much of the enclosure on the valley floor, adjacent to the settlements, as meadowland. What is evident is that many of the valley floor boundaries survive as fenced hedges and this may mirror

early field boundaries at these locations (*Section 3.2.3*). The limits of garth enclosures can be implied through inspection of the cartographic sources in several places.

3.2.8 ***Townfields and Early Enclosure:*** at the beginning of the sixteenth century, according to documents from elsewhere in the region (Elliot 1959), there was increasing enclosure of common land. In Borrowdale, though, there was small-scale enclosure of land associated with specific tenements alongside the development of open fields within the valley, a pattern confirmed by Elliott (*ibid*) who identified Borrowdale as having small hamlets with very small open fields. These open fields, called townfields or common fields, were a familiar component of medieval agricultural systems across the Lake District valleys (shown as Phase 1 on Fig 7). They were composed of an area of land within which either the cultivation strips themselves or the entire piece of land was temporarily enclosed to allow for the cultivation of crops. Townfields may have developed after the establishment of the enclosed grounds around the tenements as they were not specifically mentioned until the relatively late date of 1659 (CRO DX/241/9). They typically survive within the field system as 'where that impetus (to increase the arable acreage) was absent, as on higher land more suited to stock rearing, the single townfield remained' (Winchester 1987, 75). Some of the extensive areas of ridge and furrow cultivation at Rosthwaite may define the extent of a townfield which were more ephemeral at the other valley settlements (Plates 7 and 8). The ridge and furrow cultivation was not all necessarily of an early date, indeed some of it has been incorporated into enclosures of an eighteenth century nature on the east side of the village.

3.2.9 The general distribution of Phase 1 enclosure within the valley (Figs 7-11) should be taken as the maximum extent of enclosed lands within the valley by the time of the Dissolution and the end of monastic control. Within Phase 1 there are several sub-phases relating to known phases of enclosure, such as small farmstead enclosures, and townfields, which are regionally evident but cannot be proved with any great accuracy at Borrowdale with the available archaeological/documentary evidence. The villages and hamlets within Borrowdale, whether of monastic, or even earlier, foundation or not, have a longevity that would have attracted small enclosed fields/pastures in the medieval period. In some cases (eg Seathwaite on place-name evidence) the more isolated settlements in the valley may have grown out of more temporary transhumant habitation.

3.2.10 ***Seathwaite:*** the limits of enclosure, in Phase 1 (Figs 7 and 8) around Seathwaite, takes in much of the valley floor but stops at the break of slope up onto the fellside. There is no physical evidence of a substantial boundary surviving on the lower, more shallower, slopes above the valley floor at the foot of the valley sides that would be indicative of a ring garth. To the east of the village is an enclosure incorporating a large curvilinear and banked boundary, extending up the lower valley side and capped at the top by a funnelled boundary leading to a sheepfold. This enclosure could relate to a stock corralling area outside of the village but looking out onto the medieval sheepwalks.

3.2.11 ***Seatoller:*** the garth enclosure would have been on the east side of the settlement adjacent to the river. The tithe records the southern boundary of these fields as

'Millbeck Garth' and this takes in the edge of the floodplain where it falls sharply down towards the river. The other boundaries were formed by natural landscape features, the edges of flat land and the limits of river/stream courses. There is also an area of old enclosure located to the north of the hamlet where the ruinous remains of substantial drystone walls are sat upon banked boundaries. Again this enclosure would appear to relate to stock corralling outside of the hamlet and near to the sheepwalks.

3.2.12 ***Stonethwaite:*** according to documentary evidence the settlement grew out of the monastic vaccary constructed at this location by Fountains Abbey by 1302. The limits of the Phase 1 enclosure were limited by the topography on the south-eastern side of the settlement and on the west side of Seathwaite Beck; if a ring garth boundary had survived it would have followed these limits. To the north-west of the village the limits between Stonethwaite and Rosthwaite are unclear, but the topographical boundaries of Seathwaite Beck to the east and the routeway leading between Seatoller and Rosthwaite in the north-west are obvious outer boundaries.

3.2.13 ***Rosthwaite:*** evidence for townfields is a little firmer at Rosthwaite with a number of areas incorporating the fossilisation of cultivation strips, elements of the original townfield, and ridge and furrow cultivation (Plate 7 and 8). These are to the immediate north, west and southern sides of the village (not on the east, as this enclosure is later), and many of the enclosures are associated with pastoral meadows on the lower floodplain. The evidence for a ring garth associated with Rosthwaite is limited; however, the curvilinear edge of land on the west side of the River Derwent, would appear to be an obvious topographical setting for its limit here, and the confluence of the river and Seathwaite Beck, or Frith Gill may form the limit of the garth to the north. The evidence to the south is even less clear.

3.2.14 The subsequent period of enclosure in the valley (Phase 2) comprised extensions to the previous enclosure pattern, and at least some of this secondary enclosure was completed in the monastic period; however, there is no clear archaeological evidence and very little documentary evidence to back up this episode of enclosure.

3.2.15 ***Longthwaite:*** although the National Trust does not own the farm at Longthwaite (which was not, consequently, subject to the boundary survey) the associated farmland is attached to Yew Tree Farm and still forms an important part of the settlement pattern within the valley. There are some similarities with Rosthwaite in that it was not mentioned until the sixteenth century in any of the documentary records, when John Fisher was recorded as the tenant to Furness Abbey in 1538 (Brownbill 1915-19). The enclosure forms a pattern of radiating fields extending out of the settlement core.

3.3 POST-MONASTIC BOUNDARY DEVELOPMENT (PHASES 3, 4 AND 5)

3.3.1 Soon after the Dissolution of Fountains and Furness Abbeys, in 1539 and 1537 respectively, there was a reference to enclosures in a document relating to the granting by the crown of seized land to Richard Greme '...12 acres of land in two enclosures called Pykerigg and Thakerigg...' (Nicholson and Burn 1777, Vol II 92). There then

follows a gap of a hundred years until 1659 when there is the first reference to townfields at Rosthwaite (CRO DX/241/9); the reference to townfields in the plural suggests that there were a number of these features in the valley. This was further illustrated by a document from 1711 (CRO DX/241/63), which again refers to the townfields or liberties of Rosthwaite. The location of one of these other fields is hinted at in a document from 1696 (CRO D/Law/2/4) dealing with land associated with Stonethwaite where there is a reference to a 'commonfield'.

3.3.2 Further documents from 1678 (CRO DX/241/27) refer to a number of 'closes' at Rosthwaite varying in size between 1 and 5 acres and again in 1696 there are references to a 'close or inclosure of arable land and meadow' (CRO DX/241/52). All of which help to illustrate the gathering pace of enclosure within the valley. The small acreage of these enclosures suggests they were either the small tenement closes or the start of the enclosure of strips within the townfield.

3.3.3 By the start of the eighteenth century most of the valley floor was enclosed and included the townfield land and the linear field pattern to the west and south-east of Rosthwaite (Phase 3). These strip fields are called New Park on the 1842 Tithe Map and a document from 1696 (CRO DX/241/52), the latter telling us that they must have been enclosed by the end of the seventeenth century, as they are referred to by name. Other enclosures of importance from Phase 3 include a thin strip of lands enclosed on the east side of Stonethwaite. Documentary references within the Manor Court books from the first half of the eighteenth century tell us that by this date the level ground running along the eastern bank of Stonethwaite Beck between Rosthwaite and Stonethwaite had been enclosed (CRO D/LAW/1/163). Alongside this, there had also been enclosure of some of the upland dalts; documentary evidence from as early as 1602-1696 has been found for enclosure of the fellside at Colts Park and Colts Side, which is located just to the south of Smithymire Island (CRO D/LAW/1/155 and CRO DX/241/52).

3.3.4 From monastic times there was increasing enclosure of the valley floor, and including the enclosure of strips of the previously open commonfields. By 1700 an enclosed field system had been established along most of the valley floor and intaking was starting to spread up the fellsides. Some areas of fellside with coppiced woodland, such as Johnny’s Wood and intakes along Eagle Crag, had probably already been enclosed for some time for their own protection from grazing animals.

3.3.5 During the eighteenth century there was a revolution in agricultural practices across the country. New breeds of stock and crops were developed and accompaning them were new styles of farming, which involved land improvement, that brought a massively increased productivity. This coincided, towrds the end of the eighteenth and beginning of the nineteenth century, with a large increase in demand as a result of the Napoleonic wars and an increasing population. The result was a huge acceleration of enclosure and intaking between 1700 and 1850 (Phase 4 and 5). It was something of a boom time for agriculture and saw the establishment of the wealthier yeoman farmer and the rebuilding of many of the farmhouses in the valley. Property in the valley was now in the hands of a relatively few moderately prosperous families that meant the capital was available for the enclosing of land and agreement over

enclosure could be reached without having to satisfy a large number of people. (Whyte 2003; Williamson 2002).

3.3.6 From the 1750s and 1760s further documentary references show that the fellside above Colts Park adjacent to Stonethwaite had been enclosed (Phase 4) (CRO(C) D/Ben/Crosthwaite Tithes/1). This appears to have been a sequential development of intaking beginning with a narrow strip of level ground before incorporating land on the fellside above. The pattern of fellside enclosure can best be judged in the lands around Stonethwaite, as here there is the most documentary evidence to elucidate this enclosure. That is not to say that many of the dalts on the valley sides, marked as Phase 5 elsewhere in Borrowdale (Fig 7), may also be earlier in origin.

3.3.7 Attempting to speculate upon the early valley bottom enclosure (Phase 4) on the other western side of the valley around the graphite mines without any documentary references, together with a boundary pattern that has been significantly altered within the last 150 years, has been very difficult. The alteration of the earlier enclosure pattern to resemble that of today, probably occurred during the late seventeenth century, possibly at the same time as the larger intaking was occurring along the east side. The earlier boundaries that were clearly marked on William Hetherington's map from 1759 (Plate 4 and Boon 1976) were subsequently depicted as 'old' on a map dated 1818 (DRO D/BKL/8C/144/7) inferring that they had fallen into disrepair by this time. This marks the transition from a previously more enclosed landscape to the more modern open appearance of the fellside. The substantial boundary wall separating Seatoller Common from the rest of the fellside was definitely established by the 1750s (Plate 4 and Boon 1976), so it is possible that the intaking of the fellsides at Seathwaite had begun by at least the early part of the eighteenth century, contemporary with that occurring between Rosthwaite and Stonethwaite. It could, therefore, be implied that much of the final intaking in the valley had happened piecemeal by this date.

3.3.8 The final phase of enclosure was completed by the middle period of the nineteenth century (Phase 5), when most of the intakes on the high fellsides in Borrowdale were built. This corresponds with the recorded enclosure of fell land elsewhere in the heart of the Lake District, such as those at Watermillock, by Ullswater, in 1835, Matterdale in 1882 and Hartsop in 1865 (Whyte 2003). By 1850 the enclosure pattern that we see today in Borrowdale had been established and little has changed in the intervening years, such that the present day landscape is essentially a fossilisation of that from the mid-nineteenth century.

3.3.9 ***Current Boundaries and Cartographic Evidence:*** the majority of the surviving field boundaries within Borrowdale consist of drystone walls. The majority of the walls are of irregular unfaced clearance or quarried stones forming a double thickness wall with irregular or no coursing to them. Their surviving condition is variable throughout the valley, but many of the valley floor examples have been restored recently under the auspices of the National Trust. The walls often have through bands of stones and sometimes the coverband on top survives. Many of the boundary walls have been subject to piecemeal rebuilding and repair throughout the centuries and more often than not the boundary relationships (which aid phasing) have been destroyed or are

rebuilt. In some places the boundary walls have used larger clearance stones as a foundation base, but it is unclear if this relates to an earlier building phase of walling or not. Other boundary types within the valley consist of earth and stone banks or lynchets, often with the relict remains of hawthorn hedging upon them. Some of these boundaries may be associated with an earlier phase of field boundaries on sloping ground, and on the flat valley bottoms they were built instead of field walls in areas prone to heavy flooding. Some of these boundaries, on the other hand may in fact relate to older denuded field walls, particularly at the head of Seathwaite valley, where a fence and wall boundary was excavated (*Section 2.3.8*).

3.3.10 The major cartographic sources covering the entire Borrowdale valley and depicting all of the field boundaries are limited to the surveys from the mid-nineteenth century onwards. The tithe map of 1842, the Ordnance Survey Second Edition 1:2500 mapping of the 1890s and the modern digital mapping have been used in a map regression exercise (Fig 12). What is immediately obvious is that the great majority of field boundaries have remained extant since the tithe map, indicating that field enclosure was completed by the beginning of the nineteenth century. Some of the more isolated fellside enclosures, and a proportion of the valley bottom field boundaries, were subsequently removed in the twentieth century (Purple), but this does not relate to the wholesale scrubbing of boundaries in order to improve land for mechanised agricultural processes. Indeed, by the twentieth century the valley was probably much less concerned with arable agriculture that was demonstrated by the tithe award of the previous century. There was also a pattern of sub-divisional boundaries and some higher fellside boundaries that were constructed after 1842 (Green) and an even smaller number after the 1890s (Red). The fellside boundaries may reflect the final stages of intaking in the latter part of the nineteenth century and the enclosure of small pockets of coniferous forestry, but could also reflect the vagaries of boundary recording on the earlier maps.

3.4 DEVELOPMENT OF ENCLOSURE CONCLUSIONS

3.4.1 It is not possible to reliably define areas that have pre-and early monastic boundaries still in existence other than the one in Seathwaite that has been archaeologically dated (*Section 2.3.8*). However, this does not mean they did not exist or that they had a more impermanent nature: putative earlier hedge and/or fence boundaries may have influenced the later development of non permanent enclosure and boundaries, but the physical evidence for the existence of such earlier boundaries is largely lacking in Borrowdale.

3.4.2 The valley of Borrowdale is sufficiently broad to have allowed for an enclosure pattern to have emerged based on a system of closes and townfields that probably evolved in the areas of the earliest clearances. A precedent for such a pattern has already been noted: 'Small open fields were found in other valleys in the Lake District as well, where sufficient valley-bottom arable land was available; Grasmere in the forest of Kendale and Coniston in High Furness are examples, ...they probably represent early islands of settlement in the forests' (Winchester 1987, 69). These open fields, which had previously only been enclosed on a temporary basis later became

permanently enclosed with clusters of cultivation strips showing up within the valley field system as groups of long narrow fields. Examples of this occur to the east and south of Rosthwaite where the fields represent this fossilisation of arable field strips within townfields (Plates 7 and 8). The later piecemeal enclosure of lowland, as well as the fellside dalts, and then latterly the high intakes, can only be plotted in broad terms, but where the documentary evidence is strongest (around Stonethwaite) the pattern of successive enclosure can be seen more easily.

3.5 BOUNDARY MANAGEMENT RECOMMENDATIONS

- In principle the maintenance of boundaries within the valley should endeavour to preserve the surviving historic pattern of enclosure;
- Boundaries in stockproof or near stockproof condition should be maintained as stockproof even if they have become agriculturally redundant. In the case of stone walls, the availability of building material will be an influencing factor;
- Walls and hedges in a partial state of deterioration should be considered for restoration as and when resources become available;
- Walls in a collapsed condition or that have been heavily robbed generally will not be considered for rebuilding but should not be considered as sources of building material for any planned rebuilding elsewhere. Should fencing be erected along the same line of such a wall, or hedge bank, posts should be set away from them and not driven through the remains themselves;
- Fencing should not replace walls and hedges, or sections of walls and hedges, which can be reinstated with available material and resources;
- There maybe benefit in identifying future conservation priorities particularly focusing on which boundaries we will like to see conserved/rebuilt and why..

4. AGRICULTURAL SITES

4.1 INTRODUCTION

4.1.1 Right up until the twentieth century there has always been some arable agriculture in the valley but because of the nature of the topography and environment (*Section 2.1*) it is overwhelmingly pastoral farming, be it cattle in the medieval period or latterly sheep, that has prevailed.

4.2 PASTORAL AGRICULTURE

4.2.1 The sheer number of sites related to sheep farming are evidence to its extent and endurance in the valley. Principal amongst these sites are bields, shepherd shelters, sheepfolds, and stock enclosures (Fig 14). There are 94 recorded bields, a further seven sites containing other shelters/shepherds shelters, 82 sheepfolds, of which three are washfolds and a further 12 general stock enclosures/pounds**.** The bields are sections of drystone wall designed to provide shelter to grazing stock, the sheepfolds occur in a variety of shapes and sizes, some single-celled and some multi-celled. Both bields and sheepfolds, along with other shelters, occur as free-standing structures or butt against existing walls and crags. They are located in all topographical areas but primarily on the fellside slopes. Washfolds are larger and more complex sheepfolds and are located next to water sources for the purpose of cleaning sheep prior to shearing.

4.2.2 The survey recovered no surviving evidence of the documented medieval monastic vaccary at Stonethwaite (Fig 4); however habitation sites for the period were located elsewhere. Seven shieling sites were identified within the limits of Borrowdale (Figs 5 and 6), three are to be found on the headwaters of Greenup Gill, at the head of Stonethwaite, three are adjacent to the beck in the base of Langstrath valley and one in Scaleclose adjacent to a tributary of the Scaleclose Beck intaking, which is located on the western valley side above Rosthwaite. The latter site (20115) is adjacent to an area of ridge and furrow cultivation, but this is associated with later eighteenth to nineteenth century intaking rather than the shieling (Ramm *et al* 1970). The Scaleclose place-name derives from scale/*scali* which is typically associated with former shieling sites, although it can allude to any upland hut. Shieling sites have been documented both singularly and in groupings within the uplands of the Lake District, and have been found, with similar morphology and in isolated locations, on previous surveys of National Trust landholdings in the region; including Langdale, Ennerdale and nearby in Watendlath (Lund and Southwell 2002; National Trust 1993; OA North 2003). The name Seatoller means 'the saetr by the alder tree' (Armstrong *et al* 1950) and it probably started life as a temporary summer settlement before becoming a permanent farm. These are most commonly simple structures that offered temporary accommodation for shepherds when they grazed their flocks on the fell tops. Their isolated position, relatively small size, simple construction, and absence of

associated field systems, lends credence to them having been used for transhumance activity rather than as more permanent farmsteads. The shieling sites within Langstrath may also have had a duel function with a further use as temporary residences associated with early ironworking at the bloomeries within the valley. The putative shieling identified at Blackmoss Pot (22398) has been investigated and part of the site was found to be a water-powered ironworking site that was dated to at least 1450-1650 cal AD (*Section 5.4.5*; Beta Analytic Inc 2002; 2003).

4.3 ARABLE AGRICULTURE

4.3.1 Surviving evidence of sites pertaining to arable farming includes clearance cairns, ridge and furrow and field barns. There are 28 sites incorporating clearance cairns within the valley, and these typically represent the clearance of stone to improve the land. Depending upon the site and the context, clearance cairns can be associated with either arable or pastoral farming. The primary clearance of upland forest is often associated with the construction of cairnfields to improve the land, sufficient to make it workable for pastoral farming (Quartermaine and Leech forthcoming). However, subsequent improvement of the land, producing further cairns, is often associated with arable practices. In the latter case, they are typically sited at the edge of cultivation plots so as to facilitate the movement of the plough. In the case of the cairns within the Borrowdale valley bottom, these are typically located alongside existing field systems and would appear to reflect arable land improvement; stone brought to the surface by the plough would need to be accommodated in piles. Other cairns have been created for entirely different reasons, such as those on paths as an aid to walkers or cairns next to becks as a result of stream clearance, and the context within which the cairn is situated is usually a good indicator of why it has come into existence. The distribution of these sites in the valley are predominantly to be found outside of the major areas of lowland/valley bottom cultivation, so are not concerned with primary field clearance, when most stones would have been incorporated into contemporary or later field walls. In Langstrath, however, there are some clearance cairns remaining which may have been isolated dwellings.

4.3.2 There are also several surviving field barns, as well as the barns within the settlements (totalling 28 sites) recorded in the valley. They are all located within an existing enclosure network or the established settlements and served the dual purpose of providing shelter for stock, as well as storage for hay. There is one (agricultural) mill site within the valley, but outside of the study area, called Chapel Mill, and there are further place-names around Stonethwaite, Rosthwaite and Seatoller that may suggest the past existence of a mill (*Section 5.6.1*). However, it is difficult to interpret these as being associated purely with arable agriculture, given that the fulling industry was a staple of the Lake District economy.

4.3.3 Although there was less tilled land in the central Lake District Fells than on its fringes, the mid nineteenth century tithe returns show that there was more arable land in these areas than now (Bainbridge 1943). Much of this tilled land lay in the fields around Rosthwaite, and stretching towards Seatoller. At the end of the eighteenth century it was said of Rosthwaite that it was *'the first village in this romantic*

region…. Fields wave with crops and the meadows are enamelled with flowery grass'. (West 1793). West, however, was prone to look at this magnificent landscape through the rose tinted spectacles of the Georgian Romantic. Gilpin, painted a more realistic picture of the harsh and meagre living from a hostile environment. *'This valley, so replete with hideous grandeur, is known by the name of the Straits of Borrowdale. In this deep retreat lies the village of Rosthwaite, having at all times little intercourse with the country; but during half the year, almost totally excluded from all human commerce. Here scanty patches of arable land are cultivated with difficulty; the crops ripen late and are a prey to violent autumnal rains. The land just gives them bread to eat, and their herds afford them milk, and their flocks clothes'* (Gilpin 1789).

4.3.4 The most obvious evidence of arable agriculture is the extensive evidence of ridge and furrow cultivation, particularly within the vicinity of Rosthwaite (Fig 7 and Plates 7 and 8). This concentration is possibly the remnants of the medieval open field cultivation around that settlement and which once probably existed at all the settlements within the valley. The evidence of ridge and furrow from the lower fellside intakes is more likely to be of a later date, and possibly late eighteenth century. Demand for food during that period was high as a result of the Napoleonic wars on the continent (at the beginning of the nineteenth century); the coincedent invention of a plough capable of tilling soil on steeper ground meant cultivating such land became easier. On the other hand, the ridge and furrow cultivation located in the fellside intakes is clustered around a putative medieval shieling site at Scaleclose, and it is not possible to say if it was definitely associated with it.

5. INDUSTRIAL SITES

5.1 INTRODUCTION

5.1.1 It could be said that the earliest industrial exploitation of Borrowdale dates back to the Neolithic period when the Langdale Axe Factories were producing material on an 'industrial scale' (*Section 2.2.5*). However, after these the earliest industrial sites were in the medieval period, represented by the advent of bloomery sites in Langstrath. There was then a large proliferation of industrial sites in the Post-medieval period within Borrowdale, a situation at odds with our inherited views of the natural unspoilt landscape aesthetics of the Lake District. These include many areas of slate and building stone quarrying, graphite, lead, iron and other mineral mining, and peat cutting (Fig 15) (Plate 2).

5.2 QUARRYING

5.2.1 The principle quarrying activity in Borrowdale was centred around Rigg Head, Honister Crag and Yewcrag, and extracted slate belonging to the Borrowdale Volcanic Series. This was a slate composed of fine volcanic ash and dust that includes ferrous oxide, which gives it the distinctive green colouring. The slate was a sought after building and roofing material and was widely used around the region. Other much smaller quarries scattered around the area are most likely to have been concerned with providing a local domestic supply of raw material for walling and local construction (Fig 15).

5.2.2 ***Honister and Yewcrag Quarries:*** only a tiny fraction of the extensive workings of Honister and Yewcrag lie within the National Trust Borrowdale study area boundary; the great majority is within the Buttermere valley. They chiefly comprise a large slate spoil heap and some access tracks and roads close to Honister Hause; to the north there are a few small quarries just within the boundary that are associated with the Yewcrag operations.

5.2.3 It has been suggested that as early as the Roman period Honister slate was used as a roofing material, although the first documentary evidence for quarrying does not appear until 1728 when John Walker was granted a 21 year lease to remove slate from 'Ewecrag and Fletwith' (Cameron 1993, 12). The quarries of Ash Gill, Dubs and Bull Gill were potentially developed from the mid-eighteenth century; but, it was not until the end of the eighteenth century that any form of substantial quarrying operation was begun at Yewcrag (Tyler 1994). In 1833 Sam Wright acquired a lease to work high elevation quarries on the Yewcrag side of the valley (*ibid*), as well as drift mines at Ash Gill.

5.2.4 In 1879 the Buttermere Green Slate Quarry Co was established, and initiated the constructed of three major self-activating inclines, of which one followed the natural sill at Yewcrags (*ibid*). This represented a major opportunity for expansion, as previously production had been limited by transport difficulties. From 1892 the focus

of the operation was at the Hause where there were blacksmiths and joiners shops; although the stone was finished at the quarries, it was then transported to the Hause where it was stockpiled. In the 1920s the processing of the slate was transferred from the quarries to a factory at the Hause, and the communications between the Hause and the quarries / mines was improved; an aerial ropeway was erected from link level to the Hause in 1928 (*ibid*). Ultimately, the unprocessed stone was transported by lorry on purpose-built roads (*ibid*). During first half of the twentieth century the operation grew until it was eventually employing 130 men. In the 1940s there was expansion towards the eastern end of the crag. In the 1950s and 60s output remained high but in the 70s trade began to decline. Yewcrag mine closed in 1966 and by 1981 only 14 people were employed at Honister and five years later the mine closed (*ibid*). In 1996 the site was developed for tourism, the machinery was restored to working order, to produce small-scale items from stone recovered from the waste tips and at the same time a shop and showroom was opened. In 1997 a survey was undertaken of the slate works by the RCHME (now English Heritage) (1997)

5.2.5 Documentary evidence from the eighteenth century for a number of other slate quarries exists besides the one at Honister. These include an Article of Agreement from 1754 regarding Castle Quarries (22195) (CRO DX/241/105), and a lease in 1796 (CRO DX/241/131) which mentions a slate quarry in a close called Low Grassing, which possibly refers to an area of land centred around NY 257155 called Grassings in the 1842 Tithe Award. Slate quarries were also operating in Langstrath (22413, 22406 and 22404) according to a lease from 1788 (CRO D/Law/3/11). Further quarries are mentioned in a conveyance from 1796 which refers to land called Great Holme '..apportioned to each person, together with all slate and stone quarries' (CRO NT/3). Field survey also found evidence of a clustering of slate quarrying sites located around High Hows Wood which in places cut into the fabric of the Iron Age hillfort on Castle Crag (Fig 18).

5.2.6 ***Rigghead Quarry:*** the quarry complex on High Scawdel (22314) was opened by William Layland in 1864 and operated all year round (Cameron 1993). Many of the quarrymen came from Kentmere, as well as from as far away as Cornwall. Later the slate was transported by lorry along a track running behind Castle Crag. The business was carried on by Layland's sons until 1939. The remains today are extensive with a large number of buildings, some of which were used as shelter for riving slate and there are also a number of surviving quarry faces and levels.

5.2.7 Quarrying played a major part in the local economy from the eighteenth century and throughout the nineteenth and twentieth centuries, eventually replacing the woodland industries in importance. Willy Hind, a lifelong resident of the valley who was born in 1923 (Willy Hind pers comm), stated that every farm in the valley had at least one member who worked in the slate quarries. Much of the reason for this was simply due to the fact that many of the farms were not capable of supporting whole families and farming was essentially a part-time occupation. The reliance on a mixture of both farming and quarrying in a dual working economy has been widely recorded in the upland landscapes of northern England and Wales.

5.2.8 ***Slate Quarry Sites:***

22195 Extensive Post-medieval. Quarry complex including buildings and spoil heaps around High Hows Wood/Castle Crag

22314 Rigghead Quarries. Extensive slate quarrying operation.

22404 Quarry face with excellent remains of quarrymen hut, Langstrath.

22406 Quarry face with excellent remains of quarrymen hut, Langstrath.

22413 Quarry face and spoil heap, Langstrath.

22582 Small quarry with associated structure remains, part of Yewcrag Quarry complex

22583 Small quarry face part of Yewcrag Quarry complex.

22586 Quarry spoil heap. Part of Honister quarrying operation.

Misc:

22550 Small quarry cut into fellside north of Seatoller, probably for domestic use.

22655 Small quarry and spoil heap. Possibly used as a source for walling stone.

22573 Small quarry and wall remains. Possibly used as a source for walling stone.

5.2.9 ***Management Recommendations:*** in recent history quarrying was the largest and most important industry taking place in Borrowdale. As such, the archaeological remains of this activity represent an extremely important part of the historical development of the landscape. Their conservation and management is therefore of great importance. One of the major management issues regarding these sites is health and safety; there are a number of unstable structures, quarry faces, and shafts that need to be identified and appropriate measures need to be made to ensure safety to the visiting public. The following recommendations are made:

1) A detailed measured survey and documentary research should be undertaken for the larger quarrying complexes. This will not only act as a historical record of the site but will also aid future management and help to highlight the need for any health and safety work;

2) Those structures identified as being of greatest historic significance by survey and investigation need to be consolidated to prevent any further decay;

3) The remains of former industrial sites including spoil heaps should never be robbed for stone, without the prior permission of the regional archaeologist;

4) Restoration should be considered for those structures identified as unique or unusual examples of their type.

5.3 MINING

5.3.1 ***Post-Medieval Mining:*** there is no documentary evidence of mining practices taking place within Borrowdale any earlier than the Post-medieval period; however recent archaeological work has identified both mining and the processing of iron, which is potentially of Medieval date (*Section 5.4;* Figs 5 and 6). Mining in the Keswick area really only took off on an industrial scale with the arrival of forty or fifty miners in 1565 in response to a royal initiative encouraging the expansion of industry and the exploitation of natural resources (Hindle 1984). On the 10th December 1564 Queen Elizabeth granted an indenture to Thomas Thurland, Master of the Savoy, and Daniel Hoechstetter, representative of the Augsberg business of Haug, Langnauer and Company, allowing them to seek gold, silver, copper and quicksilver (Rollinson 1978). The organisation formed as a result of this agreement became by charter the Company of Mines Royal in 1568.

5.3.2 There was major Post-medieval industrial-scale mining and refining activity around Derwentwater from the sixteenth century onwards with some of the earliest workings at Grange, Manesty and Goldscope. Little activity seems to have been carried out within the survey area itself and mining operations were largely confined to a handful of small scale adits in pursuit of lead and minerals that were already established during the post medieval period (Collingwood 1912; Monkhouse 1943). The exception to this is the extensive graphite mines at Seathwaite.

5.3.3 ***The Graphite Mines:*** on the fellside just north-west of Seathwaite can clearly be seen the remains of buildings, spoil heaps and shaft entrances of the Seathwaite graphite mines (Figs 16 and 17). The graphite (a form of carbon also referred to as wad or plumbago) occurs in pipes within the Borrowdale Volcanic Group with the deposits taking the form of erratically-shaped lumps, called sops, that can vary in size from a few inches to several feet across (Parnell 1982; Postlethwaite 1877). Until the arrival of cheap foreign imports the graphite was an extremely valuable commodity. Initially, it was only used by local shepherds for marking their sheep and for medicinal purposes, but by the eighteenth century was used for a number of operations, including manufacturing of munitions, glazing of pottery, fixing of blue dyes, rust prevention, manufacture of lead pencils and the production of foundry crucibles (Tyler 1995).

5.3.4 It is not entirely clear when the extraction of graphite began but in 1865 there was discovered in Nether Wasdale counterfeit coin moulds that were made from graphite and dated to around 1500 (Ferguson 1878; Boon 1976). The first documentary evidence for the existence of a mine occurs in the Minister's Account for the dissolved monastery of Furness written in 1540-41. The entry records a profit of 6/8d for 'cawke stone' in Borrowdale (Boon 1976). In 1555 a report by two Royal Commissioners refers to a '*Wad hole or Cauke pyt...lyeing in the Comon of Setower*' (*ibid*). This refers to a working known as Gorton's Pipe (25585) which is above the boundary wall on the common, although there is no indication that the lower working on enclosed ground, the Grand Pipe (25578), was being worked at this time. This is interesting as there are a number of accounts relating to the initial discovery of graphite in relation to the Grand Pipe. One of the most enduring is that during the reign of Elizabeth I, who didn't come to the throne until some time after the report by the two

Commissioners, an ash tree growing above Grand Pipe blew down in a gale one night tearing up a number of fragments of graphite (*ibid*). Although there may be a grain of truth in this story it is more likely that the presence of graphite was known some time before this as there are several of places where it was so close to the surface of the ground that natural weathering and erosion would have exposed it. The weathered surface graphite may well have been used locally at an earlier date in the fifteenth century for sheep marking, but it wasn't until the sixteenth century that it was actively mined.

5.3.5 By the end of the sixteenth century both the Upper and Lower Wadholes (Plate 5) were being worked by a man called John Hudson (*ibid*). In the eighteenth century mines were only opened once every seven years to maintain the high market value. The resource eventually became so valuable that in 1788 it was reaching £3300 a ton, and miners were searched when they finished work. The office of the mine Superintendent was attacked by armed men during an attempted raid in 1750 (DRO/D/BKL/Box 8c/140/11 and DRO/BKL/Box 8c/140/14) and the following year it was a made a felony by an Act of Parliament to steal or deal in stolen graphite (DRO/BKL/Box 8c/144/3).

5.3.6 By the nineteenth century deposits were becoming gradually exhausted (Plate 4) and by the 1830s output had declined; in 1836 it was reported that 12 men were regularly employed in the mines for 15 months '..without so much as falling in with even a single sop of the valuable material'. The mine was then worked intermittently until the 1880s but there were no more rich loads (Rollinson 1978) and the Borrowdale Plumbago Mines and Manufacturing company was wound up in 1891 (CRO/DX/294/25).

5.3.7 The remains of levels and buildings and spoil heaps that can be seen today mainly date back to the nineteenth and eighteenth centuries when the greatest amount of activity was taking place (Plates 5 and 6). The areas of fellside that have the longest history of exploitation are the Upper and Lower Wadhole areas (Lax 1995; Lax and Maxwell 1999; Tyler 1995). The oldest visible level is the Old Mens Stage (25575) in the Lower Wadhole area, which was probably dug around 1625 (Tyler 1995) with Fareys Stage (25577), located just above, dug much later in 1811 (*ibid*). The building ruins at Old Mans Level are the remains of a guardhouse that was constructed in 1769 (*ibid*) probably as a result of an attack on the mine in the previous year.

5.3.8 A description of a visit to the mines in 1751 (Hutchinson 1794) mentions passing over a *'wretched footbridge'* just before starting to climb the fellside. The remains of this may either be a bridge over the River Derwent, possibly at the same location as the current wooden footbridge, or the remains of a feature below Robsons Stage (22529). The passage continues by describing the mines as being well defended against pilferers by a house over each entrance which was occupied by stewards and workmen. At the time of this visit pilfering by the employees was not the only security problem as the mines were also having to endure a spate of violent attacks from thieves (Hutchinson 1794).

5.3.9 Jopsons Stage, adjacent to Newhouse Gill was in the process of being opened up around the time of Hutchinsons visit in 1751 (Tyler 1995) and Harrisons Level (25581; NY 232129), along with its building remains, date from at least this period (*ibid*).

5.3.10 Beck House, now called Raingauge Cottage, was built for William Dixon the mines supervisor in 1767 (DRO/D/BKL/Box 8c/144/1) and Gilberts Level (25573) was opened up in 1798 (Tyler 1995) and its guardhouse was completed in 1800, the remains of which can still be seen (*ibid*; Marshall and Davies-Shiel 1977). This was a two storey building with a smithy and peat store on the ground floor and on the first floor was the wad room, two bedrooms, the search room, the agents sitting room and the wad dressing room (*ibid*; Marshall and Davies-Shiel 1977, Plate 5).

5.3.11 A series of stages were opened up during the first half of the nineteenth century as a last attempt to squeeze some profit from the mines. This started with Common Stage in 1811 (20118), followed by High Moor Stage in 1829, then Gills Stage in 1832 (25579), and finally Robsons Stage in 1845 (Tyler 1995; 2006 and Plate 6 (NY 233124)). The saw pit used by joiners for the construction of sleepers for the rails within Robsons Level can still be seen next to the River Derwent (22527).

5.3.12 A final attempt at profitable mining was made in 1887 when a new set of directors of the Borrowdale Plumbago Mines and Manufacturing Co Ltd, established in 1875, signed a new lease. To accompany this venture a mill and blacksmiths shop were erected (25634) and *'a large shed was constructed with a concrete base which would house the crusher and power for this was provided by a large wooden overshot wheel. To ensure a steady head of water for the wheel, wooden troughs on trestles were erected to launder the water from Sour Milk Gill and as a back up a leat was cut and water brought from Wadhole Gill*' (Tyler 1995).

5.3.13 The mill site and its wheel pit can clearly be seen (25634) and there are the remains of a small concrete platform nearby. The platform's location places it between the site of the mill building and an excavated area of very waterlogged ground which gives every appearance of being a silted up pond, although there is no mention of a mill pond in the extensive documentary record relating to the mines. As the small patch of visible concrete only measures 4m across, and the processing shed is described as 'large', it is possible that this could be part of the floor level although the evidence on the ground makes this seem unlikely.

5.3.14 Further up the fellside, just west of the site, is a slightly levelled area and although there is no further indication on the ground this seems a likely location for the site of the smithy (25635). Evidence for the wooden launder trough feeding the mill is extremely hard to find but it is possible that the rusted remains of some steel pins banged into nearby rocks may be all that is left of the bolts that once secured it to the ground. Also nearby is evidence for the leat (25636) that ran from Wadhole Gill to the mill in the form of a shallow narrow trench.

5.3.15 ***Other Graphite Levels:***

20118 Seathwaite Graphite mines (Collective Number)

25576 Hetherington's Trial (NY 231126): a working to the south of Waddy Gill, and was a trial by Will Hetherington, in *c* 1745, to excavate graphite illegally under the pretence of mining copper (Tyler 2006).

25597 High Wad Mine and Moore's Stage (230130)

25632 Waddy Gill Shaft (NY 231127) a U-shaped hollow below which is scattered some spoil (Lax 1995). It leads into the deeper workings of Farey's Stage (Tyler 2006).

Seathwaite Wad Mine Site (NY 232125) (Tyler 2006)

5.3.16 ***Copper and Lead Mines and Levels:***

20170 Driedly Gill level, Langstrath (NY 247098). This consists of a 10 yard long level driven into the southern bank of the most northerly branch of Driedly Gill, and must qualify as the most inaccessible working in the Lake District. There are no obvious signs of mineralisation, but was trialing for lead.

22196 Spoil heap, level and building remains no documentary evidence but likely to be lead due to the close proximity of site 22251.

22251 Level and spoil heap north-east of Lingy Bank. Shown as old lead working on the 1899 OS map.

22667 Grains Gill trial levels, Seathwaite (NY 235099): A level driven into the fell side with an associated ruined building by the side of a deep ravine. The level is closed and the spoil almost totally devoid of mineralisation. They would have been searching for lead and copper. A further level is located just above the gill, and finishes in a flooded sump (Tyler 2006)

Ellers East (NY 251179). The only element of the Ellers copper mining complex that is within the study area (Tyler 2006).

5.3.17 ***Miscellaneous Extraction Sites***

22344 Level in Frith Wood

Crystal Cave (NY 245105). A small quartz cavity to the south-east of Glaramara's summit (Tyler 2006).

5.3.18 ***Management Recommendations:*** with the exception of the graphite mines at Seathwaite the majority of sites in the survey area comprise single adits and levels. The site of the graphite mines are, however, extensive and form an unique feature from an archaeological, biological, and geological point of view. The colourful history of the site, coupled with the survival of elements of the complex, such as the mine guardhouses, and the rarity of examples of this industry, make this an interesting and important unusual site and, as such the remains are statutorily protected as a Scheduled Monument (SM 32900; Fig 16). The special qualities, from a geological point of view, are recognised by the designation of the site as a Site of Special Scientific Interest (SSSI). Its conservation importance is also recognised by virtue of the famous Borrowdale Yews, and that it is recognised as having some of the finest woodland flora in northern England.

5.3.19 As with the quarry sites health and safety are major management considerations. Fortunately, the Seathwaite graphite mines were surveyed by the Royal Commission on the Historical Monuments of England (RCHME) (Lax 1995; Fig 17) and the resultant plan can be utilised in the identification and monitoring of health and safety issues. The other sites have a relatively simple layout and do not warrant a detailed survey; however, it is recommended that:

1) A health and safety assessment is made of all the sites to identify any issues that may require action. The National Trust Archaeologist must be informed of any action taken as a result of the survey;

2) Any associated structures in a poor condition should be consolidated to prevent further decay;

3) Regular monitoring should be undertaken to ensure that any change in the stability of the sites is recorded and rectified before further damage occurs.

4) The significance of the site requires the production of a management plan to highlight a conservation based approach to conserving the diverse interests of the site.

5.4 IRON MINING AND WORKING SITES

5.4.1 Two conditions favoured the development of the iron industry in the Lake District; firstly the amount of woodland providing a charcoal fuel supply and, secondly, the deposits of ore which were usually quite close to the fuel supply. Medieval iron working was typically smelted at bloomeries from mined iron ore, usually hematite. The principal feature of these sites was a dome-shaped hearth, where the iron ore was heated, about four feet in height and diameter, and constructed of baked clay reinforced with stone at the base. Manually-operated bellows provided a blast of air close to the base of the hearth and on one side of the hearth was a small opening which allowed the slag to be drained off. However, the temperature in the hearth was typically so low that it rarely produced more than a few inches before congealing into distinctive blobbed lumps. It is these lumps of slag, along with layers of charcoal, that make up the principal diagnostic features associated with these sites (Marshall and Davies-Shiel 1977).

5.4.2 The process of producing iron from iron ore began with lumps of charcoal being lit in the hearth and then brought up to a white heat. Small pieces of iron ore were then slowly added which began to liquefy and accumulate at the base of the hearth forming the bloom. When the bloom filled the hearth the clay dome was broken and the bloom was quickly removed to an anvil where it was hammered repeatedly until cold. This process forced carbon-rich slag to fall off as scale leaving the iron as the finished product (*ibid*).

5.4.3 This process produced relatively small quantities of slag, so the large accumulated heaps found at many of the sites represent a long working presence at that location. It is estimated that a full years output for an average bloomery would not have exceeded 1.5 tons of iron and would have required *c* 30 acres of woodland to fuel. The

proximity of the fuel supply was therefore a more important consideration in the choice of location than the immediacy of ore deposits, as far more fuel than ore would have needed to be transported to the site. For this reason, bloomery sites are more likely to be found in wooded districts than near to the mining regions (*ibid*). They are also invariably adjacent to water sources, even though the water source was often inappropriate as a power source. It is therefore suggested that water was important for other technical uses such as puddling clay and quenching (Bowden 2000, 40).

5.4.4 There are four surviving bloomery sites located within Langstrath, which are closely associated with Langstrath Beck and potentially with shielings running along the valley floor. They are located at Smithymire Island (28803 and 20114) near Stonethwaite, and further down Langstrath at Blackmoss Pot (22681) and Stake Beck (22686). It is not too surprising to find such a concentration of sites in one valley, as Langstrath provides an ideal location as the path over Stake Pass was one of the major communication routes out of Borrowdale. The valley was likely to have been wooded at the time, as evidenced by the number of charcoal-burning platforms found in the valley, so a ready supply of fuel was evidently at hand (*Section 8.2.9;* Fig 6). Finally, the nearest source of iron ore for the bloomeries to process was at nearby Ore Gap, which is behind Angle Tarn at the head of the valley, and where there are two areas of shallow surface prospecting and ore sorting (25452 and 24485).

5.4.5 All of the bloomery sites within Langstrath have been subject to geophysical surveys with high resolution magnetometry (Crew *et al* 2002). The bloomery sites on Smithymire island each have a surviving furnace and slag-tapping channel, but are small in size and were not necessarily contemporary (*ibid*). The site at Stake Beck had evidence of some surface slag residues but the site has probably been largely washed away by the stream (*ibid*). The most interesting site was at Blackmoss Pot, where within a group of small stone structures, the geophysical survey revealed a water-powered furnace. The stone-cased furnace would have used bellows powered by a backshot waterwheel that was fed by a wooden launder (*ibid*; Plate 9). The Blackmoss Pot bloomery has also been dated by radiocarbon assay (the only one tested in Borrowdale) and has a date range of cal AD 1450-1650. The site is relatively late within the chronology of sites tested in the Lake District National Park, which range in date from calAD 1170 to calAD 1650 (Beta Analytic Inc 2002; 2003).

5.4.6 It is likely that the undated sites (at least one of the Smithymire Island sites and the site at Stake Beck) are medieval in origin and were operated by Fountains Abbey who owned the land up until the Dissolution. The site at Blackmoss Pot may be of later origin as there was clear evidence for the use of water power in the processing, reflecting a slightly later technology (Bowden 2000). A reference to iron working in the valley (Postlethwaite 1877) refers to large deposits of haematite ore being brought from Ewer Gap (Ore Gap) to feed a furnace in Langstrath valley. He goes on to state that the furnace had a large quantity of waste slag, a description that could really only fit the site at Smithymire Island, and which was operating in Langstrath around 1709. There is no reference as to the source or the reliability of the date, but if it is correct then it means that the site was re-used at a later date than the furnace originally run by the monks of Fountains Abbey. This is possibly in keeping with the results of the

geophysical survey and may explain firstly the large size of the slag deposit and also the fact that two sites occur at Smithymire Island. Alternatively, the reference could also relate to the site at Blackmoss Pot, which was also known to be working at a relatively late date (*ibid*).

5.4.7 Despite the difficulties with absolute dating, it has been speculated (Winchester 1987) that during the medieval period iron ore mining was only small scale and carried out principally for domestic purposes. This would certainly fit the small site at Stake Beck. The site at Smithymire Island may also have originated in the medieval period but extended into the Post-medieval period, hence the much larger waste heap. The Blackmoss Pot site was clearly established by the later medieval period, probably incorporating water-powered technology, and also continuing into the Post-medieval period.

5.4.8 It is evident that there was a substantial amount of iron being produced over a long period of time and this would have required a supply of large amounts of fuel. The existence of the working sites must have catalysed the production of charcoal, as evidenced by the large numbers of charcoal-burning platforms (albeit potentially Post-medieval in date) along the sides of the valley. It is likely therefore, that they are, largely, responsibile for the clearance of woodland from Langstrath. (*Sections 8.2.9* and *8.3.3;* Fig 6).

5.4.9 ***Iron Working (Bloomery) Sites:***

22686 Stake Beck, Langstrath. The furnace has been eroded away by Langstrath Beck

22681 Blackmoss Pot, Langstrath. Water-powered furnace (cal AD1450-1650)

20114 Smithymire Island (South), Langstrath

28803 Smithymire Island (North), Langstrath

Langstrath Iron Smelter (NY 275132). A smelter operating in the eighteenth century. Charcoal and slag is to be found in the bank of Greenup Gill (Tyler 2006)

5.4.10 ***Iron Mines and Levels:***

25452 and 24485 - Ore Gap, in the saddle between Esk Pike and Bowfell, Medieval prospecting pits (NY 241072)

Grains Gill - ancient pits and open vein workings at the head of Grains Gill (NY 231086 and 235099) (Tyler 2006)

Blackcrag Workings - two trial pits and a large open extraction hollow with pyrites exposed at the back (NY 246 186) (Tyler 2006)

5.4.11 ***Management Recommendations:***

1) Undertake measured surveys of all bloomery sites and implement radiocarbon dating of the Smithymire Island sites;

2) Undertake close monitoring of the sites to establish any potential threat from both fluvial and human erosion. Should any threat be established, a programme of rescue excavation should be implemented to record and date the sites.

5.5 PEAT CUTTING

5.5.1 The development of peat in the Lake District is related to the slope of the ground rather than the degree of rainfall received (Pearsall and Pennington 1973). It appears to have developed in the more level areas of the Lake District regardless of rainfall figures, while in the high, steep, wet, fells around Borrowdale and Great Langdale there is only relatively localised formation. As such this may account for the quite small amount of evidence found for peat cutting within the survey area (Fig 15).

5.5.2 The right to cut peat for fuel, known as turbary rights, was extremely important to tenants as they relied on peat for their principal supply of domestic fuel as wood/charcoal could be more profitably sold elsewhere and so was not extensively used in a domestic setting.

5.5.3 Peat was cut to the east of the survey area around Dock Tarn and a path in Huddlestone Shop Wood was referred to as the 'peat road' (Willy Hind pers comm; Fig 15). A hint of the activity is also provided by the place-name of Peat Howe next to Longthwaite Farm. Further evidence exists as linear scars in the ground, which have been identified on Seathwaite Common and on the high ground overlooking Honister Pass to the north. After being dug up the peat was piled onto wooden sledges and taken down the fellside by horse, or more frequently, by a single man pulling and guiding its descent. This practice was observed in Borrowdale (*Section 2.3.35*) and was described first hand in 1821 (Bott 1992); the practice was also described for the Lakes generally in 1793 (West 1793). The tracks down the fellside created by this operation exhibit a distinctive zig-zag pattern that can still clearly be seen today. Further evidence of this activity is represented by the discovery of a peat hut south west of Lingy End (22220). Such huts were used for the storing and drying of cut peat and were usually located on the fellside about halfway between the peat cutting areas and the settlements (Winchester 2000); they abound in other Lakeland valleys, including Langdale and Eskdale (Winchester 1984; Lund and Southwell 2002).

5.5.4 ***Peat Cutting Scars:***

22139 South of Bull Crag, Langstrath

22148 North-east of Racom Bonds, Langstrath

22150 North-west of Bell Knott, Langstrath

22414 East of Blackmoss Pot, Langstrath

22215 South of Great Crag, Stonethwaite

22216 Southwest of Green Crag, Stonethwaite

22328 Southwest of Dock Tarn, Stonethwaite

22585 South of Launchy Tarn, Seatoller

22590 North-east of Raven Crag, Seathwaite

22719 Valley Head, Greenup

5.5.5 ***Management Recommendations:*** current moorland management is adequate to provide for protection of this resource. However, if there are to be significant changes to the management of the fells, all upland archaeological sites affected should be properly recorded. This should be undertaken if there are to be significant changes in vegetation cover that may mask or cover the archaeological sites over time.

5.6 MILLS

5.6.1 Only one mill, located at Seathwaite, has been recorded within the survey area (25634 on Fig 17) although there is the possibility of a second site located mid-way between Stonethwaite and Rosthwaite. Some fields, adjacent to Stonethwaite Beck, were named 'Milldale Meadow' and 'Mill Closes' in the early-mid nineteenth century, and there is further documentary evidence from 1606 for the existence of a mill close to Stonethwaite '...tenement situate in Stanythwayt of rent 4s in the tenure of William Udall and also that his milne situate in Borradell...'. (CRO/D/Law/1/156). In addition there is the place-name evidence of 'Mills Field/MillClose' located on the north edge of Rosthwaite village from the late eighteenth century, and 'Millbeck Garth' located on the boundary between Seatoller and Thorneythwaite on the tithe apportionment from the mid-nineteenth century (CRO/D RC/8/55/5.6). The tithe map also reveals the location of a standing mill in the valley, called Chapel Mill, which lies just outside the survey area on Combe Gill (CRO/D RC/8/55/4).

5.6.2 The Seathwaite mill was built in 1887 by the Borrowdale Plumbago Mines and Manufacturing Co Ltd. Its purpose was to provide power for the washing and crushing of wad brought up from the nearby mines. The mill had an overshot wheel that was fed via wooden troughs on trestles that were erected to launder water from Sour Milk Gill; a leat was also cut to bring water from Wadhole Gill. Evidence on the ground suggests the existence of a pond although there is no mention or sign for this in the documentary record (Tyler 1995; Lax 1995).

5.6.3 ***Mill Site:***

25634 Mill, Seathwaite Beck, Seathwaite

5.6.4 ***Management Recommendations:*** the mill at Seathwaite Beck is statutorily protected as part of a Scheduled Monument (SM 32900).

6. COMMUNICATION SITES

6.1 INTRODUCTION

6.1.1 Communication routes appear in a number of forms in the valley. Occurring most frequently are the pack-horse routes over the fells. These provided access to the rest of the country (Fig 7), and were used for centuries, if not millennia. Other routes include walled lanes through enclosed land allowing access onto the fellside, tracks through woods made by charcoal burners, peat tracks up the fellside, and roads and paths created as a result of various industrial activities, such as quarrying.

6.2 THE MAJOR THROUGH ROUTES

6.2.1 There are three major through routes in the valley, one running eastwards and two southwards, that date back to at least the early medieval period. These routes provide access to the north and east via Watendlath and Ashness, to the south via Langstrath and Stake Pass and to the west and the coast via Sty Head Pass. For many hundreds if not thousands of years these were the principle routes out of the valley rather than the current road, which travels northwards up to Keswick, and is a more recent development. The principle function of the routes in the earliest documented periods was for to provide communication between the Abbeys and their dispersed lands, although they would also have fulfilled the more domestic role as a link between Borrowdale and other Lakeland valleys, as well as for the movement of stock up onto the high fell. Prior to documentary records the major routeways through the high fells would have exploited the natural topography, the principal passes and valleys. In the case of the Langstrath route, there is evidence of a line of working sites and camp sites extending out from the axe factories at Langdale, that would indicate that there was a communication extending through this valley (Claris and Quartermaine 1989; OA North 2005; Fig 3).

6.2.2 ***Watendlath/Ashness Route***: the earliest documentary reference regarding communication routes refers to this track which travels north-east out of the valley via Watendlath. In 1280 the owner of the land, Adam de Derwentwater, granted a right of way to Furness Abbey for travelling from Borrowdale via Ashness, Castlerigg, Shoulthwaite to Dunmail Raise along with a second route via Watendlath, Harrop and Wythburn (Brownbill 1915-9). The route can still be traced today travelling from Rosthwaite, out of the valley near Hazel Bank, and onto Watendlath. Further inspection of the map reveals a footpath leading south from Nook Farm, in Rosthwaite, to Longthwaite with a second footpath leading from Longthwaite to Seatoller skirting the base of Johnny's Wood. It is possible that this was a continuation of the route along the valley floor via Longthwaite and Yew Tree Farms to Seatoller (Hindle 1984).

6.2.3 ***Stake Pass:*** Stake Pass was one of the major pack-horse routes connecting Borrowdale with Great Langdale, it was an alternative to the Watendlath/Ashness

routes for travel between the south and north of the region. A local resident remembers stories of wool being sent south over the Stake Pass to Hawkshead (Willy Hind pers comm). The path was well maintained with pitching and revetting, wherever necessary, reflecting the high degree of importance with which it was regarded.

6.2.4 The deterioration in its significance probably began with the construction of a turnpike road between Kendal and Keswick in the mid-eighteenth century (Hindle 1984), and meant that maintenance became less of a priority and resulted in a corresponding deterioration in the quality of the path. This occurred around the same time as the arrival of tourism with the path coming under increased erosional pressure from visitors, so that by the start of the nineteenth century it had become seriously degraded (*ibid*).

6.2.5 ***Sty Head Pass and Grains Gill:*** shortly after travelling south out of the valley from Seathwaite the track divides at Stockley Bridge (Plate 11). One route continues south up Grains Gill towards Esk Hause and a second turns west up the fellside towards Styhead Tarn (*ibid*). The route continuing south was once known as 'Le Cauce; it was documented as such in 1294 and was a well established 'causey' by the thirteenth century (Lefebure 1970; Sutton 1961). Unfortunately, neither of these authors actually references the relevant thirteenth century document but it is certainly feasible that this route was well established by this time.

6.2.6 The other branch turns west up the fellside to run parallel with Styhead Beck heading towards Sty Head Pass. Despite there being no pre-Dissolution documentary reference to the route this should not be taken as a sign that it did not exist until after the sixteenth century. Styhead Pass is likely to have been a major thoroughfare since the prehistoric period and it is unlikely that this obvious route into and out of Borrowdale was not used to some extent.

6.2.7 ***Honister Pass:*** the current road over Honister is of a relatively recent construction, and was built by the quarry company at the start of the nineteenth century to allow an easier gradient for their steam wagons to get up to the quarry site (Tyler 1994). Prior to this, towards the end of the nineteenth century, tourists were asked to disembark from their coaches at Seatoller and walk up the track. Because of its steepness and the fact that it was an unmade track it was described as 'the worst road in England' (Hindle 1984). The current road was constructed alongside the line of the original quarry company road, and was built around the time of the First World War, because the quarry company wanted too high a price for the purchase of its own road.

6.2.8 A whole network of other tracks and sledways still exist which were created at the head of the pass to access the various quarry sites at Honister and Yewcrag. This is similar to the situation at Rigghead where there is a communications network, which still exists today, of roads, tracks and footpaths that came into existence as a result of industrial activity.

6.2.9 ***Minor Routes and Paths:*** a whole network of other minor routes exist in the valley, particularly along the valley floors, close to settlement areas. These smaller paths fall into broadly two categories: those that have been created as the result of various

industrial activities, such as charcoal burning, or those that have been created for agricultural purposes to provide communication between settlements within the valley or movement between the inbyes and enclosures close to the valley floor. One trackway of particular note is the route from Stonethwaite up to Dock Tarn which was associated with peat cutting on the fells (Fig 15).

6.2.10 ***Management Recommendations:*** the current system of access management, maintenance and repair of footpaths is appropriate given the increasing numbers of walkers in the High Fells. It should be noted that the winning of stone for footpath renewal should not impact upon the known archaeological resource. An assessment of potential impact should alsways be undertaken in advance of any intrustive repair work. This includes the collection of stone for pitching and footpath repair in the High Fells.

7. SETTLEMENT CHRONOLOGY

7.1 HISTORIC SETTLEMENT

7.1.1 Evidence from elsewhere in England suggests that from around the time of the ninth century the settlement pattern of impermanent scattered farmsteads set within a cluster of a few enclosures was giving way to more compact villages set amongst communally worked fields (Taylor 1983). This gradual change may well have been triggered by the introduction of the new practice of open field farming that was spreading throughout the countryside. However, this pattern does not clearly emerge in Borrowdale where the general organisation of small scattered communities with small enclosed fields adjacent to the farmsteads seems to have persisted for some time after. Documents from the seventeenth century often refer to farms and their associated closes and the term `close` also occurs as a field name, all of which suggests a lingering survival for these small enclosed parcels of land. Muir lends some support to this where he states 'In reality, very extensive parts of the kingdom were never affected and the old pattern of small fields worked from scattered farmsteads and hamlets persisted and still persists to this day. This might not be surprising if the areas of ancient countryside were confined to the relatively barren uplands where patches of good plough soil were few and far between' (Muir 1992, 34). This description fits well with Borrowdale where farmers at Rosthwaite, for example, had more than 1200 hectares to share between them but the arable land of the valley floor was such a small percentage of this that there was only enough for them to have 40 hectares each. Medieval open field cultivation is not unknown within the Lakeland valleys (eg at Buttermere, Winchester 1987), although because of the extreme nature of the topography it was necessarily small scale in extent. Although definite evidence of open field cultivation around settlements in Borrowdale is limited it may have followed a similar pattern.

7.2 CURRENT SETTLEMENTS

7.2.1 ***Settlement Dates:*** it is not surprising to find that the first documentary references to settlements in the valley were ecclesiastical in origin and began with the first mention of Stonethwaite occurring in a grant of land to Fountains Abbey in 1195 (Lancaster 1915; Haskett-Smith 1921). This was followed by Thorneythwaite in 1230 with Seathwaite next in 1292 in the Assize Rolls for Cumberland (Millward and Robinson 1970). Interestingly, the largest settlement in the valley today, Rosthwaite, was not mentioned until hundreds of years later in 1503 (Lancaster 1915) and, similarly, nearby Longthwaite was not mentioned until 1538 (*ibid*). While it is possible that Rosthwaite was only a small single farmstead prior to this date and not worthy of much note, and that any records of its earlier existence have been lost or destroyed, this is unlikely as the first reference comes from the reliable source of the Fountains' Chartulary. Had any settlement existed earlier, it is probable there would have been a reference made at some point in the three hundred years that the Chartulary had been

kept. An alternative explanation is that it came into existence at a later date as a result of population pressure within the valley; however, it seems highly unlikely that previous settlement had been focused away from the valuable agricultural land on the main valley floor concentrating on the peripheries, and the minor valleys, whereas Rosthwaite was ultimately located more centrally on the valley floor.

7.2.2 ***Settlement Distribution:*** the settlement distribution has a typical Lakeland valley pattern of tightly clustered hamlets that fall into the category of 'linked hamlet and farmstead clusters' (Roberts 1987). The principal components are the village of Rosthwaite (Plates 7 and 8) and the hamlets of Stonethwaite, Seatoller and Seathwaite. Other buildings include Longthwaite Farm and Thorneythwaite (Plate 4), the chapel house (at the intersection of the valleys (former Borrowdale)), the school at Rosthwaite and Glaramara guest house (none of which are owned by the Trust). Most of the buildings outside the core settlement areas are not owned by the Trust and are for the most part no earlier than the eighteenth century in date. It is probable that the earlier working farms were located on the sites of the present, latterly constructed, farm buildings. The place-names are evidence of their antiquity, often incorporating the Old Norse element – 'thwaite' meaning clearing: Stonethwaite ('the stony clearing'); Rosthwaite, Seathwaite and Longthwaite. Other place-names containing Old Norse elements are Watendlath and Seatoller.

7.2.3 ***Farming and the Economy***: there is very little documentary evidence concerning the past economy of Borrowdale. The agricultural economy can be divided into the upland fell pastoral activity and the valley bottom agricultural economy. The fell grazing was of considerable importance to the overall farming economy, but is not reflected in the number and size of the valley bottom buildings, as rugged Herdwick sheep could look after themselves on the fells (National Trust 2002). The pattern of farming based on the upland pastures and using summer bases for grazing was a common upland practice and not solely attributed to the Norse settlement in the tenth century. However, the existence of Norse names for transhumant huts, eg 'saetr, meaning summer settlement (occurring in the name Seatoller), is an indication that the practice was undoubtedly used by the Norse settlers. Other evidence for the use of the fells by the Norse is in other place-names: for example Glaramara ('the mountain with the shieling by the ravines') and Basebrown ('Bruni's cowshed') (*ibid*; Armstrong *et al* 1950). In the summer the valley floor was used to grow corn and grass (for hay and silage) and the cattle were therefore pastured out on the fells. Many barns were found on the farmsteads, which could have been used for storing hay or crops.

7.2.4 ***Farmhouses:*** it is possible to make some generalisations about the buildings in the valley. The vernacular building surveys (National Trust 2002) recorded that nearly all the farms are stone built and date from the seventeenth and eighteenth century and have a disorganised arrangement to their layout. However, it must be stressed that any dating based on materials and methods of construction, can be unreliable as building practices and source material hardly differed from one century to the next (*ibid*). They are part of a well-documented dramatic increase in farmhouse construction from this period, called the 'great rebuild' that took place all across the county. Within Lakeland 'Many of the farmhouses were built in the later years of the seventeenth century when

the Westmorland statesman', freed from the danger of Scottish raids and having recovered from the setback to their prosperity caused by the Civil War, were able to acquire wealth and indulge their ambition to possess substantial stone buildings' (Palmer 1946, 45). Only one building (Fold Head, Watendlath, Building 1, Phase 1, but outside of the current study area) can be dated to before the seventeenth century, and was probably a late sixteenth century building. (National Trust 1993; National Trust 2002).

7.2.5 A distinctive feature common to some of these farm houses is the layout of the entrance that opens into a small lobby adjacent to a pair of back to back fireplaces from which both downstairs rooms can be entered. This is a late feature of timber-framed buildings and can only occasionally be found in the Derwent area, but nowhere else in the Lake District. Most of the buildings have the traditional whitewash rendering of crushed slate and lime mortar, and even attics and roof timbers were whitewashed, as in the case of the chimney stack at Stonethwaite Farm, where a coloured rendering of blue and red was once used. Although all the buildings now have slate roofing in the past many of them would have been thatched. There are no surviving timber-framed buildings in Borrowdale, but many buildings have old oak beams now reused as lintels. In one case (Knotts View, Stonethwaite) it has been suggested that the timbers may indeed have been reused from a ship (National Trust 2002), but in other cases the mortise holes suggest that the beams were wall plates or ground sills of timber buildings. More positive evidence is needed, but it is possible that many farmhouses and buildings were once timber-framed and rebuilt in stone in the seventeenth century (*ibid*).

7.2.6 ***Rosthwaite*** **(Fig 11):** this village is essentially linear in its development following the course of the road around the base of The How. The row of houses along the north/south axis, to the west of The How, are a recent development prior to which the village had a pronounced east/west alignment stretching between Yew Tree Farm and the main road.

7.2.7 By identifying the oldest surviving buildings in the village it is possible to trace its evolution since the beginning of the seventeenth century. The oldest buildings in the village are Oak Cottage, Nook and Yew Tree Farmhouses, which all form a nucleated cluster just west of the main road. This was clearly the original centre of settlement and at that time appears to have comprised a small grouping of farms located in the centre of the limited available arable land on the valley floor through which ran one of the main valley communication routes.

7.2.8 The focus of the village has subsequently shifted to the east as a result of the construction of the main road and the building of the hotels, shop, and Post Office. This development was almost certainly as a response to the demands of tourism within the last two hundred years. It serves as an example for the whole valley by illustrating how tourism, represented by the road, shop and hotels, began to supplant agriculture, represented by the cluster of old farms, as the focus for the economy of both the village and the valley. A focus that could only have been enhanced by the closing of the quarrying and mining industry.

Oak Cottage VBS No 20222

Very little is known about this property which came to the Trust in 1964 with Stonethwaite Farm, except that it is a farmhouse dating from the seventeenth century with a barn attached and is the oldest recorded building in Rosthwaite (National Trust 1983a).

Yew Tree Farmhouses VBS No 20219

The name of this farm is a modern one and was probably once the property of the Birkett family from an early date. The earliest identifiable owner was William Birkett who died in 1730 leaving the freehold tenement to his son; the building dates from at least this period. The land was attached to Longthwaite and the house was sold in 1956 by the then owners, Lake District Farm Estates. The house then came to the Trust in 1964 under the terms of the will of the then owner (National Trust 1983d).

Nook Farm VBS No 20214

The nineteenth century facade of this farmhouse conceals an older eighteenth century core to the building. Part of the farmland was acquired in 1946 and some pieces have been added since (National Trust 1983c).

Howe Cottage VBS No 20233

Nothing is known about this property other than it was constructed sometime in the late eighteenth/early nineteenth century (National Trust 1984d).

Nook Cottage VBS No 20228

This cottage was built onto the south gable end of Nook Farm during the first half of the nineteenth century and came to the Trust in 1978 (National Trust 1983b).

7.2.9 ***Longthwaite:*** although the National Trust does not own the farm at Longthwaite the land is attached to Yew Tree Farm and is still an important part of the settlement pattern within the valley. There are some similarities with Rosthwaite in that it was not mentioned until the sixteenth century in any of the documentary records; it was then recorded in 1538 when the tenant to Furness Abbey was John Fisher (Brownbill 1915-9). It is also linked to the same footpath that extends through the valley and was a major communication route. By the end of the seventeenth century there were at least two families living there, each with a separate house and, subsequently, there seems to have been no further expansion of the settlement. Rosthwaite and Longthwaite appear to have been initially similar co-existing farmstead settlements although for some reason Rosthwaite expanded to its current size while the development of Longthwaite was stalled.

7.2.10 ***Stonethwaite:*** this is the most interesting and complicated of the settlements in the valley. It was the first settlement to be mentioned in the documentary record of 1195 (Lancaster 1915; Haskett-Smith 1921) and examination of the surviving buildings reveals a range of unbroken settlement development dating from the seventeenth century all the way through to the modern day. The settlement is located at the head

of the narrow valley through which Stonethwaite Beck flows and essentially monopolised control of the land there. The settlement pattern is more complex than elsewhere in the valley displaying a disorganised arrangement that suggests an unplanned development over a long period of time.

7.2.11 It is interesting to note that the older houses are on the edge of the hamlet whilst the more recent houses have been constructed in the centre possibly reflecting a reluctance to take up precious good quality agricultural land for construction when land was available at the centre of the settlement.

Stonethwaite Farmhouse and adjoining buildings VBS No 20217

Stonethwaite Farm is one of the oldest surviving buildings in Borrowdale dating from the mid-seventeenth century with members of the Birkett or Youdall families as tenants during the later medieval period. It was frequently mentioned in the documentary record and was the subject of a major dispute between Furness and Fountains Abbeys when it became a thriving and profitable vaccary in the fourteenth century (National Trust 1984i).

Croft Farmhouse VBS No 20224

Croft Farm, built sometime in the seventeenth century, comprised two rooms on the ground floor, probably a kitchen/living room and a master bedroom, with sleeping accommodation on the first floor, which was open to the roof. A later development in the eighteenth century resulted in the construction of a dairy and back door vestibule (National Trust 1984b).

Croft Cottage VBS No 20224

This cottage was added to Croft Farmhouse in the early nineteenth century along with a wash house and cart shed. This development is supposed to have been started as a result of the marriage of one of the brothers who lived at Croft Farm with the cottage being built to house his bachelor brother (National Trust 1984b).

The Cottage VBS No 20229

The Cottage was constructed in the eighteenth, possibly seventeenth, century and originally comprised one room below and two on the first floor (National Trust 1984a).

Yew Tree Farmhouse (Stonethwaite) VBS No 20225

This eighteenth century building has a slightly unusual arrangement with its nineteenth century barn, which incorporates a dairy and kitchen extension (National Trust 1983e)

Knots View VBS No 20226

Knots View was built in the early eighteenth century and altered in the mid nineteenth. There are strong indications that a downhouse was attached to the north-

west gable end where Ivy Cottage now stands. An unusual characteristic, shared with Fellside View, is the presence of a bakery oven which is a feature not encountered in any other Borrowdale farmhouse. This was probably due to the fact that wheat was not cultivated on any great scale in the valley and so bread was rare; oats and rye were used to make clap-bread instead (National Trust 1984e).

Fellside Cottage VBS No 20226

This is a late eighteenth century cottage with three rooms on the ground floor and two on the first with a back access to a baking oven which was added at a later date (National Trust 1984e).

Ivy Cottage VBS No 20226

This was built on the site of the Dow house attached to Knotts View around 1890. Little change has been made to the plan since then with three rooms on the ground floor and four on the first (National Trust 1984e).

7.2.12 ***Seatoller:*** the name Seatoller means 'the saetr by the alder tree' and it probably started life as a temporary summer settlement. It is a small nucleated cluster centred around the farmhouse which was located on the edge of the available farmland on the valley floor and at the start of the route over Honister Pass. Some of the other buildings in the hamlet would have provided accommodation for people working in the quarries at Honister and Yewcrag.

Seatoller Farmhouse VBS No 20216

The Trust only owns the farmhouse in the hamlet although this was probably one of the oldest buildings in the valley dating from the early seventeenth century. It first appeared in the documentary record of the sixteenth century with the Fisher family appearing as tenants of Furness Abbey. The farm is a larger two-unit house with no evidence of any partitions being morticed in the beams. The room with the gable entry probably served as a buttery (National Trust 1984h).

7.2.13 ***Seathwaite:*** the name Seathwaite means 'the clearing among the sedges' and had an Old Norse root. The first mention in the documentary record comes in 1292 (Millward and Robinson 1970) and throughout the medieval period there were several farmsteads at Seathwaite which were documented as having been tenanted by the families of Jopson, Dickinson, and Braithwaite. Only one survives, and due to the lack of documentary evidence, and the persistent re-building of boundary walls due to flooding, it is almost impossible to identify, through either fieldwork or documentary research, where the other farmsteads were located. However, an unusual grouping of boundaries, just to the south of Seathwaite, appear to be associated with High House (*Section 7.2.15*) and may have been one possible location.

7.2.14 The current settlement pattern has been influenced in its positioning by its location along an important communication route out of the valley. The orientation is principally north-west and linear, flanking the sides of the old pack-horse route that ran through the hamlet.

7.2.15 Seathwaite would have provided lodging for the graphite miners and Honister quarrymen from early times. By the final few years of the mine operation the miners had their families living with them and quite a small community, including eighteen children, was reported to be living there (Tyler 1994). The core of many of the buildings date from the mid seventeenth century.

Seathwaite Farmhouse VBS No 20215

The core of this building probably dates from the mid seventeenth century and contains a timber dated from 1663; however, there is some difficulty in determining the sequence of the buildings development. The most likely explanation is that it started as a long house-type building with an eastern extension and access added later from the outside. At around the same time, the second room was converted into a barn (National Trust 1984g).

Seathwaite Cottage VBS No 20215

The front portion of the house is under a continuous roof with that of Seathwaite Farm and probably dates from the same period. An internal blocked door indicates that the two, now separated, houses were once a single property. Although the cottage potentially always operated as a separate dwelling, it seems far more likely that it was once part of the main farmhouse. The conversion of the cottage for domestic use may have occurred around the middle of the nineteenth century when a number of other additions were made to the property (National Trust 1984g).

Farm Cottage VBS No 20215

The facade of the cottage is continuous with Seathwaite Farm and Seathwaite Cottage although the roof line is not continuous, dropping by *c* 300mm. It was most probably built onto the south gable of Seathwaite cottage in the early eighteenth century (National Trust 1984g).

Raingauge Cottage VBS No 20231

This building, once called Beck House, has been relatively unaltered although there is some conflicting information on the actual period of construction. The Vernacular Building Survey dates it to sometime during the early nineteenth century while Ian Tyler maintains the building was built for William Dixon, the mines supervisor, in 1767 (Tyler 1995; DRO D/BKL/Box 8c/144/1; National Trust 1984f).

High House VBS No 20234

This apparently once prosperous farm was documented as having the Braithwaite living here in the sixteenth century. The surviving fabric of the building is essentially seventeenth century in date with some rebuilding of the house carried out in the mid-eighteenth century. It is not known when the farm ceased to be an independent unit and the land became attached to Seathwaite Farm. The house was still inhabited in the 1870s and last appears in the census of 1881 when a quarryman was living there (National Trust 1984c). By the 1930s it was quite derelict and was leased to the K

Fellfarers Club when it was rebuilt as a clubhouse. The attached barn is probably late eighteenth/early nineteenth century (*ibid*).

7.2.16 ***Farm Layout:*** one characteristic feature of Lakeland farms was the disordered organisation of the farms themselves. By the mid eighteenth century farmsteads up and down Britain were being reorganised and centred on foldyards from where the manure was collected and redistributed on the fields. But here, as in other areas of highland Britain, there was no consistent order to the farm layout. The farms generally consist of a farmhouse, separated or joined to a barn and shippen, and other buildings are randomly scattered. Barn doors were not aligned to meet the prevailing winds, and neither were the farmhouses aligned to face any particular direction, instead their facades generally faced onto the road (National Trust 2002)

7.2.17 ***Barns and Cow Houses:*** one feature typical of many barns was the placing of the threshing floor to one side of the building. It was commonly one bay, then the threshing floor, and then three or four further bays. It is possible that such an arrangement was caused by the growing of one main crop, namely oats. Such a monoculture would mean that the harvested crop could have been stored in the three or four bays, then after threshing the straw could have been stored in the smaller bay on the opposite side of the threshing floor and then the oats taken to the granary. The three or four bays to one side of the threshing floor could also have been used for housing cattle. It is this arrangement that is very characteristic of early barns. Sometimes, as at Stonethwaite Farm, there is an entrance in the gable end, which could well have been to a cowhouse or loosebox (*ibid*).

7.2.18 Mid-late nineteenth century barns following the same lines as Fold Head, Watendlath (outside study area), have a much higher elevation. An example at Seathwaite has cowhouses flanking the barn, each comprising a cowhouse with a spacious loft over it. The mid mid-late nineteenth century bank barn at Seatoller Farm (altered from an earlier bank barn) repeats this three unit arrangement and has two cowhouses and a cartshed under the barn. Bank barns are only found where they can be constructed against a sharp slope of the land, facilitating the building of a barn over a shippen; this therefore allows access to the upper floor from the top of the bank. In all cases, however, the threshing floors were centrally located. These are found at Nook Farm (Rosthwaite), Yew Tree Farm (Rosthwaite), and Seatoller Farm, where the barn is a separate building and not attached to the house (*ibid*).

7.2.19 In addition to bank barns, Seathwaite Farmhouse was originally attached to a barn, and later (*c* 1850) had a shippen built onto it. Oak Cottage, Rosthwaite, originally had a barn built onto it and was divided by a cross passage from the house, the entry from cross passage to house being through the gable wall. A similar arrangement to that at Oak Cottage probably existed at Knott's View, Stonethwaite, where a barn (entered through the gable wall of Knotts View) once stood on the site of Ivy Cottage. This arrangement persisted into the nineteenth century and is not a feature of earlier farmhouses. One discernible change is that farmers eventually opted against direct entry into the shippen (a late example of this is at Knotts View, mid-eighteenth century) and chose to be totally separated from their livestock (*ibid*).

7.3 CONCLUSION

7.3.1 It is possible to speculate that settlement within the valley began with a small number of scattered farmsteads set amongst a few enclosed fields. Some of the farmsteads may have related to the monastic vaccaries and granges of the thirteenth century onwards and some of the more isolated settlements (eg Seatoller on place-name grounds) may have developed as permanent farmsteads from once transhumant shielings. The pattern of small farms with enclosures appears to have persisted even with the development of common open fields within the valley, although some sites appear to have taken on a higher status than others, and are mentioned in the documentary record from an early stage.

7.3.2 The primary higher status sites possibly represented the initial settlement areas in the valley, and were then followed by a number of smaller satellite farmsteads, most of which have subsequently disappeared, although Longthwaite may be a surviving example.

7.3.3 The Fountains Abbey survey of 1418 records 41 farmsteads in Borrowdale (Elliot 1961) and it is reasonable to expect that some evidence of the farmsteads from this period remain. A clue as to why there are no examples of pre-sixteenth century architecture remaining is suggested by the fact that many of the present stone buildings use old oak beams as lintels and rafters. These beams contain mortice holes suggesting that they may once have been used as part of the fabric of earlier timber-framed buildings. It is likely, therefore, that many of the earlier timber-framed farmhouses and buildings were demolished in the seventeenth century to make way for their stone replacements. This rebuilding may well have corresponded with a consolidation of land and holdings partly explaining a reduction in the number of farms in the valley. The result is that which we see today comprising a marked contraction of settlement that has focused back onto the earlier core sites.

7.4 MANAGEMENT RECOMMENDATIONS

7.4.1 Settlements within the valley are an integral and highly visible aspect of the fabric of the landscape and, as such, special care needs to be paid to any change that occurs within them. It is recommended therefore that:

1) All the core settlements in the valley should be regarded as archaeologically sensitive and development within them should be restricted wherever possible;

2) If any essential construction or maintenance needs to be carried out prior notice should be given to the archaeologist and curator in order that they may assess the potential impact upon the archaeological fabric and recommend appropriate mitigation.

3) Out-buildings, such as barns, that are ruined need to be consolidated or repaired depending upon agricultural requirements.

8. TREES AND WOODLAND

8.1 INTRODUCTION

8.1.1 Borrowdale retains some of the most extensive historic woodland of any valley in the Lake District, and contains a high variety of naturally composed woodland types and, in particular, good examples of western sessile oak. There is no firm evidence, either from historical or archaeological sources, of woodland management at specific periods in history. Instead, reliance has to be placed upon evidence indicating the effect upon woodland of more general trends that have developed through time.

8.2 POST-GLACIAL DEVELOPMENT OF THE WOODS

8.2.1 The first phase of post-glacial afforestation probably began *c* 11000 BC and corresponded to a rise in the mean annual temperature resulting in a rapid expansion of birch forest within the sheltered environment of the valleys. By 5000 BC the tree line had climbed to the extent that there was probably 90% total coverage of the land below 700m by dense deciduous forest dominated initially by hazel and pine, with oak and elm later, and after circa 6000 BC with alder as well. At the tree line, where conditions for tree growth were more marginal, pine and birch flourished (Pennington 1970).

8.2.2 By 2000 BC clearance activity and a deterioration in the climate had removed the woodland from many of the upland fells. Agricultural activity from the Bronze Age through to the Romano-British period spread down to the lower fellsides. However this would probably have only a minimal impact on the more dense woodlands of the wetter valley bottoms, such as those in Borrowdale (*ibid;* Whitfield pers comm). On the basis of the limited amount of palaeoenvironmental work undertaken to date in the valley (Birks 1993) it would appear that the earliest major episode of forest clearance was *c* AD 1000. This derives from a single pollen diagram from a small hollow (diameter 50m) in Johnny's Wood (35 ha), located on the east-facing hillside to the north-east of Seatoller (Birks 1993), and a brief assessment from a pollen assessment at Calvert Trust Land, Bassenthwaite (NY 2360 2720) (Hodgkinson *et al* 2000, 296-7). The pollen diagram from Johnnny's Wood is likely to represent the vegetation immediately surrounding the site and, therefore, records the history of the wood itself rather than that of the Borrowdale valley (*ibid*). At this site a mixed deciduous woodland of hazel, birch, alder with a little lime, elm, ash, oak and yew developed in the Holocene. Although the diagram is undated Birks suggests that around the time of Norse settlement in the region the forest became more open but was not completely cleared (*ibid*).

8.2.3 The arrival of Norse settlers in the valley probably initiated the first substantial and irreversible clearance of woodland from the valley floor, and may be reflected in the survival of many of the Norse place-names in the valley which refer to 'clearings'. Initially, the priority would have been to create clear areas for settlement and small

inbye enclosed fields. Having established their principal agricultural subsistence strategy they could turn their attention to the woodland which could then be viewed as a valued resource rather than a hindrance. The presence of stock introduced by the settlers would have had a greater long term effect upon the woods than the activities of the settlers themselves, as grazing in the woodland would inhibit and prevent regeneration gradually depleting and thinning out the forest. After the initial disturbances at Johnny's Wood, the character of the woodland changed to predominantly oak and birch with some mountain ash and holly, with sycamore and larch introduced more recently, but most importantly it was not completely cleared of earlier species (Birks 1993). It is unlikely that sycamore and larch were introduced at the time of the Norse settlement as sycamore, while known from the medieval period, was not extensively planted until the late eighteenth century (Rackham 2003, 203) and larch was widely planted in the eighteenth century. Therefore, in the absence of any scientific dating, it is perhaps unreliable to associate these changes with Norse settlement.

8.2.4 The clearances were consolidated and probably reflect some form of more formalised woodland management that was introduced during the Norman period. This is particularly likely when the ownership of the land passed to the monks of Furness and Fountains Abbeys and it is from this period that there is the earliest documentary reference to woods in Borrowdale. The document dates from 1211 and deals with a boundary dispute between the two abbeys but only refers very briefly to woodland in Borrowdale (Lancaster 1915, 61). There is no direct reference specifically to the management of woodlands in the documentary records of either of the abbeys which means there is a large gap in both the historical and archaeological record for most of this period. It is possible to speculate that the reason for this was that the woods were regarded simply as one of a number of assets that were of lesser importance than their principal concern of sheep farming. This meant there was less economic activity surrounding them and subsequently less of a requirement for them to be mentioned in any records.

8.2.5 Other than Johnny's Wood, datable archaeological evidence of woodland management from the medieval period is limited to work carried out on an alluvial fan located to the south of Seathwaite (Parker *et al* 1994; LUAU 1998; Wild *et al* 2001). Here an organic deposit had formed beneath a later alluvial fan, and the palynological analysis of the deposit suggested a primary period of an alder carr community with birch, alder and hazel close to the site and a partially forested landscape with oak and elm and substantial heath and moorland in the surrounding region. This was followed by a period where there was almost a complete disappearance of heath and moorland and an increase of open ground species. The following period showed a marked change where pollen from the local alder carr woodland was replaced by that from disturbed ground or pasture species and was probably linked to deforestation at this period (Parker *et al* 1994). The radiocarbon dating of the peat section at the alluvial fan dated to the period 1300-1450 cal AD (Wild *et al* 2001). Excavation was undertaken on a wooden fenceline and stone wall located beneath the alluvial fan which revealed two distinct phases of deposits within the organic peat layers. The fenceline and wall related to field boundaries and increased colluvial activity

associated with an increase in sheep grazing dated to 1430-1660 cal AD (*ibid*). Beneath this was an organic layer containing partially worked brushwood and related to an episode of woodland clearance and an early form of coppicing associated with an introduction of monastic livestock into the upper Seathwaite valley in the fourteenth to fifteenth century (*ibid*).

8.2.6 Woodland of this period would have mostly been unenclosed and may have formed sheltered grazing lands for livestock (including pigs) in the woodland pasture tradition (Winchester 1987; Rackham 1990). Increased livestock pressure, assarting and the need for wood as a raw material, diminished the extent of open woodland in the Lake District through the medieval period (*ibid*). The monastic estates of Furness and Fountains were pioneers of large-scale sheep farming which replaced their reliance on vaccary farming in the late-medieval period and increased pressure on the land with extensive sheep-walks or 'herdwykes' (National Trust 1989); there is a mention in the granting of Watendlath and Langstrath to Fountains Abbey of '*their shepherds'* (*ibid*; Lancaster 1915). Enclosure of new grazing lands is hinted at by the final period of organic deposits and boundary structures located beneath the alluvial fan in Seathwaite (Wild *et al* 2001) (*Section 8.2.5*). Elsewhere some woodland was actively enclosed to discourage livestock and protect the woodland as a managed coppiced resource. On Fountains Abbey estates in Yorkshire in the fifteenth and sixteenth centuries, for example (so possibly also in Borrowdale), woodland/coppice that was cut would be walled or fenced for seven years as protection from livestock and to allow regrowth (Michelmore 1981) and more mature standard trees were lopped and pollarded (National Trust 1989).

8.2.7 The surviving woodland at Johnny's Wood provides us with a view of a managed and cultivated enclosed oak coppice woodland that appears to have up to 500-700 years of antiquity (Birks 1993). Although the pollen diagram from Johnny's Wood records the history of that particular wood, it may suggest what the pattern of woodland development was from the late medieval period onwards elsewhere in Borrowdale. Much of the open woodland was subsequently clear felled (eg at Langstrath) over a long period up to the nineteenth century, leaving the present pattern of enclosed woodland pockets. The Abbeys of Furness and Fountains were concerned about the gradual whittling away of their natural woodland resources and took steps to protect them. In 1454 the fellside at 'Catbelclose' and 'Scurlothyn Park' (near the present Borrowdale survey area) were enclosed to protect their 'greenwood' for lead-smelting (Winchester 1987). In 1516 a bailiff was appointed with orders *'not to waste the woods'* on their tenement in Stonethwaite, and he presided over *'Crostwaite and in Eknes, Waitendland, and Staynthwaite.... to keep the woods, not allowing any person to take or sell any without the abbot and convent's special license, except 'brusynge' for his cattle on his farmhold, and timber for such necessary repairs as are approved'* (Mitchelmore 1981, 59; National Trust 1989).

8.2.8 The pressure on woodland as a resource increased throughout the medieval period, and the construction of bloomeries within Langstrath valley on Fountains Abbey land (*Section 5.4*) clearly highlights this. The surrounding unenclosed woodland was subsequently clear felled (Fig 6), but before this happened the woods were used to

fuel charcoal-burning platforms that in turn provided charcoal for the bloomeries. Charcoal-burning platforms are a widespread phenomenon within Borrowdale and occur mostly within surviving enclosed woodlands. Although they are undated some of them may be medieval in origin and show both exploitation of cleared woodland and also ongoing use of managed coppiced woodland. Winchester (1987) states that the majority of medieval charcoal making would have been small scale and scavenging in nature and would have formed one facet of numerous woodland uses. Other pressures on the woodlands included increased livestock foraging and felling for new assarts, felling or lopping of trees for wood as a raw timber material and fodder, and bark peeling for the tanning industry. One example of woodland pressures that were being felt in the woodlands of Lake District as a whole was that by 1538 the manor court for Borrowdale had severely restricted the keeping of goats (two goats for every 12s annual rent) by tenants as they would strip bark from the enclosed woods, if allowed to stay in them (Winchester 2003).

8.2.9 The key to the current surviving woodlands is that if we take Johnny's Wood and Seatoller Wood as examples there was never a period when the woodland had been clear felled between successive historic periods, allowing the continuity of woodland species. This has lead to some species of relict pre-disturbance woodland (potentially pre-Norse) surviving within Borrowdale (*ibid*). This can be seen further down the valley where the 'Borrowdale Yews', a nationally important stand of trees, survive within the open woodland of Seatoller Wood on the hillside to the north of Seathwaite. The trees are some of the oldest in the Lake District and in 2004 were dated and found to be 1500 years old (from National Trust signage, they are also shown as the large tree on Plate 4; Plate 13).

8.3 POST-MEDIEVAL WOODLAND DEVELOPMENT

8.3.1 Although there is a history of bloomery iron working in the medieval period, this evidently was apparently not of sufficient scale to have a great impact upon the woodlands. It was, therefore, only with the expansion of the iron industry in the sixteenth century that there was a documented need to control the woodland resource. The catalyst for this expansion in the region was the formation of the Mines Royal in 1564, approximately thirty years after the Dissolution of the Monasteries, which was to significantly effect woodland management in the valley. By 1565 the company was complaining of difficulties in obtaining local timber, particularly for smelting, from woods belonging to the Crown (after the dissolved Furness Abbey land was held by the Duchy of Lancaster), and asked for the use of Crown woods in Ireland and for more control over Crown woods in the Lake District (National Trust 1989). They were being prevented from obtaining local supplies and asked for the Crown to order its tenants in Borrowdale not *to 'doe anye waste in any of the woods there as they yerlie have doone'* (*ibid*).

8.3.2 There is extensive evidence for charcoal production in the valley in the form of the remains of charcoal-burning platforms. The distribution of these sites, even though they may not all be contemporary with one another, can help to give an idea of the

extent of woodland coverage during the medieval period (Fig 19), and potentially also later periods.

8.3.3 The distribution of surviving charcoal-burning platforms display an interesting association with the patches of remaining enclosed woodland. The majority of the platforms are located in enclosed woodland, but there are some on open wooded valley sides (such as near Seathwaite), and there are some in areas where the historic woodland has been cleared in the nineteenth-twentieth century. The Langstrath valley, however, had mostly been clear cut before the nineteenth century, primarily as a result of the demand for charcoal. It is known from documentary evidence (PRO DL 42/114) (CRO D/Law/1/155) that the woods in Langstrath (Fig 6) and Stonethwaite were being very closely looked at in terms of their potential for charcoal production in the latter half of the sixteenth century. In 1594 Walter Grame of Netherby leased the woods at Thick Side in Langstrath to the Mines Royal with 'Liberty to take fell and cut down yearly all and every such woods and trees growing in the places aforesaid...' (CRO D/Law/1/155). There was much opposition from local tenants who were able to prevent the felling of trees for another six years by taking the company to court. In view of this it is likely that this was the period which saw the final destruction of the woods in Langstrath, as well as those to the south-east of Stonethwaite.

8.3.4 The question remains why has Johnny's Wood and Frith Wood survived even though there is as high a concentration of pitsteads within them as can be found in Langstrath. There may be two possible reasons for this; firstly, the rights to these woods were held by a different individual or organisation who were concerned with maintaining the woodland as a renewable resource over a long period of time rather than addressing only a short term need. Secondly, these woods were already established enclosed coppice woodlands at a time when pressure on woodland resources was at its greatest. Whilst there is no evidence to suggest that there was an established coppiced woodland in Langstrath, The Mines Royal would not have had enough time within their lease to establish a coppicing regime, leaving clear felling as the only option open to them.

8.3.5 The long term demand for charcoal may have contributed to the preservation of some woods, such as Frith and Johnny's Wood, by transforming them into valuable economic units and therefore requiring that they be coppiced rather than clear felled. However, overall it appears to have had a much more devastating effect dramatically reducing woodland cover close to the level it is at today. It seems that the Mines Royal viewed the woods as a consumable resource rather than as a renewable one (by coppicing the woodland), and this may account for the strong opposition by the local tenants to their operations in Langstrath and Stonethwaite. Some support for this is given in the accounts of the German Miners in Keswick, where '..the accounts for charcoal, peat, and carriage of ore show the rise of actual smelting at the new buildings [in Keswick] and the complete devastation of the woods far and wide.' (Collingwood 1912, 219).

8.3.6 The beginning of the seventeenth century saw a decline in the demand for charcoal with the use of alternative fuels and more fuel efficient smelting techniques. The activity of the Mines Royal declined from 1620 onwards and was finally ended during

the Civil War of the 1640s. In 1614 the western portion of Borrowdale Manor was sub-divided by sale to several people in what is called 'The Great Deed of Borrowdale' (Crosthwaite 1879) and this mentions (unnamed) woods, underwoods, trees and coppices', therefore, by the early 1600s at least, there were woods being managed as both 'traditional coppice' and also as 'coppice woodland with standard trees' (National Trust 1980). The result of a lack of charcoal demand in the mid 1600s was a shift to the production of woodland products, including a wide range of domestic and industrial uses, such as the making of 'swill' baskets, coracle-shaped baskets of split oak woven on a hazel frame. Birch was used for making besom brushes, hazel for withies and lathes, and ash for tool handles. Archaeological evidence also shows that the distribution of managed coppiced woodland, charcoal-burning platforms and charcoal burners huts, also goes hand in hand with bark peeler's huts which would have supplied the local tanning industry (*Section 8.5.15*).

8.3.7 Evidence of woodland management in the archaeological and historical record for the following 150 years is, once again, very scarce; however it is almost certain that it was during this period that the basic pattern of woodland cover that we see today evolved. There is a suggestion that, apart from the enclosed coppice, woodland in the valley during this period was represented by smaller, thinned out, contained units with contemporary documents referring to small parcels of woodland as 'woody ground' (CRO DX 241/131) and '..6 acres of wood common pasture for all cattle..' (CRO DX 241/115). The pasturing of animals within woodland is a traditional feature of the central Lakeland woods and the presence of pollards in Seatoller Wood is indicative of this type of use (CRO DX 241/115). Pollards can also be seen today fringing some of the valley floor roads adjacent to the villages and would have also counted as wood pasture because the livestock would not have been able to reach up into them (Rackham 1990).

8.3.8 From the mid-nineteenth century there have been only small changes in the woodland cover compared to that of today**.** The only large area to disappear is around Lingy Bank to the north west of Rosthwaite where the 1899 Second Edition OS map depicts a large conifer wood, but is now gone. Some areas will have changed slightly in character as a result of nineteenth and twentieth century forestry practices and there were a few more, small enclosed plantations of conifers within the valley floor field systems than there are now. Overall the last one hundred and fifty years have seen a stabilisation in the extent of the woodland coverage within the valley with no significant increase or decrease in the amount of woodland.

8.4 THE NATIONAL TRUST IN BORROWDALE

8.4.1 The beginning of the twentieth century saw the first National Trust acquisition in the Lake District at Brandlehow. Subsequently, the National Trust ownership within the valley has grown steadily, and nearly all the pieces of woodland within the survey area were acquired in 1964 and 1965. As a result of National Trust ownership landscape protection, access and amenity considerations have become key management issues, and the advent of conservation incentive schemes have increasingly become the driving force behind woodland management. As the

ecological importance of the woodland became clear nature conservation considerations were also included and more recently the historical and archaeological value of woodland has been recognised and incorporated into management plans. The result is that, despite the disappearance of traditional woodland practices such as coppicing, bark peeling etc., thereby reducing their value on an economic level, the woods have been protected and a gradual increase in the density and extent of woodland coverage is occurring.

8.4.2 ***The Borrowdale Woods:***

Frith Wood 8ha (19acres)

Enclosed native species woodland of mostly oak/birch. There is no shrub layer but there is some regeneration. Within the historic woodland landscape wood are charcoal-burning platforms, old tracks and a mine level.

Johnny's Wood 32ha (80acres)

This is an area of enclosed oak coppice with birch and rowan, locally modified by interplanting with conifers. It is a SSSI due to lichen and bryophyte communities, and there has been no regeneration. Charcoal-burning platforms, building remains, old tracks, holloways and walls, form part of the historic landscape.

Seatoller Woods 33ha (81 acres)
(Low Bank)
(Low Stile)
(High Stile)

This comprises enclosed native species of trees with some introduced species and large numbers of pollards. It is a SSSI due to lichen and bryophyte communities. Some charcoal-burning platforms, a quarry, tracks, walls and building remains form part of the historic landscape.

Stonethwaite Woods 17ha (41 acres)
Huddlestone Shop Wood 30ha (75 acres)

These comprise areas of unenclosed native species wood-pasture of fluctuating size on crags and steep ground with large blocks of old oak coppice. Much of it is probably secondary with scattered ancient woodland remnants. It is a SSSI due to lichen and bryophyte communities. Charcoal-burning platforms, tracks, walls, shielings, building remains and bloom smithies form part of the historic landscape.

Scaleclose Coppice 1.6ha (4 acres)

This is a remnant of old oak coppice without any shrub layer or regeneration. Bields, building remains and charcoal-burning platforms form part of the historical landscape.

8.5 WOODLAND PRACTICES AND INDUSTRIES

8.5.1 ***Timber Production:*** timber was a valuable resource and for the most part its production would have been strictly controlled. There was a clear distinction between the felling of some species of trees for fuel and domestic repairs and the felling of

others, such as oak and ash, for profit or other purposes (Rackham 1990). This is illustrated in an entry in the Fountains Abbey Lease Book from 1516 (Michelmore 1981, 62) dealing with the appointment of a bailiff '...to keep the woods, not allowing any person to take or sell any without the abbot and convent's special licence, except Abrusynge for his cattle on his farmhold, and timber for such necessary repairs as are approved by the cellarer..'.

8.5.2 The high proportion of surviving semi-native woodland in Borrowdale suggests that the area was not subject to exploitation for timber in the form of large-scale clear cutting, except the short-lived episode of clear fell by the Mines Royal in Langstrath and to the south-east of Stonethwaite (*Section 8.3.3*). The lack of documentation referring to large-scale timber production suggests that for the most part there was a more restrained policy of selective felling of standard trees within wood pasture and enclosed coppice.

8.5.3 ***Coppicing:*** the practice of coppicing was at its peak between the seventeenth and nineteenth centuries as the demand for coppice and underwood products increased, before declining in the later nineteenth century. Most broad leave tree species, particularly oak, were coppiced. The process involved cutting a young tree down to a height of about 300mm above the ground so that in spring it would send up a group of young shoots from the stump. After 10-20 years, according to species, climate, soils, topography etc, the coppice could comprise up to 20 poles approximately 100-150mm thick. Most coppice was cut in autumn although oak was left until May or June when the sap was rising and the bark could be peeled off. These coppices could supply the raw materials and products for a wide variety of purposes including smelting, mining, tanning, agriculture and construction (Winchester 2000; Rackham 1990).

8.5.4 After cutting the coppice wood had to be enclosed to prevent grazing and trampling from stock for at least seven years in order to protect the regrowth. The enclosure could take a number of different forms such as a fence, hedge or wall. Banks and ditches were also dug and it is not unusual to find old coppice woodland divided up into a series of compartments by the remnants of these banks and ditches running through them (*ibid*).

8.5.5 ***Pollarding:*** when it was not possible to keep livestock out of coppiced woodland it was the practice, subject to customary rights, to pollard trees. Pollards are cut at between 2m and 4.5m above the ground on a regular cycle sprouting in a bushy growth the same way as a coppice stool only out of the reach of livestock. The growth is harvested and used for fuel or, in the case of the leaves and bark of elm, and ash, as winter fodder. They are generally found along wall/fence/hedgerow-lines and becksides or as relicts of former boundaries (*ibid*).

8.5.6 There are surprisingly high numbers of pollards in the survey area, the overwhelming majority of which in the north are located almost exclusively along field boundaries on the valley floor (Plate 12). The pollarding of trees in the valley was obviously a widespread practice where lanes were used as wood pasture and the continued survival of a high number of holly trees suggests that the utilisation of particular trees as a source of supplementary fodder for livestock was an important part of the

agricultural strategy. This may not be surprising in view of the limited amount of good quality agricultural land available in the valley for producing winter feed.

8.5.7 The practice of pollarding in the valley around Seathwaite shows a clear distinction between that and the areas around Rosthwaite and Stonethwaite, where there are hardly any pollards on the valley floor but there appear to be deliberate groupings of pollarded trees occurring along the lower fellsides. In Seatoller Wood an exceptional number of trees have been pollarded with up to eight species identified and only Hatfield Forest is recognised as having as many (Rackham 1990). The species include ash, wych elm, holly, rowan, birch, hawthorn, hazel, and yew, and it is very rare to find rowan, birch, and hazel as pollards. The famous Borrowdale yews that 1500 years old are also found at this location representing the last vestiges of primeval wildwood providing a living link to our ancient past (Plate 13). The surviving tree species in Seatoller Wood probably resemble the closest we can come to today of a managed medieval woodland tradition in Borrowdale.

8.5.8 ***Charcoal Production:*** the earliest, and often repeated reference to charcoal burning, appears in the Coucher book of Furness Abbey, which records an agreement in 1271 between the Abbot and Hugh de Morisby for pasture land to keep his horses that carry minerals and coals for the bloomeries in Furness (Fell 1908, 162). The practice of making charcoal is likely to have been already long established by this time and would certainly have pre-dated the arrival of the monks into Furness in 1127. The few medieval references to charcoal production suggest that dead wood and other underwoods were used to manufacture charcoal, rather than areas of managed coppice or standard trees (*op cit*, 129). Throughout the medieval period it is likely that sufficient fuel for smelting was available amongst the fallen deadwood on the forest floor and that managed coppice woodlands did not appear in the Lake District before around 1500 (Winchester 1987, 105-7).

8.5.9 It is probable that during the medieval period charcoal may have been manufactured in pits dug into the earth, hence the name 'pitstead', rather than in stacks built on earthen platforms. Without regular-sized 'shanklings' from managed coppice woods, building a stack using only underwoods would have been difficult, whereas wood of any size or shape could be dumped into a pit for burning. It is possible that charcoal production using pits continued until the management of coppice woods became widespread (R Maxwell pers comm); such sites have recently been discovered in Furness and are awaiting radiocarbon dating (ibid).

8.5.10 There are few surviving references to charcoal production during the sixteenth century, and it is difficult to determine what quantities of charcoal were being produced at this time. One reference from the sixteenth century refers to the sale of 2,000 pack-horse loads of charcoal sold for £280 by William Fleming of Coniston Hall to the Company of Mines Royal at Keswick (Dawson 1985, 19), although this charcoal is unlikely to have been made in the demesne woodlands.

8.5.11 During the seventeenth century the growth and industrialisation of the smelting process increased the demand for charcoal fuel. The increase in the output of charcoal fuel for the iron industry at the end of the seventeenth century encouraged landowners to establish coppice woods on their own land and to acquire new woodlands that

could be managed as coppice woods that guaranteed high returns. The years between 1700 and 1850 saw the greatest number of people living and working in the woods at the time when the demand for charcoal was at its greatest. The majority of charcoal burning platforms in the survey area are likely to have been built during this period of high demand.

8.5.12 ***Borrowdale Charcoal Production:*** it was the presence of woodland within Langstrath valley, as well as a route up to the iron ore at Ore Gap, that was the influencing factor in the locating of bloomery sites (Figs 5 and 6). Coppiced wood charcoal was produced by creating a circular platform between approximately 5m and 10m in diameter. A large stake was then set up in the centre and small pieces of wood piled up around it until a mound approximately 2m in height covered the whole area of the pit. This mound of wood was then covered with turf or bracken. The central stake was then removed and lit charcoal placed in the resulting hole which was then sealed with turf. After two or three days water was thrown over the mound to cool it and after an hour the charcoal was raked over, allowed to cool further, and then shovelled into sacks.

8.5.13 An extremely large number of charcoal-burning platforms have been identified within the survey area. It is not necessarily the case that they are all contemporary with one another, they may represent several hundred years of charcoal producing activity, but taken along with the evidence for large amounts of coppice woodland in the area, as well as the three bloomery sites in Langstrath, they illustrate the existence of a substantial industry within the Borrowdale area. It is a fair assumption to make that when originally constructed they would have been in wooded areas and can therefore be taken as an indicator to the extent of woodland coverage.

8.5.14 A survey of 80 pitsteads in the surviving Borrowdale woods carried out by David Thomason in 1987 (National Trust, Borrowdale Archive Box I) concluded that on average most were approximately 7m in diameter and were located close to the foot of break of slope between the valley floor and the fellside. The larger examples tended to be located in the drier, more level, areas decreasing in size the higher up and steeper the angle of slope became.

8.5.15 ***Bark:*** from the late eighteenth century to the mid-nineteenth century oak bark was probably the most valuable of all the products from managed woodland. It was a vital component in the process of tanning leather, which was so large an industry during this period that it consumed considerable numbers of oak trees.

8.5.16 A stone-lined pit (22352) has been interpreted as a tanning pit close to Rosthwaite village. Such an interpretation is inevitably tentative and cannot, by itself, provide proof of a local small-scale tanning industry in the area as the site could equally have been associated with potash production. However, it is almost certain that such a valuable resource was exploited, and bark is likely to have been transported out of the valley for use elsewhere. This would leave only the process of bark stripping occurring within the valley and such an activity would leave little or no trace in the archaeological record other than the morphologically distinctive remains of two bark peeler's huts (22449 and 22208), that were located on the hillsides, again near to

Rosthwaite. Their interpretation relies on their association with coppiced woods and charcoal burning platforms, but could equally be charcoal burners huts.

8.5.17 ***Orchards:*** the 1842 Tithe Award lists a number of orchards nearly all of which are small areas centred around settlements. Other evidence includes a documentary reference to the selling of a property in Seatoller that included an orchard in 1867 (CRO DX 241/176) and the existence of the field name Plumtree How close to Seatoller. The evidence suggests that orchards were not a major feature in the valley but did exist on a small scale probably for personal domestic use.

8.6 MANAGEMENT RECOMMENDATIONS

8.6.1 The topographical nature of the valley has significantly influenced the composition, development and preservation of the woodland areas. The large number of inaccessible crags, gullies and boulder slopes, has prevented a comprehensive approach to woodland management, and has enabled pockets of woodland species to remain despite grazing, felling and replanting in the more accessible areas. These pockets have, in some cases, acted as instigators and catalysts for re-colonisation of the more altered woodland areas. This combination of crag and wood is probably the defining landscape feature that gives the valley its unique and much admired character.

8.6.2 The woods are of exceptional importance and value forming one of the major components of the National Trust property holding both in terms of its landscape history and ecological value. Seatoller, Stonethwaite and Johnny's Wood have all been designated SSSI's due to the significant importance of the lichens and bryophyte communities within them. Seatoller Woods not only contains rare examples of these but also has pollarded trees covering such a wide species range that it is matched in only one other place in Britain and forms a relict area of woodland of the wood pasture tradition. Palynological research has revealed the surviving nature of Johnny's Wood to be one of a relict managed enclosed oak coppice woodland of at least 500-700 year age, with some species of relict pre-disturbance (pre-Norse forest) surviving. The woods also contain good examples of archaeological sites which are representative of the wide range of historical woodland industries.

8.6.3 ***General Recommendations:*** there is always a degree of conflict between archaeological and forestry interests when considering management proposals for sites in woodland. Many archaeological sites in woodland areas will have trees growing through them which can be highly destructive as the root systems break up the fabric of the site. The ideal situation from an archaeological perspective is to remove these trees; however, each site needs to be assessed individually as to the degree of threat posed and the wood management work defined accordingly. Such an assessment can be found within the current woodland management policy (*Appendix 5*) and work could be incorporated as part of general thinning operations. Future forestry operations, such as felling and extracting, should avoid archaeological sites and plantings should occur at a sufficient distance from sites so as to avoid damage

from root disturbance in the future. Archaeological sites, in any case, will need to be monitored to prevent natural regeneration occurring and causing further disturbance.

8.6.4 ***Charcoal-burning Platforms:*** the extensive distribution of these platforms and occasional charcoal-burner's huts within the now open landscape of Langstrath show the former extent of woodland along this valley. This particular grouping of monuments would benefit from a full topographic survey in order to understand the distribution of the woodland industry and its associations. Where these monuments survive within existing woodland their structure may be threatened by root action and future woodland management/felling practices. If any future threats to this type of monuments are identified in Borrowdale valley they should be subject to further archaeological mitigative works.

8.6.5 ***Woodland Management:*** in general present management strategies for the woodland (*Appendix 5*) are appropriate for maintaining the historical character of the woods. There are some particular areas to which attention should be drawn:

8.6.6 ***Pollards:*** the pollarding of ash trees was widespread along the valley floor field boundaries. This practice should be continued on the surviving trees accompanied by a limited planting program to increase the number. In the case of Seatoller Woods pollards should be maintained and the number increased for all species, in particular ash.

8.6.7 ***Plantations:*** the plantations at Seathwaite and Seatoller should be maintained as they provide a historical continuity with nineteenth century plantations at the same locations. New plantations within the valley will significantly alter the character of the landscape and should not be created unless this is their intended function.

8.6.8 ***New Native Woodland:*** the recent development of the New Native Woodland scheme offers potential to a number of areas in Borrowdale, principally around Seathwaite, Stonethwaite and Langstrath. Documentary evidence shows that woodland along the western fell side above Seathwaite was more dense and extensive in the past and this may be one area that could have potential for the reintroduction of native woodland; however, full consideration would have to be given to the effect upon the lichen and bryophyte community of such a strategy. Another potential area where woodland cover could be restored is around Stonethwaite and along Langstrath, although this may impact upon numerous known archaeological sites (charcoal-burning platforms). Before new planting of woodland takes place further palynological work should be taken within Borrowdale as a whole to augment our current knowledge of the early history of woodland management in the valley.

9. GENERAL MANAGEMENT RECOMMENDATIONS

9.1 INTRODUCTION

9.1.1 The management recommendations are divided into thematic categories including: boundaries, buildings, land use, woodlands, public access and visitors. The detailed recommendations have already been addressed within the archaeological resource sections (*Sections 3.5, 5.2.9, 5.3.20, 5.4.12, 5.5.5, 6.2.10, 7.4* and *8.6*). This section provides a more general overview of the management of the valleys archaeological resource and highlights any positive management required to conserve the local historic environment, with necessary work being divided up on an individual farm basis. The recommendations has been drawn up using both the *Borrowdale Whole Valley Plan* (National Trust 2005b) and the results of the present report. This section will also recommend potential further archaeological research that could be undertaken in Borrowdale in light of the importance of the archaeological resource and the current research agenda for North-West England (Brennand 2007a; 2007b).

9.2 MANAGEMENT RECOMMENDATIONS

9.2.1 ***Archaeological Site Management Priorities:*** in terms of archaeological management the continued care of the scheduled monuments in the study area should remain a priority. Arguably the site of greatest importance, the Seathwaite graphite or 'wad mines', is also the site under greatest threat from erosion and damage. The proper care of the archaeology associated with these mines should be an important consideration in any long term plan for the valley. Any plan to encourage woodland regeneration on the valley sides or to change the grazing regime in that area, should consider the possible impact on the mine remains and a mitigation strategy should be developed in conjunction with the National Trust regional and English Heritage archaeologists. Furthermore, an assessment of this site should be undertaken by the archaeologist and property team to assess the results of the recent felling work, and develop new management strategies.

9.2.2 Scheduled Monuments enjoy statutory protection in law from any form of disturbance. Any work that may have an impact upon a Scheduled Monument, its setting or curtilage, requires written consent from English Heritage prior to the start of work. It is National Trust policy that submitting an application for Scheduled Monument Consent should only be undertaken by the National Trust's Archaeologist.

9.2.3 ***Heritage Protection Review:*** English Heritage have recognised that a new approach was needed in order to maintain the present levels of statutory protection, but at the same time enable a greater level of heritage management (English Heritage 2003). A series of pilot projects was established to explore the options, of which one examined the Neolithic axe factories of Central Lakeland, which included the uplands of Borrowdale and Langstrath. As a result of this, a Heritage Partnership Agreement (HPA) document has been compiled, which will underpin the management of the sites

by the National Trust and the Lake District National Park Authority. This provides a mechanism for enabling management works in the area, including footpath maintenance through areas of axe production. The HPA will assist in raising the profile and significance of the axe factory sites and will potentially facilitate funding from HLF or agri-environment schemes. The HPA includes 12 Heritage Assets concentrated upon the areas of known axe production, but also incorporating other significant monuments or landscapes, within the environs of the axe working sites. The Heritage Assets within the Borrowdale study area are as follows:

HA 1000/01 Glaramara Neolithic Axe Factories - NY 2468 1055

HA 1000/02 Hind Side Neolithic Axe Factories - NY 2413 1027

HA 1000/03 Red Beck Neolithic Axe Factories - NY 2390 0986

HA 1000/04 Sprinkling Crags Neolithic Axe Factories - NY 2306 0974

HA 1000/05 Great Slack Neolithic Axe Factories - NY 2246 0963

HA 1000/08 Stake Beck Neolithic Axe Factories - NY 2770 0735

HA 1000/11 Medieval shieling in Langstrath - NY 2661 1117

9.2.4 ***Listed Buildings:*** any work that would affect a Listed Building, both inside and out and including it's curtilage, would require consultation with the property Curator. Listed Building Consent could then be obtained through the Local Planning Authority or English Heritage depending upon the grade of the listing. The settings of the Listed Buildings also enjoy statutory protection, and further advice on this can be given by the Curator.

9.2.5 ***Other Archaeological Sites:*** every effort should be made to afford the proper level of care to all other archaeological sites in the study area. The study area contains a good selection of sites typical in an upland Lake District setting, with many associated with either agricultural land management or industry. Every effort should be made to keep these sites in good order and retain them as features in the landscape, irrespective of their legal status. In addition archaeological sites listed on the National Trust Sites and Monuments Record should be regularly monitored to check for potential hazards, impacts or erosion.

9.2.6 Additional archaeological mitigation or research in the form of survey, excavation or building recording would be required ahead of all activities that are potentially destructive or involve disturbance of archaeologically sensitive areas. No materials that constitute part of an archaeological site must be removed, and this should especially be born in mind when stone picking for footpath renewal takes place within the valley.

9.2.7 ***Landscape Conservation:*** strategies to conserve and maintain the distinctive characteristics of the three separate landscape zones across the study area (lowland pasture and meadow, fellside intake and high fell) should be sought. The term 'distinctive characteristics' is used here to refer to criteria such as boundary type, vegetation type and agricultural use.

9.2.8 The existing stone walls, hedgerows and other boundaries within the study area are integral parts of the local historic landscape and in some cases are of great archaeological significance. For this reason long-term management of the farming landscape should aim to avoid further boundary loss and perpetuate the separate and enclosed character of the local landscape. Walls and hedges that are in stockproof or near stockproof condition should be maintained as stockproof even if they become agriculturally redundant, and if in a partial state of deterioration should be considered for restoration as and when resources become available.

9.2.9 Collapsed walls need not be rebuilt but should not be considered as sources of building material for any planned rebuilding elsewhere. Fencing along the same line of a wall, or hedge bank, should be set away from them and not driven through the remains themselves. Fencing should not replace walls and hedges, or sections of walls and hedges, which can be reinstated with available material and resources.

9.2.10 ***Current Land Use:*** permanent pasture is the ideal habitat for the preservation of both visible and buried archaeological sites and remains. For this reason the current management of all farmland within the survey area as either permanent pasture or pasture and meadow should be perpetuated wherever possible. Ploughing or any other ground disturbance should avoid all archaeological sites; earthworks and surviving ridge and furrow cultivation are especially vulnerable. In addition, livestock should not be encouraged to damage archaeological sites by the inappropriate placement of ring feeders, gates, or fencing. Burrowing animals can cause damage to archaeological sites, particularly buried remains and earthworks, and animal control should follow nationally proscribed guidelines, but should not involve digging into or disturbing the ground.

9.2.11 Opportunities to restrict the growth and spread of bracken on the open fell and fellside intakes should be actively sought wherever possible. In some areas the problem could be addressed through the reintroduction of hardy cattle breeds, while in other areas manual clearance or spraying might be more appropriate. The problem appears to be acute in the areas of open fell to the west of High Doat and also Seatoller Fell.

9.2.12 The fish farm located at the head of the Seathwaite valley is in contradiction to the past historic land use and serious thought needs to be given to its future and the next change of tenancy. The fish farm does not have a major visual impact for those walking through the farm complex, but does have a great impact on the view down the valley when viewed from the higher paths. A strategy to mitigate the visual impact of the fish farm should be agreed at the first opportunity.

9.2.13 The Christmas tree plantation adjacent to the fish farm, located on the lower slopes of the valley head, is equally out of place. This plantation has a severe visual and aesthetic impact when viewed from the valley head, as well as on a lower level while walking through the farm complex. Every effort should be made to agree a strategy to reduce the visual impact of this plantation and ensure its removal in the long-term.

9.2.14 ***Woodland Management:*** the distribution of trees in the landscape is an important part of the local historic landscape and often forms an essential part of local distinctiveness. The numerous individual trees situated along becks, boundaries and

on parcels of poor land constitute an important part of the local historic landscape. It is essential that the number of individual trees within the survey area is monitored and maintained. It is equally important that any future regeneration of vegetation in riparian zones, or indeed elsewhere in the survey area, is in keeping with the local historic landscape.

9.2.15 The broad leaf woodlands, that are such a distinctive element of the Borrowdale valley, should be carefully managed in the future in order to ensure that their quality and extent does not diminish. The current mosaic of woodlands, both large and small, across the estate should be perpetuated in accordance with the historic character of the area. Whenever change is necessary in the future, any new planting should be in keeping with the character of the historic landscape. New tree planting should also avoid archaeological sites listed in the gazetteer (*Appendix 9*) and should be situated far enough away to avoid later root damage of the buried archaeological resource. Before new planting of woodland takes place further palynological work should be taken within Borrowdale as a whole to augment our current knowledge of the early history of woodland management in the valley. The planting of trees near standing buildings should not be conducted without an assessment of possible archaeological implications.

9.2.16 Traditional methods of woodland management, such as coppicing and pollarding of trees, should be continued on surviving trees and accompanied by a limited planting program to increase their number. These methods have potential benefits for the education and interpretation of the historic landscape. In the case of Seatoller Woods, pollards should be maintained and the number should be increased of all the wide variety species, in particular ash. A survey should be undertaken of all extant pollards in the valley to determine their extent, species and location and recommendations should be drawn up for the management of current pollards and their future renewal. New plantations within the valley will significantly alter the character of the landscape and should not be created unless this is their intended function. The felling of trees that are established on archaeological sites should avoid removal of the root bole, the stumps should be left *in situ* to rot or, if aesthetically necessary, they should be ground down to turf level. Vehicular access to woodlands should also be strictly controlled and heavy machinery movements should be discouraged because of the potential destruction of the archaeological resource.

9.2.17 ***Communication Routes:*** the pattern of communication across the estate, including routes between the farms and fells, are another important part of the historic landscape. The perpetuation of farming systems that will continue to use historic routes should be seen as highly desirable.

9.2.18 ***Standing Buildings:*** settlements within the valley are an integral and highly visible aspect of the fabric of the landscape and, as such, special care needs to be paid to any change that occurs within them. All the foci of settlement in the valley should be regarded as archaeologically sensitive and development within them should be restricted wherever possible. If any essential construction or maintenance needs to be carried out, prior notice should be given to the National Trust archaeologist in order that they may assess the potential impact upon the archaeological fabric. Out-

buildings, such as barns, that are ruined, need to be consolidated or repaired depending upon the agricultural requirements. The construction of new developments should be discouraged on National Trust land; however, if development is necessary the works may have implications for the recorded or buried archaeological resource so detailed assessment and mitigation strategies would be required.

9.2.19 ***Industrial Sites:*** structures and complexes need to be assessed for their survival and condition; and where practicable they need to be consolidated to prevent further decay. Restoration should be considered for those structures identified as unique or unusual examples of their type. There should be close monitoring of any potential threats from fluvial and human erosion at the bloomery sites and monitoring of collapse or change in stability to other industrial structures. A health and safety survey should also be made of all the sites to identify any issues that may require action and the archaeologists must be informed of any action taken as a result of the survey.

9.3 PRIORITIES FOR FUTURE ARCHAEOLOGICAL RESEARCH

9.3.1 ***Outreach, Tourism and Publication:*** a popular publication or leaflet highlighting the important historic themes, landscapes and archaeology of the valley could be produced. In addition, a more in-depth synthetic publication of the archaeology of the valley could be produced. Interpretation boards for the graphite mines should also be a priority.

9.3.2 ***Topographic Survey:*** numerous sites and complexes within the landscape would benefit from further more intensive survey and interpretation. The larger quarrying complexes could be investigated. Likewise, the bloomeries within Langstrath, along with the complex of charcoal-burning platforms in this location, would benefit from survey and interpretation. The univallate hillfort at Castle Crag should also be subject to survey as it is a rare monument of regional if not national importance.

9.3.3 ***Scientific Dating:*** radiocarbon dating of the Smithymire Island bloomeries would be advantageous, and sample dating of the potentially associated charcoal-burning platforms also be recommended. The historic farmsteads within the valley should be subject to further dendrochronological sampling to bolster regional sequences and to test the hypothesis of re-use of timber from earlier farmstead buildings.

9.3.4 ***Palynological Work:*** it would be essential, before the introduction of new tree planting or re-wilding of any of the valley, that further targeted palynological work be carried out to tie down the nature of woodland canopy cover and species for the whole of the valley during the Holocene period. The valley bottom should be investigated for further erosional sequences associated with woodland clearance, and the intaking of fields, to test the hypothesis of climactic changes including flooding and inundation attributed to the 'Little Ice Age'.

9.3.5 ***Excavation:*** limited sampling strategies for varied archaeological sites should be investigated. Archaeological sites which could elucidate current research priorities (Brennand 2007b), may include investigation of the rural tanning pit near Rosthwaite, keyhole excavation and sampling of Castle Crag hillfort and further sampling of axe

working and flaking sites under threat of erosion. More extensive excavation should be undertaken at Black Moss Pot bloomery, along with the excavation and sampling of the historic farmsteads to test the longevity of the settlement of the valley that has been highlighted by the monastic documentary record and place-name resource.

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APPENDIX 1
PROJECT BRIEF

THE NATIONAL TRUST
ARCHAEOLOGY

North-West Region

Brief to complete the Historic Landscape Survey for Borrowdale, Cumbria

1 Background

1.1.1 In the summer of 1996 the National Trust undertook a program of Historic Landscape Survey for Borrowdale, Cumbria. These investigations were typical of previous campaigns of investigation in areas such as Great Langdale and Wasdale Head and involved a combination of fieldwork and documentary and cartographic study. Sadly the project stalled shortly before the completion of a draft report upon the departure of the member of staff involved.

1.2 The Trust is now in a position to complete this project using regional funding to employ a contractor to undertake the outstanding work. With this aim in mind the Trust wishes to commission Oxford Archaeology North to take up this project and develop the draft report into a final document complete with illustrations, appendices and maps.

1.3 As we previously agreed on the telephone I think there are likely to be unexpected twists and turns to this project as it has sat idle since 1997 and given that the original staff members have long since left the Trust. As a result I think best way forward on this is for you cost up the various tasks identified in the brief so that we can make a start and for us both to be prepared to deal with any extra issues that arise later as separate items that might require additional time and funding. With this in mind I have set out the starting aims of the project below.

2 Project aims

- to develop the draft Historic Landscape Survey report from 1997 into a complete document, making any amendments necessary, in order to provide the Trust with a comprehensive and up to date report and archive. The report appears to be largely complete and needs only small amendments such as properly referencing, picture titles and appendices etc.
- to develop a series of illustrations to accompany the report that help to interpret some of the key issues or themes for the reader. Such themes are likely to include location of the possible ring-garth, extent of Seathwaite graphite mines, position of charcoal-burning platforms in Langstarth etc.
- include copies of important maps and plans held by the National Trust within the report.
- undertake a short familiarisation exercise in Borrowdale to allow the author to become familiar with the landscape and collect a series of photographs to help illustrate the report.
- undertake a boundary survey and analysis for the survey area. Records for all areas (excluding Seathwaite/ Seathwaite Fell and Seatoller) exist in record form and mapping for the these areas can be undertaken as a desk based exercise. A new phase of boundary survey will be required for both Seatoller and Seathwaite Farm/ Seathwaite Fell. Once complete this information will allow a GIS model of the development of the landscape to be created and used to illustrate the report.

- undertake a thorough investigation of transcribed documentary information held by the Trust adding information to the report if necessary (this is unlikely to be a considerable task and is in reality a checking exercise as the report appears complete).
- to complete gazetteer of sites and monuments to accompany the report using information developed from a digital summary provided by the National Trust. There are around 500 recorded sites within the survey area.
- to complete a set of large scale maps to accompany the report that show the distribution of recorded sites and monuments within the survey area suitable for interpretation purposes.

3 Reporting

3.1 As usual with such projects the Trust will expect to see a draft copy of the report once completed which should be printed and posted out to the National Trust Archaeologist for comment. The draft report should include copies of all maps, photographs and other illustrations that will appear in the final report.

3.2 The draft report will then be examined by the National Trust and comments and suggested amendments returned to the contractor within a fortnight.

4 Survey outputs

4.1 After this process has been completed the contractor will provide the following to the National Trust:

- Eight bound paper copies and a ninth unbound copy of the final report. Each copy should be accompanied by a set of paper plans if not included in the bound report.
- Any negatives, prints and digital image files from the photographic recording will be sent in suitable archive storage materials, along with copies of any documentary material not included within the bound report.
- Five digital copies of the complete report (including all digital mapping information in formats compatible with both MapInfo Version 7 and AutoCAD packages) should also be supplied.
- The National Trust regional office will act as the repository for all original recording materials. The National Trust reserve the right to deposit the complete archive, or a copy of the archive in the appropriate public record office at a later date.
- All material should be sent to the National Trust Archaeologist based at the North West Regional Office.

5 Site conditions

5.1 The National Trust will write to our tenants on the property to inform them of our intentions in order that they will be expecting archaeologists from OAN to visit.

6 General terms

6.1 The National Trust will retain copyright over the resulting report and all associated archival material (including all digital maps and photographic material), and shall have absolute control over the use and dissemination of that information. The National Trust fully recognises the originator's moral right to suitable accreditation in any publication of the results.

6.2 It is the policy of the National Trust to deposit copies of all surveys undertaken on its land with the appropriate regional archives, authorities and organisations. In this case the offices of Lake District National Park Authority and the National Monument Record (Swindon). In addition to this a copy of the final gazetteer of Sites and Monuments Record will be deposited with the Archaeological Data Service based in York.

6.3 The project will be undertaken by the contractor acting on an independent basis. Staff working on the project will not be deemed employees of the National Trust. Tenders should reflect this fact and more specifically the Contractor will take sole responsibility for the payment of tax, National Insurance contributions, etc. If VAT is payable, this too should be indicated in the bid.

6.4 The successful contractor will be required to sign a contact agreement for the provision of archaeological services prior to the commencement of any on-site work. This contact outlines the roles and responsibilities of both the contractor and the National Trust and includes sections on health and safety, insurance, duty of care, confidentiality and copyright etc.

6.5 This contract *("Agreement for Provision of Archaeological Services")* will be sent to the successful contractor along with notification that their project design and application for to provide services has been successful. This contact should be signed and a copy returned to the National Trust archaeologist immediately.

7 Timescale

7.1 The National Trust would wish to undertake this work as soon as possible given the availability of funding. Ideally we would wish to see the specified works undertaken in either late spring or early summer and the first draft report handed over by the end of July, with the aim of completing the project in either in August or September.

7.2 The Contractor should indicate their availability for carrying out the specified works within the timescale indicated above as part of their bid. If this timetable is impossible then an alternative should be suggested within the bid.

8 Useful Contacts

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APPENDIX 2
EARLY DOCUMENT CHRONOLOGY

1195 Watendlath, Langstrath and part of Stonethwaite granted to Fountains Abbey by Alice de Rumeli. *Coucher Book of Furness Abbey* (Lancaster 1915; Haskett-Smith 1921)

1198 11th Nov. The Charter from King Richard I confirming possession. Crosthwaite, Watendlath (Wattendeland), Stonethwaite (Staynthwayt), and all Langstrath (Langestroth). *Memorials of the Abbey of St. Mary of Fountains, Vol II* (Walbran 1878).

1209 Alice de Rumeli, daughter of William son of Duncan grants to the monks of Furness the whole of Borrowdale with all its liberties.

When Alice de Rumeli, the granddaughter of the first Norman overlord sold part of her lands including the manor of Borrowdale, to Furness Abbey. This included most of the landed to the south of Derwentwater with only the hamlet of Watendlath and its surrounding fells excluded. *Coucher Book of Furness Abbey* (Brownbill 1915-19).

1211 An agreement between Furness Abbey and Fountains Abbey was reached fixing the manor boundary. *Chartulary of Fountains Abbey No.78* (Lancaster 1915, 61)

Stonethwaite was first recorded in the *Chartulary of Fountains Abbey No.78* (Collingwood 1918). It was a thriving dairy farm (Millward and Robinson 1970)

1215 King John confirms Alice's grant by charter dated 19th of July, *Coucher Book of Furness Abbey* (Brownbill 1915-19).

1240 Alan de Muleton and Alice his wife release all claim to Borrowdale, *Coucher Book of Furness Abbey* (Brownbill 1915-19).

1280 Records the grant by Adam de Derwentwater to Furness Abbey of rights of way from Borrowdale to Furness Abbey via:

1. Ashness Castlerigg, Dunmail Raise
2. Watendlath, Hartsop, Wythburn

(Sutton 1961)

1285 First documentary recording of Stockley Bridge. Stockley being Old English for 'place in the clearing' (Gambles 1980).

1292 Seathwaite first recorded in the *Assize Roles for Cumberland* (Millward and Robinson 1970).

1302 Vaccary recorded at Stonythwaite. *Chartulary of Fountains Abbey No.78* (Lancaster 1915).

1380 Statute describes wool from Borrowdale as the 'the worst wool in the realm' (Whitfield *pers comm*).

1418 Survey of Borrowdale in 31st year of Henry V gives details of 41 farms granted to Fountains Abbey. They had an average of 3 acres of enclosed land for which a total rental of £28.10s. per annum was paid (British Museum Add. MSS. 24764 f. 6. in Elliot 1961)

1446-1459 Account books relating to Abbey of various payments relating to Borrowdale. comprises *Bursars Book 1456-1459* and *Memorandum Book of Thomas Swynton 1446-1458*. (Fowler (ed) 1918)

1503 Earliest record of Rosthwaite - 'Roseethuate'. (Armstrong *et al* 1950).

1511 10/3/1511 - Lease of a tenement, a parcel of a tenement and a parcel of a farmhold. *The Fountains Abbey Lease Book*. (Michelmore 1981).

10/3/1511 - lease of a tenement in Stonethwaite to John Birghede. *The Fountains Abbey Lease Book*. (Michelmore 1981).

1515 17/11/1515 - Lease of half a tenement in Stonethwaite to Marmaduke Yowdaill. *The Fountains Abbey Lease Book*. (Michelmore 1981).

1516 24/3/1516 - Appointment by Abbot Marmaduke of Fountains of Marmaduke Yowdaill to the office of bailiff in all the lands in Crossthwaite, Eknes, Watendlath and Stonethwaite, within Borrowdale in Cumberland. '...binds himself to.... keep the woods, not allowing any person to take or sell any without the abbot and convent's special licence, except "brusynge" for his cattle on his farmhold, and timber for such necessary repairs as are approved by the cellarer or "bowser"'. *The Fountains Abbey Lease Book*. (Michelmore 1981).

1546 List of Tenants in Borrowdale on Monastic Dissolution. (Letters and Papers Henry VIII, Vol XXI No 1, also Bouch and Jones 1961; Collingwood 1928).

1538/9 That the tenants in the Furness portion of Borrowdale held the estates in 'Tenant Right is demonstrated by the Abbey Rental, *Coucher Book of Furness Abbey* (Brownbill 1915-19; Hall 1886).

1564 - 1577 Extracts from the original account books of the German miners in the archives of Augsburg [mss relating to English business of Haug and Co.], (Collingwood 1912).

1581 30th March 1581 - Exchequer KR, Special Commissions and Depositions, Manor of Rydal and Grasmere common, (PRO E?134/23 Eliz.East 3, in Boon 1976).

1583 Rights of Rosthwaite/Stonethwaite tenants recorded including service on the Scottish border (in Bouch and Jones 1961).

1593 6th September 1593 - Crosthwaite Tithe Commissioners Papers (CRO D/Ben/Crosthwaite Tithes/1).

1594 12/8/1594 Thickside, southside of Langstrath. a lease of woods for charcoal. It gives the boundary of the wood. 'It will make 3000 seams of charcoal, every seam containing 8 bushells as measured at the smelting house in Keswick' CRO D/Law/1/155)

APPENDIX 3
PLACE-NAME EVIDENCE

INTRODUCTION

The list of place-names examined for this report is a long way from being fully comprehensive, it does however represent a significant sample. The place-names function on two levels, those describing large scale features and those describing small-scale ones.

On the small scale there are field names, bridge names, names of buildings. Field names are often a good indication of the quality of the land or the use to which it has been put. The major source of reference has been the tithe schedule from 1842 along with documentary references where the field referred to can be identified. Bridge and building names are a little less helpful as they tend to be more fanciful or take on the names of nearby or associated features.

On the large scale there are the names for topographical features such as mountains, rivers, and settlements. Here a clear picture emerges of a near total dominance of names with Scandinavian origins with only approximately 10% of the total having alternative sources, principally Old English. This 10% may well represent the remnant of the older English nomenclature in use before its subsequent swamping by the terminology of the incoming Norse settlers. It is also quite likely that the Scandinavians gave names to features that were previously not named as a result of settling in areas that were unoccupied at the time. This meant that not only did their terminology in many places supersede the existing one but also increased the sheer volume of new place-names nearly all of which were in their language.

Further support for the colonisation of the valley by Norse incomers is given by Collingwood who stated that 'The name Borrowdale is a good proof that not only Norse, but grammatical Norse, was spoken by the people who finally settled here. In the Furness Abbey records it is written *Borcheredal*, that is *Borgardalr* in Icelandic, the 'dale of the Borg', *borgar* (a personal name) being the proper genitive.' (Collingwood 1902).

Place-names have played a significant role in aiding the interpretation of the historical landscape. They have given indications of past land use and ownership or they are frequently the only remaining evidence for a feature that has subsequently disappeared.

The place-names within this appendix are primarily culled from four sources; *Lake District Place-names* (Gambles 1980), *The Place-names of* Cumberland (Armstrong *et al* 1950), *English Place-names* (Cameron 1961) *and English Field Names: A Dictionary* (Field 1989).

PLACE-NAMES FOUND IN BORROWDALE

Frequently Used Topographical Names:

How - Hill.

Knott - Rocky outcrop.

Ling - Heather/Bracken covered.

Slack - depression or shallow valley.

Stack - pile or heap.

Dub - a deep pool in a river or land beside a river.

Borrowdale - 'The dale of the fort' from Old Norse *borg*.

Derwent - Common British name 'The river of oak trees'.

Gillercomb - Possibly from ON *gildre*, a trap or snare, 'the combe where traps were set.'

Glaramara - Recorded as Hovedgleuermerhe in 1210. This can be broken down with the first element *hoved* refering to 'the mass of the fell'. The second element is *gliufrum* meaning 'by the chasms/ravines' and finally *ehre* meaning a 'shieling or mountain hut'. Put all together it translates as 'The mountain with the shieling by the ravines'.

Honister - Possible interpretation based on Norwegian place-name Hunastad or 'Hunis place'. The final element could be *saetr*.

Langstrath - From the **Old English** *strod* 'The long marsh'.

Natural Features:

Aaron Crags - Possibly a corruption of the Old English *earn*, meaning 'eagle'. An alternative explanation is that it's a personal name prefix.

Base Brown - Probably derived from the ON personal name Bruni and ON bass - 'Bruni's cowshed' although Bruni also means place cleared by burning in Old Norse.

Belt Knott - Not Known

Black Waugh - Not Known

Blea Crag - Derived form the Old Norse *bla* meaning 'dark or deep blue'.

Brandreth - From the Old Norse *brand reith* , a fire place or grate. A reference of 1805 refers to 'the three footed brandreth' suggesting a beacon once burnt here.

Broad Haystack - Could be a reference to the shape of the crag.

Bull Crag - The tenant of this farm was obliged to keep a bull for the use of the dale.

Capell Crag - From the Middle English *capel* 'horse'.

Custs Gulley - Not Known.

Esk Hause - Hause originates from the Old Norse *hals* literally meaning 'neck' hence it is used to signify i) a narrow path ii) narrow connecting ridge or iii) narrow entrance to a valley. Therefore Esk Hause = narrow path or entrance at head of River Esk.

Fawn Crag - Fawn Cross in Cleator means Fallen Cross its possible the same meaning applies here or it may be one of a number of place-name references to deer.

Hanging Stone - From the Old English *hangende* - 'land on a steep slope' .

High Buck How - One of a number of place-name references to deer.

High Doat - A doat fence is one apportioned out for repair among several persons and this name may mean something like 'the apportioned pastures'.

High Scawdale - 'The dale with the hut'.

Hind Side/Crag/Gill - Could be a surname or one of a number of place-name references to deer.

Kiln How - May refer to the one time existence of a kiln here.

Lamper Knott - Could be a personal name.

Little Gatesgarthdale - From the Old Norse *geit* + *skarth* meaning 'the pass where the goats go'.

Looking Stead - Possibly 'the looking place', the view point from which sheep or cattle could be watched.

Mirk Slack - From the Old Norse *myrk* meaning 'dark'.

Mitchell Cove - Possibly related to the family Thomas Mitchel.

Paper Crag - Not Known.

Pounsey Crag - Not Known.

Rigghead - From Old Norse *hyrggr* which is used in reference to hills of an elongated shape which fall off steeply on either side.

Sergeants Crag - Not Known.

Stickle Brow - From Old Norse *stikill* meaning 'a sharp point or pike'.

Styhead Pass - It used to be known as Hederlanghals (1209) with *lang* meaning long and *hals* meaning pass both from the Old Norse. *Heder* is more obscure and may come from the Old English *aedre* which implies a rapidly flowing stream. So the original name may mean 'the long path over the pass by the rapidly flowing stream'.

Tongue Head - Named as a description of its shape. The word could be derived from the Old English *tunge* but is more likely from the Old Norse *tunga*.

Settlement:

Longthwaite - 'the long clearing' from Old Norse *langr* + *thveit*.

Rosthwaite - 'the clearing with the heap of stones' from the Old Norse *hreysi* + *thveit*.

Seathwaite - 'the clearing among the sedges' from the Old Norse *saer* + *thveit*.

Seatoller - Either 'the summer pastures among the alder bushes' from the Old Norse *alor* + *saetr* or 'Olvars summer shieling' personal name + *saetr*.

Stonethwaite - 'the stony clearing' from the Old Norse *steinn* + *thveit*.

Thornythwaite - 'the clearing with the thornbushes' from Old Norse *thorn* + *thveit*.

Roads/Bridges/Water:

Airys Bridge - Reference to the family of Chris Airie 1603 or Jayne 1634.

Allen Gill - personal name common in England soon after the Norman conquest.

Blackmoss Pot - Could either derive from the Old English *mos* or the Old Norse *mosi* meaning a 'marsh or peat bog'.

Blackmoor Pots see Blackmoss Pot.

Black Sike - Could derive from either the Old English *sic* or the Old Norse *sik* meaning a 'ditch or drainage channel' 'a small sluggish stream through a marsh'.

Burthwaite Bridge - Called Butherthwait in 1211 which comes from the Old Norse *buoar pveit* meaning 'clearing around, or adjacent to, a booth'.

Colywife Dub - Not known, although *col* is Old English for charcoal.

Driedley Gill - Not Known.

Folly Bridge - Not Known.

Galleny Force - Not Known.

Grains Gill - From Old Norse *grein* meaning 'a branch of a valley, a side valley'.

Launchy Tarn - Not Known.

Lincomb Tarn Could either be from the Old Norse *lyng* meaning 'heather' or from the Old English - *lin*, meaning 'land where flax was grown' or from the verb *lind* meaning 'lime tree'.

Little Stanger Gill - Probably derived from Old Norse *stong* meaning 'a post' usually marking a specific boundary.

Nichol Dub - Nichol is probably a personal name.

Pennybridge Dub - Possibly named after a nearby toll bridge.

Ribby Gills - possibly from Old Norse *hryggr* + *byr* meaning 'on a ridge'.

Rottenstone Gill - Not Known.

Ruddy Gill - Possibly derived from Ruddle meaning red.

Sourmilk Gill - Probably fairly modern, refers to the whiteness of the foam.

Sprinkling Tarn - In 1322 known as 'Prentibiountern' probably derived from 'Sprentaburn', an Old English compound word meaning 'the gushing or sparkling stream'.

Stockley Bridge - from the Old English *stocc* a tree stump and *leah* a woodland clearing.

Strands Bridge - From the Old English *strand* meaning the bank of the river.

Strawberry Gill - Not known, but may refer to colour of the water.

Swan Dub - May literally refer to a nesting swans.

Tansey Gill - May refer to the common wildflower of the same name.

Taylergill Force - Family of William Taylor is referred to in the 1718 Crosthwaite Parish Register it is likely this was named after him.

Tongue Gill - See Tongue Head.

Tram Dub - May be a Cumbrian dialect word meaning long and narrow.

Tray Dub - Not Known.

Woof Gill - Possibly derived from the Old English *wolf* meaning wolf.

Woods:

Frith Wood - Possibly means 'peace, safety' - Old English *frioborch* 'peace pledge'.

Huddlestones Shop - Not Known .

Johnnys Wood - Personal name.

Low Stile - Probably literally refers to a stile into the wood.

Lowbank - Probably refers to a either a natural or artificial topographical feature.

Scaleclose - Old Norse *skali* - shieling.

APPENDIX 4
CATEGORIES OF WOODLAND FOUND IN BORROWDALE

This information is taken from *'Woodland History: A Preliminary Investigation of the History of Woodland owned by the National Trust in Borrowdale'* (National Trust 1980).

ANCIENT SEMI-NATURAL WOODLAND

Johnny's Wood

Stonethwaite Woods

Seatoller Wood

Frith Wood

Scaleclose Coppice

Huddlestone Shop Wood

This is woodland that, despite being subject to some form of management, retains many of the characteristics of unmanaged naturally regenerating woodland. They tend to be located in less accessible areas and on steeper fellsides where extraction and exploitation of the timber is harder. It is for these reasons that they have escaped the more intensive management styles experienced in the past elsewhere and have therefore been able to retain their semi-natural quality.

WOOD PASTURE

Seatoller Wood

Stonethwaite Wood

Huddlestone Shop Wood

These may have been relict areas of timber associated with a former park, high forest, plantation, or coppice which now consists of widely spaced standard trees as a result of grazing and trampling from stock preventing regeneration of underwood or coppice. It is usually associated with other agricultural uses such as being the wooded part of a larger enclosure used as pasture or sheltered grazing and part of a farm tenancy linked to a particular holding. The timber is used for domestic, agricultural, and industrial purposes although its harvesting would be controlled through a system of customary rights.

COPPICE WOODLAND

Seatoller Wood

Johnny's Wood

Scaleclose Coppice

Frith Wood

Often situated on land not suitable for agricultural use coppice woodland involves most broad leave tree species according to the required use for the end product. Harvesting of the underwood occurs at between 10-20 years depending on the species, climate, soils, topography, etc. After cutting, the regrowth is protected from grazing and trampling by stock for about seven years by a number of methods, such as fences, hedges, walls, or banks and ditches. Many coppices were established in the seventeenth and eighteenth centuries when demand for coppice and underwood products was high.

A number of the woods in Borrowdale have been managed for coppice at some point in their existence. This is not surprising as the demand for charcoal and the variety of uses to which coppice products could be put meant they provided a valuable source of income and coppicing represents an effective form of woodland management.

WOOD (HIGH FOREST)

Parts of Johnny's Wood

Parts of Frith Wood

Parts of Seatoller Wood

The trees are grown and harvested for timber and timber products such as bark. The wood itself may have once been grazed as pasture woodland or old coppice where the walls have fallen into disrepair and the trees have been allowed to grow. Almost always located on the more level valley floors and lower fellsides where there were less problems in extracting the timber.

In Borrowdale high forest woodland occurs in areas that were once managed as coppice and has subsequently been converted as a result of a deliberate planting or management strategy. If the trees are left, eventually the maiden trees will shade out other regrowth, and with the the collapse of the enclosing wall, the grazing of stock will also help to prevent the development of any new growth.

RELICT PLANTATIONS

Seathwaite

These frequently comprise conifers or exotics and are protected from grazing after planting by boundary fences or walls. They were utilised for timber from the mid- eighteenth century and, therefore, are associated with more modern forestry management.

There are only a few plantations in Borrowdale today, and are principally located close to Seathwaite and Stonethwaite, and are small in size.They comprise conifers and have all been created within the last 150 years, as none appear on the 1842 tithe map. The first and second edition OS maps depict a number of other small enclosed plantations spread around the valley floor which have subsequently disappeared.

APPENDIX 5
CURRENT WOODLAND MANAGEMENT POLICY IN BORROWDALE

MANAGEMENT OBJECTIVES

1. To maintain the traditional, historical and natural beauty of the woodland landscape.

2. To manage the woodlands in sympathy with their nature conservation interests.

3. To provide public access and other facilities where appropriate.

4. All SAM's and other sites of archaeological and historic interest to be protected.

5. To continue a system of woodland management providing for multiple land use.

6. Within preceding constraints to produce the maximum economic return by sound silvicultural practices.

INDIVIDUAL WOODS

Stonethwaite Woods

This has no immediate management problems but more efficient exclusion of stock is required to allow the wood to regenerate. This needs extensive fencing and planting.

Johnny's Wood

There is a need for encouragement of regeneration and to maintain small group plantings of oak. Grazing needs to be controlled and consideration needs to be given to coppicing some areas. The wood is to be kept fairly open in order to maintain bryophytes and lichens. Dead wood away from paths needs to be left. There is a need for thinning of oak coppice, fencing walling and the maintenance of the existing planting.

Seatoller Wood

There is an immediate need for the regeneration of oak trees. Large exclosures need to be formed and public pressure to be kept low. There is a need for the protection of the bryophytes and lichens. Dead wood is to be left *in situ*.

Low Stile

Some planting is needed and fences and walls are to be repaired.

Frith Wood

The present broadleaf canopy is to be maintained. Birch needs to be thinned followed by re-planting.

Scaleclose Coppice

This has no urgent needs, although fencing to exclude stock would be advantageous. The wood needs fencing and thinning.

APPENDIX 6
REFERENCES FOR BORROWDALE BOUNDARIES

FURNESS ABBEY COUCHER BOOK (COLLINGWOOD 1918, FROM BROWNBILL 1915-19)

1209: 'Bounds of Borrowdale begin from Eschnesbec, Ashness beck, where it falls into Derwentewater and thence go up the hill between Borrowdale and Wattintundelau Watendlath, Watendelair (?-lau) or Wathendelau. Then go up Brown Dodd to Laghedure and Heghedure English for 'low door' and 'high door' two gaps in the ridge possibly Ladder Brow and Ether Knott.'

'Thence to Marcebuthe or Marthebuthe (the booth of the mark or boundary, a birch tree on the boundary etc) and to Docketerne. Then to the middle of Butherhals (the pass of the booth which has become the Bowdergate from Watendlath to Rosthwaite.) And thence down a stream to Butherthwait (the sloping field of the booth). Boundary is then marked by Langestrothbec following up the sike that comes from Stainthwait and by the lower head of Stainthwait to Gleuermerghestele (stile, steep path of Glaramara) to the top of the mountain between Gleuermerghe and Langestrode or according to Lady Alices charter Houedgleuermerhe - the head of Glaramara.'

'The next point is where the bounds of Borrowdale and Butterilket and Egremont join i.e. Eskhause 'following the bounds of Egremont by the top of Hederlanghals - the long pass of the heath or wild fells (Sty Head Pass). From Sty Head we go to the top of Windheg possibly from the ON wind-egg - windy ridge referring to Great Gable. Thence to Gatescartheheued 'head of the gap of the path' between Seatoller and Buttermere. Up again to Houedscaldale - High Scawdale then 'to the white stone on little Grenehope'. Then by the side of Grenehope to the sike that goes to Bredinebrigge, probably bredin means braided and the name describes a hurdle-bridge. Going onwards by the same sike to Derwentwater at the point called Arneraid.'

CHARTULARY OF FOUNTAINS ABBEY (LANCASTER 1915)

Composition 1211: '... by mutual consent ... between ... Furness and ... Fountains ... touching the dispute respecting the bounds of Burghedale and Wathenthendelan and Langestrodhe; namely that all the 'flateria' [level areas of land?] from the stream of Eskenese where it descends into Derwentwater from the under ridge of the lower hill as far as the stream which descends from Wathenthendelan and falls into Borgha shall remain in common to the both houses both in wood, herbage, and in all other easements, for ever ...'

LETTER APRIL 11 1789 DESCRIBING BOUNDARIES TAKEN FROM AN INDENTURE OF AUGUST 9TH 1617 (PRO ADM 66/122)

'Beginning at Greatay Bridge and up Old Greatay until the place called Newbridge. Then up Clender Mackin until the foot of Mosdelbeck and from thence up Mosdelbeck until the Head of Mosdelbeck from thence to the top of Knowtbendod to the top of Helvellin as the even

Waters divide from Helvellin top untill Thirlmere and there as Thirlmere runneth to Smathwaite Bridge from thence to Meargill over Castlerigg Fell to the High Seat and from thence down Caw Beck holmgill entering into Darwen and down Darwen untill Greatay Bridge aforesaid.'

MANOR COURT BOOK, COPY OF BOUNDARY RIDING, AUGUST 4TH 1857, OF THE COMMONS AND WASTELANDS OF AND WITHIN THE MANOR OF BORROWDALE (D/LAW/1/165).

'The boundaries of the Commons and Waste Lands of and within the Manor of Borrowdale in the County of Cumberland belonging to Sir Wilfrid Lawson Baronet Perambulated the Fourth Day of August in the year of our Lord One thousand eight hundred and fifty seven as follows -

Beginning at a place called Flood Stangs Gill above the Lands of Watendlath and so on by the fence of the freehold ground of Skinner Zackray Langton Esquire to Eddy Grave Stake to one or two stones marked B. On one side and W. On the other abutting on the Manor of Wythburn and from thence to the High Tove from thence to Shivery Knot and to the Mew Meregill Head High Stick and to Flowery Gill Head low white Stones and to the Raise Gill Head and from thence to the Utrill of Raise all adjoining to sain manor of Wythburn and from thence to Broddmire Gill Head Thunder Cragg Knotts and to the Meresyke Head and to Borrowdale Stake and to the top of Roger Pike and to Little Gill Head and to the top of Rosset Pike and to the Bowfell End adjoining to the Manors of Great Langdale in the County of Westmorland and from thence to Uregap or Oregap and to the Hanging Knot and thence to Eskhaws adjoining to the Manor of Birker and from Eskhaws to the top of the hill called Great End from thence by the Styme or Stie Head to the top of the hill called Mickell or Great Gavel adjoining the Forest of Copeland to a Green Gavel(Gable) and from thence to the three footed Brandreth where Ennerdale Borrowdale and the Forest of Gaskarth to the top of Raven Cragg where the boundary of the Common of Seatoller begins'

MANOR COURT BOOK, INSERTED LETTER, 1904 (D/LAW/1/165).

'From Seatoller, up Honister pass to the top of 'Borrowdale hose', to the top of Raven Crag, along the top of Gillacombe between Ennerdale and Borrowdale, to the top of Great Gable, down to the top of Sty Head Pass between Wasdale Head and Borrowdale, to the top of Great End, down by Esk Hause between Eskdale and Borrowdale, to the top of Bowfell, to the top of Stake Pass, the top of High Raise, top of Greenup, down the Greenup valley to Stonethwaite village.'

[This is only part of the boundary, from Greenup it leaves a large section of the manor boundary out]

APPENDIX 7
STATUTORY DESIGNATIONS

The information on statutory designations has been inserted from the Borrowdale Whole Valley Plan (National Trust 2005b). This list only provides information on sites within the study area defined in this report. This area excludes other areas of land in and surrounding Borrowdale that are owned by The National Trust, most importantly the valley of Watendlath.

SCHEDULED MONUMENTS

Scheduled Monuments enjoy statutory protection in law from any form of disturbance. Any work that may have an impact upon a Scheduled Monument, its setting or curtilage, requires written consent from English Heritage prior to the start of work. It is National Trust policy that all applications for consent should be made by the archaeologist or their nominee, and with the approval of the relevant member of property staff/ project manager.

Table 1: Summary of information held on the NTSMR relating to all Scheduled Monuments within the present study area.

Site Name	Scheduled Monument Number	Period	Old NTSMR (Pref Ref)	New NTSMR (MonUID)
Borrowdale Graphite Mines And associated Grinding Mill, 660m North West of Seathwaite	32900	Medieval to Post Medieval - 1257 AD to 1900 AD	20118 and 25571-25639	119961
Slight Univallate Hillfort on Castle Crag	23680	Iron Age – 800 BC to 42 AD to Early Medieval/ Dark Age – 410AD to 1065 AD	20125	120044

LISTED BUILDINGS

Any work that would affect a Listed Building, both inside and out and including it's curtilage, would require consultation with the property Curator. Listed Building Consent could then be obtained through the Local Planning Authority. The settings of the Listed Buildings also enjoy statutory protection, further advice on this can be given by the Curator.

Table 2: Summary of Listed Building information held on the NTSMR and from records stored at the regional office for buildings and structures within the present study area.

Site Name	NGR	Status	Period	Old NTSMR (Pref Ref)	New NTSMR (MonUID)
Long Corner Cottage	NY25201740	Grade II Listed Building No LBS 72129	Post Medieval - 1540 AD to 1900	20221	117545
Longthwaite Farmhouse and	NY25501430	Grade II Listed Building No	Post Medieval - 1540 AD to 1900	26982	119424

adjoining Barn		LBS 72134			
Yew Tree Farmhouse Rosthwaite	NY25701480	Grade II Listed Building No. LBS 72135	Post Medieval - 1540 AD to 1900	25796	119887
Oak Cottage And Adjoining Barn	NY25701470	Grade II Listed Building No. LBS 72136	Post Medieval - 1540 AD to 1900	26987	121595
Nook Cottage and Nook Farmhouse With Adjoining Barn	NY25601470	Grade II Listed Building No. LBS 72137	Post Medieval - 1540 AD to 1900	26981	121587
Howe Cottages	NY25601470	Grade II Listed Building No. LBS 72138	Post Medieval - 1540 AD to 1900	20223	116065
Seathwaite Farmhouse and adjoining Barn	NY23501210	Grade II Listed Building No. LBS 72140	Post Medieval - 1540 AD to 1900	25761 25763	115291 120828
Seathwaite Cottage	NY23501210	Grade II Listed Building No. LBS 72142	Post Medieval - 1540 AD to 1900	25771	115889
Seathwaite Farm Cottage	NY23501210	Grade II Listed Building No. LBS 72142	Post Medieval - 1540 AD to 1900	25770	115035
Stockley Bridge	NY23451090	Grade II Listed Building No. LBS 72143	Post Medieval - 1540 AD to 1900	22623	119371
Yew Tree Farmhouse Stonethwaite	NY26201370	Grade II Listed Building No. LBS 72147	Post Medieval - 1540 AD to 1900	20225	123285
Barn/Byre Opposite To West Of Yew Tree Farmhouse Rosthwaite	NY26201370	Grade II Listed Building No. LBS 72148	Post Medieval - 1540 AD to 1900	25797	121386
Fellside Cottage	NY26201370	Grade II Listed Building No. LBS 72149	Post Medieval - 1540 AD to 1900	20226	120254
Stonethwaite Farmhouse	NY26301370	Grade II Listed Building No. LBS 72150	Post Medieval - 1540 AD to 1900	25781	121097
The Cottage, Stonethwaite	NY26201360	Grade II Listed Building No. LBS 72151	Post Medieval - 1540 AD to 1900	20229	117052
Croft Cottage	NY26201370	Grade II Listed Building No. LBS 72152	Post Medieval - 1540 AD to 1900	25809	120263

HISTORIC PARKS AND GARDENS

There are no such designations inside the study area.

CONSERVATION AREAS

There are no such designations inside the study area.

APPENDIX 8
EVENT RECORD

This record of events associated with the landholdings of the National Trust in and around Borrowdale (not all of which are in the present study area) has been taken from the *Archaeological Atlas for Borrowdale and Derwentwater, Cumbria'* (National Trust 2005a).

1902 43.7ha of wood and parkland at Brandlehow bought by the National Trust by subscription, and opened to the public by HRH Princess Louise, Duchess of Argyll, who declared the estate 'open for the enjoyment of the people under the direction and keeping of the National Trust'.

1904 Historical description of the Derwentwater family on Lord's Island, and its archaeology.

1910 125.8ha of Grange Fell, including King's How and the Bowder Stone, were bought by the National Trust by subscription. Land at Grange Bridge was also acquired at this time.

1920 The summit of Castle Crag was given to the National Trust by Sir William Hamer and his family in memory of his son and others killed in the First World War.

1922a Calf Close Bay and the viewpoint of Friar's Crag were bought by the National Trust by subscription as a memorial to Canon Rawnsley. The Ruskin Memorial on Friar's Crag was given in 1900.

1922b Lord's Island in Derwentwater was bought by the National Trust as a memorial to Canon Rawnsley.

1925a 8.1ha of woodland at Castlehead were given to the National Trust from Sir John and Lady Randles.

1925b Sir John and Lady Randles gave Cockshott Wood and North Strands to the National Trust.

1925c Crow Park was given to the National Trust by Sir John and Lady Randles.

1929a Stable Hills, Broomhill Point and other land was given to the National Trust by Sir Norton and Lady Barclay. South Strands Hagg was bought by subscription.

1929b Rampsholme island was given to the National Trust by Mr. H. Walker.

1933 0.6ha of land below Grange Crags was given to the National Trust by A. Rumney.

1938a Leathes Heads Paddocks was given to the National Trust by Miss. E. Hellon.

1938b Land at Grange Bridge was acquired by the National Trust.

1939 18.6ha of land on the lower slopes of Castle Crag was given to the National Trust in memory of Sir William Hamer.

1939-41 Hollows Farm and woods below Castle Crag were bought by the National Trust after a broadcast appeal and partly with a bequest from Mrs. H. Thompson.

1944a 8.5ha at Lingy Bank, south of Castle Crag, were acquired by the National Trust.

1944b The head of Seathwaite valley and the foot of Sty Head Pass with Taylor Gill waterfall and Stockley Bridge were bought by the National Trust.

1945a Land at Grange Bridge was acquired by the National Trust.

1945b 1.2ha at Red Brow, adjoining Grange Fell, was given to the National Trust by Mr. H. Fisher.

1945c Isthmus woodland (3.6ha) was bought by the National Trust with a bequest from Sir John Randles.

1946 32.4ha of open hillside at Langstath Intake was given to the National Trust as a memorial to Mr. Eustace Charlton by his family.

1947a Long Corner Cottage was acquired by the National Trust under the will of Miss A. Tate.

1947b 58.6 ha of Nook Farm and Greenup Gill were acquired by the National Trust through a bequest from Mrs. J. Tomlinson and given in memory of Capt. John Diver.

1948a Skiddaw Cottage, Crosthwaite, was acquired by the National Trust under the will of Mrs. A. Rumney.

1948b 34.8ha, including Bull Crag and Gallent Force, were bought by the National Trust from the Lindley Bequest. 6.9ha lower down the valley at Rosthwaite were bought at the same time.

1950a Ashness Farm (301.4ha) and Woods (72.5ha) bought by and given to the National Trust by Miss E. Harrop and Miss E. Dodd.

1950b 75.3ha of fell on the east side of Lanstrath beck, with Sergeant Crag and the ancient bridleway over the Stake Pass to Langdale, was given to the National Trust by the Rev. H. Symonds.

1951 Derwent Island and St. Herbert's Island given to the National Trust by Denis Marshall.

1952 Further land at Castlerigg Farm was acquired by the National Trust.

1955 9.1ha at Hawse End bought in memory of Philip Scott and partly with money given by Denis Marshall.

1958 The bed of the western half of Derwentwater was bought by the National Trust in 1958 with money subscribed by the Friends of the Lake District and other supporters.

1959 389.9ha of land and woods at Seatoller Farm, up to Honister Pass, was transferred to the National Trust through the NLF.

1960-2 386.5ha, comprising the whole of the ancient Hamlet at Watendlath, Watenlath Tarn and all the land surrounding it, were bought by the National Trust.

1961 Historical description and documentary research of Borrowdale.

1963 Castle Crag Hillfort designated as a Scheduled Ancient Monument by English Heritage.

1964a 32.4ha of fell and woodland at Johnny's Wood and High Doat were bought by the National Trust with money given by Miss Winnifred Vaizey.

1964b 216.1ha including nine cottages, Stonethwaite Farm, Croft farm and other land were acquired under the will of Mr. H. Fisher.

1966a 75.4 ha of land at Coombe Allotment and Troutdale were bought by the National Trust from the Lake District Fund.

1966b The How, a hill in the middle of Rasthwaite Village, was given to the National Trust by Dr. Alan Webster.

1967 Further land at Castlerigg Farm was acquired by the National Trust.

1968 19.8ha at High Rigg Fields were acquired by the National Trust under the will of Miss W. Bowes and with gifts from Grace Tavener and others.

1969 95.9ha of woodland at Great Wood, Keswick, were bought by the National Trust with bequests from Miss. G. Pelly, Mr. E. Smith, and an anonymous donor.

1974 383.2ha of Castlerigg Fell on the east side of Derwentwater, were bought by the National Trust with Lake District Funds and a Countryside Commission grant.

1976 235.5ha of fields and fell pasture around Rosthwaite, extending to the summit of High Scawdel was given to the National Trust by Lake District Farm Estates.

1978a The Lordship of the Manor of Borrowdale and surface rights over 2914ha of the Borrowdale Fells were acquired by the National Trust.

1978b Nook Cottage, adjacent to Nook Farm, was bequeathed to the National Trust under the will of Miss. E. Patterson.

1981 Historical and documentary research into land tenure in Borrowdale.

1982 Raingauge Cottage, Seathwaite, and 8.9 ha of land, was acquired by the National Trust.

1983a Vernacular building surveys of Nook Cottage, Nook Farm, Oak Cottage and Yew Tree Farm undertaken by the National Trust.

1983b Vernacular building surveys of undertaken at Ashness Farm, High Snab Farm, Millbeck Towers, Orchard Cottage by the National Trust.

1984a Vernacular building surveys of: The Cottage, Croft Farm, Fellside Cottage, High House, How Cottages, Ivy Cottage, Knott View, Raingauge Cottage, Seathwaite Farm, Seatoller Farm, Stonethwaite Farm and Yew Tree Farm (Stonethwaite) undertaken by the National Trust.

1984b Soil assessment of Borrowdale farms undertaken by the Soil Survey for England and Wales.

1984c Vernacular building surveys of undertaken of Bowe Barn Sawmill, Caffle House Farm, Derwent Island Cottages, Fold Head Farm, Hollows Farm, Long Corner Cottage, Stable Hill and Stepps End Farm by the National Trust.

1984-5 Surveys undertaken of axe factories between Langdale, Scafell Pike and Glaramara (Claris and Quartermaine 1989)

1986 Vernacular building surveys of undertaken of Skiddaw Cottage by the National Trust.

1988a Documentary history and description of Borrowdale graphite mine.

1988b Excavation of a waterwheel associated with Barrow Mine, Braithwaite by the Lakeland Mines and Quarries Trust.

1989 Survey of Brandlehow drainage adit ‘salt level’, unpubl records.

1992 27.5ha of lake and lakeshore at Overwater given to the National Trust by Lord Schon.

1993a Survey work at Seathwaite undertaken by Rod Muncey, unpubl survey records.

1993b Walkover survey work at Castle Crag Hillfort, unpubl Survey records.

1993c Historic landscape and documentary survey of Watendlath and Ashness undertaken by the National Trust.

1993d The Bield and land adjoining was bequeathed to the National Trust by Mrs P Ferguson.

1993e 19.8ha of agricultural land and adjoining Hollows Farm was bought by the National Trust from Mrs E Golding and Mrs M Shafer, and a gift from Miss B Hamer.

1993f Production of video and accompanying notes produced by University of Leeds.

1995 Leaflet on Derwent Island produced by the National Trust.

1996a 35.2ha at Moor Farm, Castlerigg, with 28 stints on Dodd common, were bequeathed to the National Trust by Mr J Bellas.

1996b Archaeological survey of Seathwaite mines undertaken by the RCHME.

1996c Survey of extent and stability of mine workings and associated deposits at Force Crag mine by the British Geological survey in order to assess health and water pollution threats.

1996d Structural Report of Force Crag Mine buildings undertaken by Waring and Netts Architects.

1997a Survey undertaken by the National Trust at Force Crag Mine.

1997b Structural Report of Force Crag Mine buildings undertaken by Patterson Heggie consulting engineers/structural surveyors.

1998a Watching brief, assessment and small scale excavation of managed Medieval hedge and fence line preserved in and eroding peat section funded by English Heritage and undertaken by Lancaster University Archaeological Unit (Wild *et al* 2001)

1998b Survey of Honister slate quarries and mines undertaken by the RCHME.

1998c Production of leaflet by LDPNA and RCHME illustrating survey plans and describing history and significance of Honister quarries and mines.

1998 Historic landscape and documentary survey undertaken by the National Trust for Borrowdale south of Grange and Derwentwater. Survey area included Nook Farm, Yew Tree Farm, Seathwaite Farm, Seatoller Farm, Stonethwaite Farm and Chapel Farm.

1999 Walkover survey of Derwentwater islands undertaken by the National Trust.

2000a Whole farm plan produced for Seathwaite Farm, and Ashness Farm, Borrowdale, and archaeological recommendations for response to Cumbria Farm Link.

2000b Production of summary list of documentary archives and bibliographic references pertaining to Borrowdale Graphite mine.

2001a Description of documentary and landscape history of Ashness.

2001b Borrowdale Graphite Mines designated as a Scheduled Ancient Monument by English Heritage.

2002a Excavation and recording took place at the Trustee Level, Yewthwaite Mine, undertaken by MOLES. unpubl records.

2002b Conservation assessment for Force Crag Mine produced by the National Trust.

2002c Walkover and documentary survey of Seatoller Farm, High Snab Farm, Seathwaite Farm, and recommendations for Whole Farm Plan.

2002d Description and discussion of farmhouse vernacular architecture in Borrowdale.

2003a Field visit to Yewthwaite mine undertaken by University of Lancaster.

2003b Walkover and documentary survey of Ashness Farm and recommendations for Whole Farm Plan.

2003c Conservation plan for Force Crag Mine produced by the National Trust.

2003d Assessment of machinery conservation and repairs at Force Crag Mine, and public access and interpretation.

2004 Machinery conservation phase at Force Crag Mine. Also completion of building work at Force Crag Mine and first year of open days at the mill building for the public.

2005 Second short phase of machinery conservation phase at Force Crag Mine and some small scale repairs completed on site under Scheduled Monument Consent. Second year of open days at the mill building for the public.

2006 Boundary survey of Seathwaite and Seatoller undertaken by OA North to complete the landscape survey of Borrowdale.

2007 Revision and expansion of the Borrowdale Historic Landscape Survey report started by the National Trust, Report completed by OA North.

ILLUSTRATIONS

FIGURES

PLATES

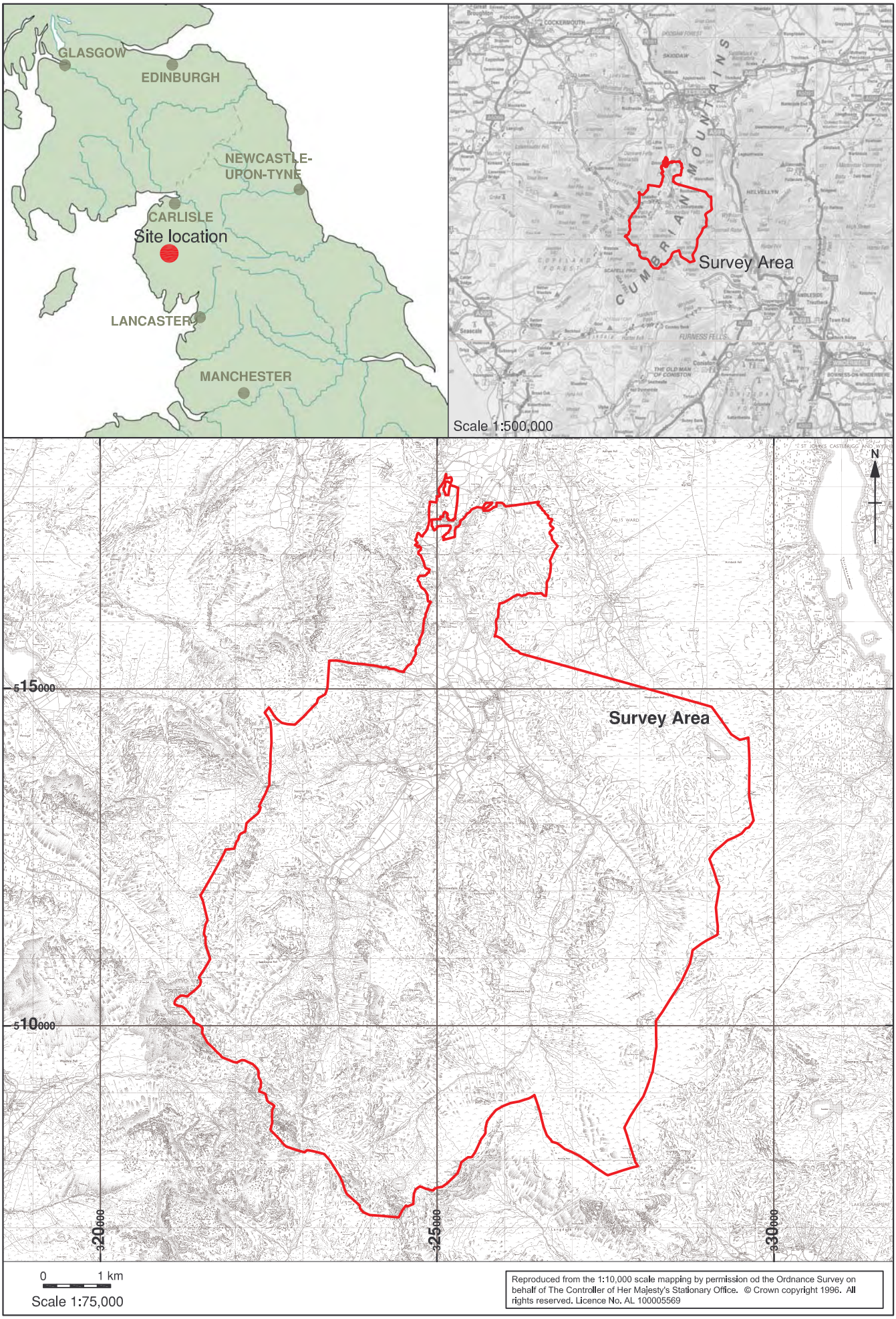


Figure 1: Location of Borrowdale Study Area

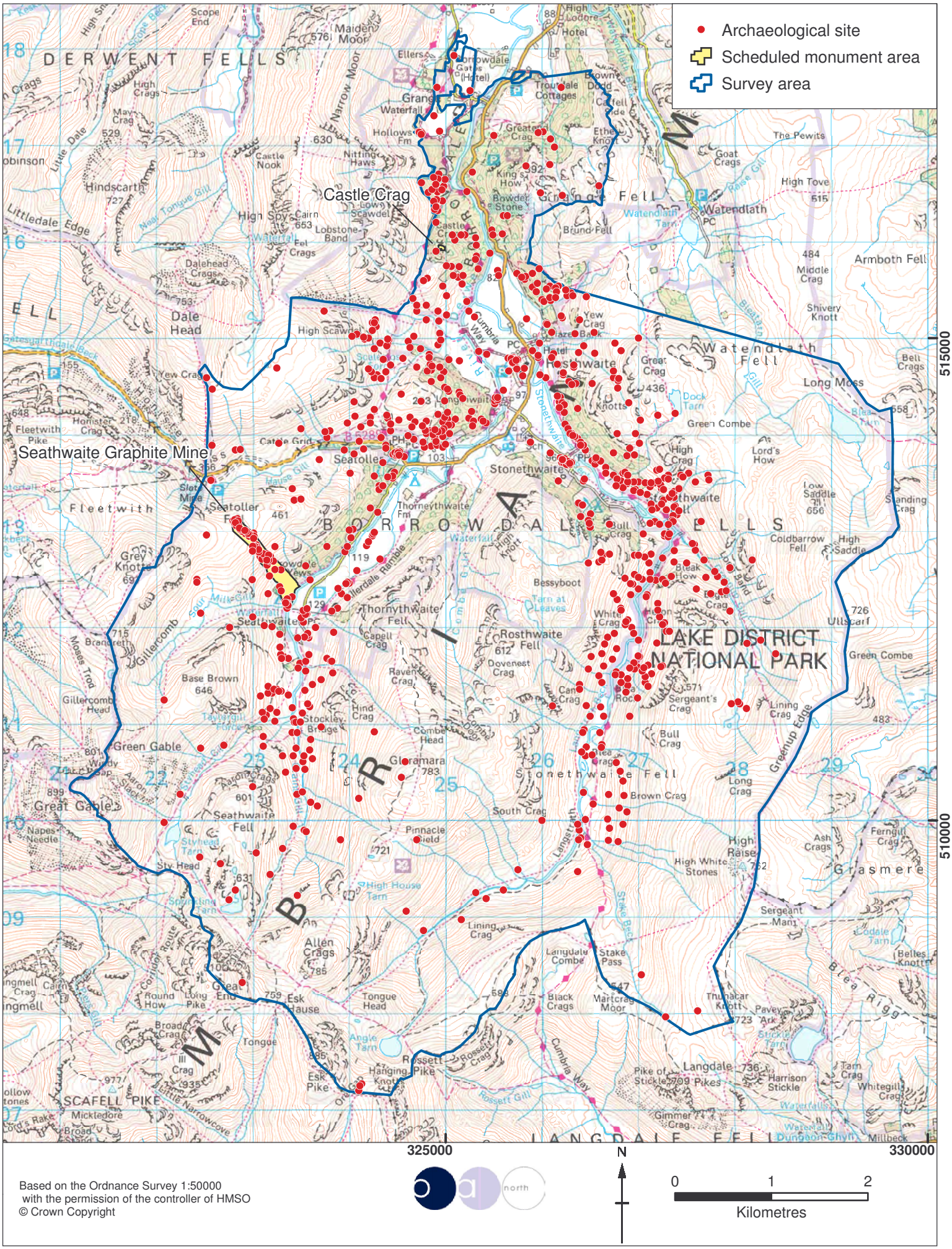


Figure 2: Distribution of archaeological sites in the survey area

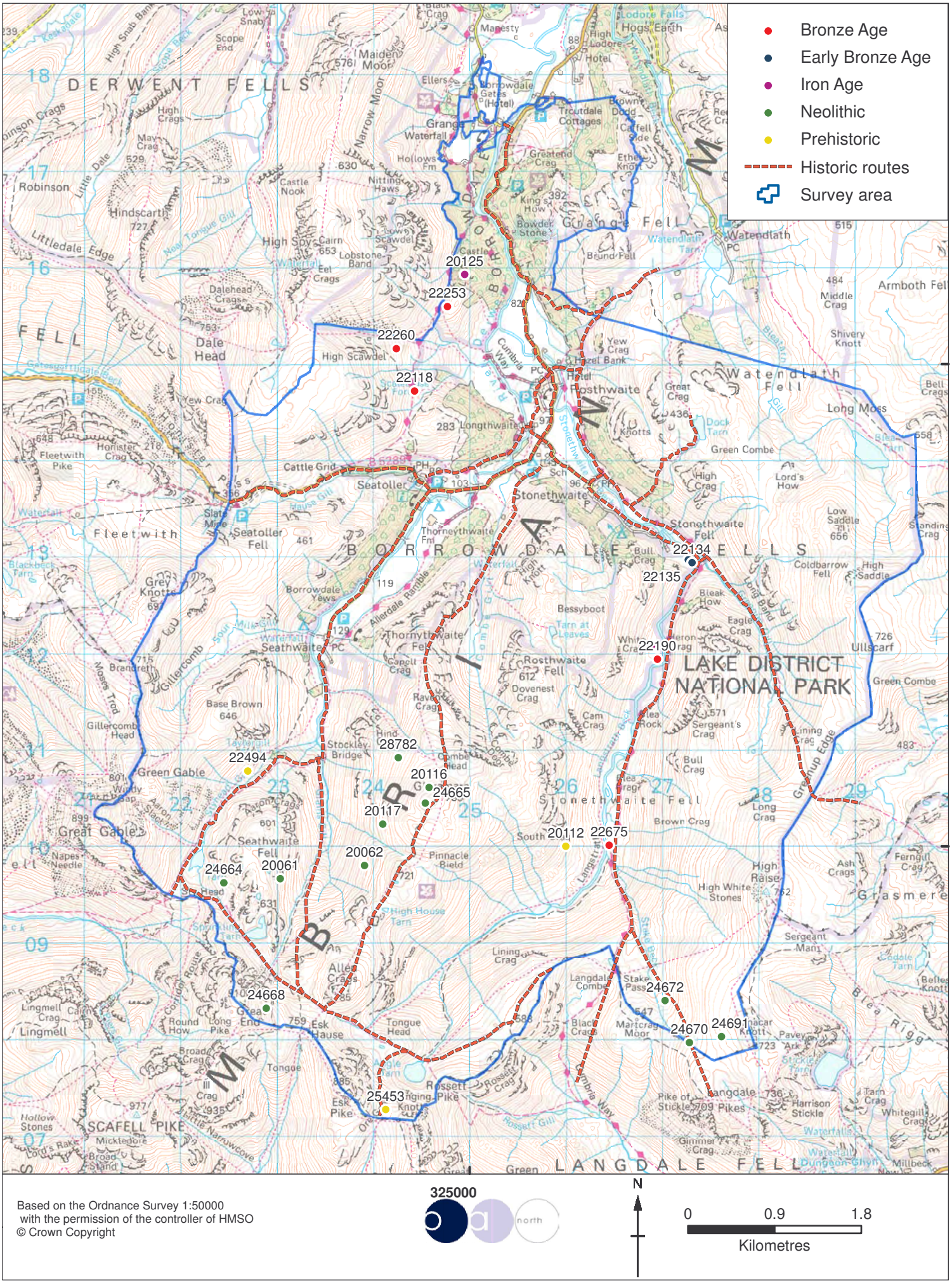


Figure 3: Prehistoric sites

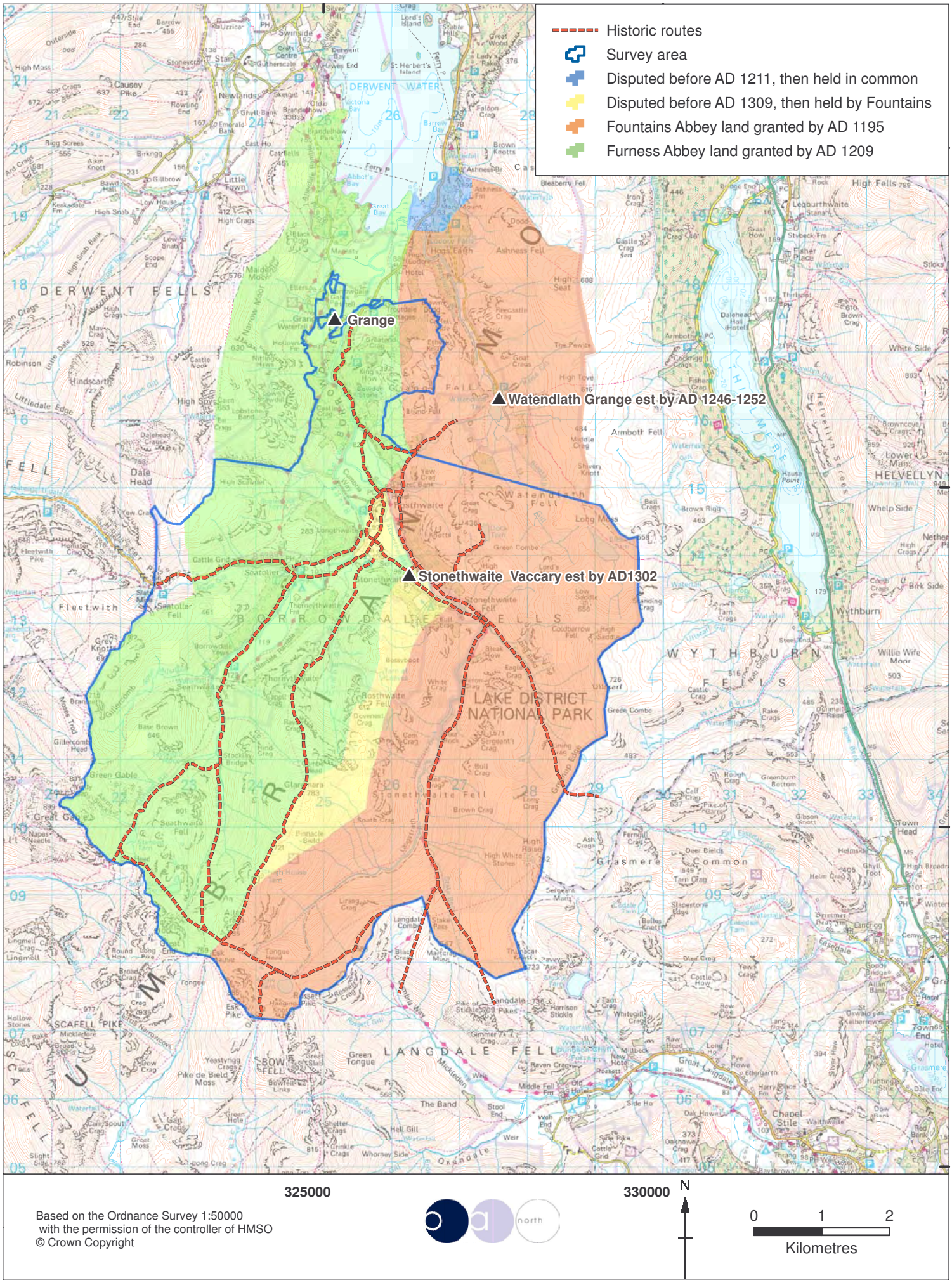


Figure 4: Borrowdale farms and monastic land in the thirteenth century

Figure 5: Medieval sites

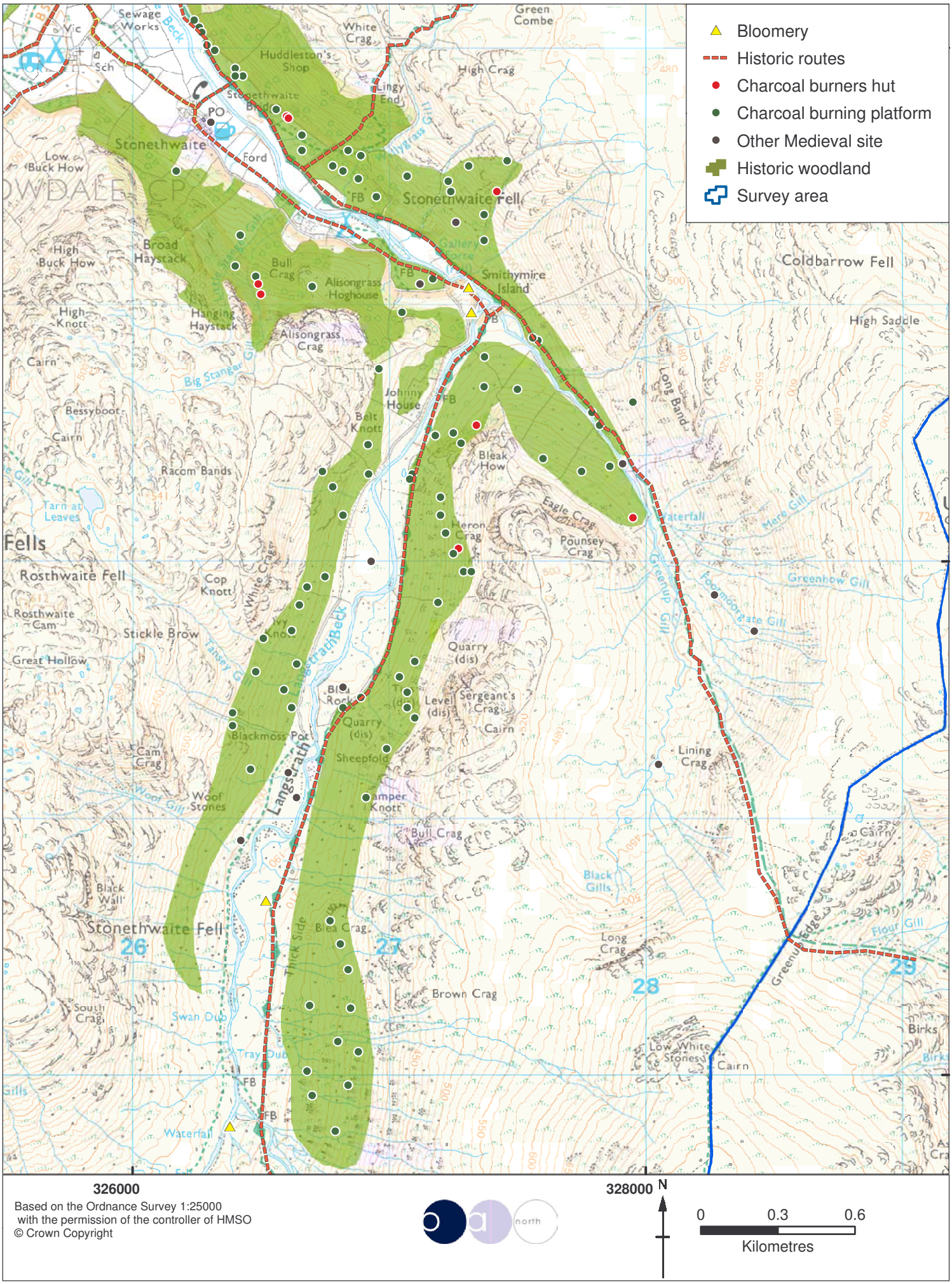


Figure 6:Late Medieval bloomeries and surrounding historic woodland and charcoal manufacturing sites in Langstrath

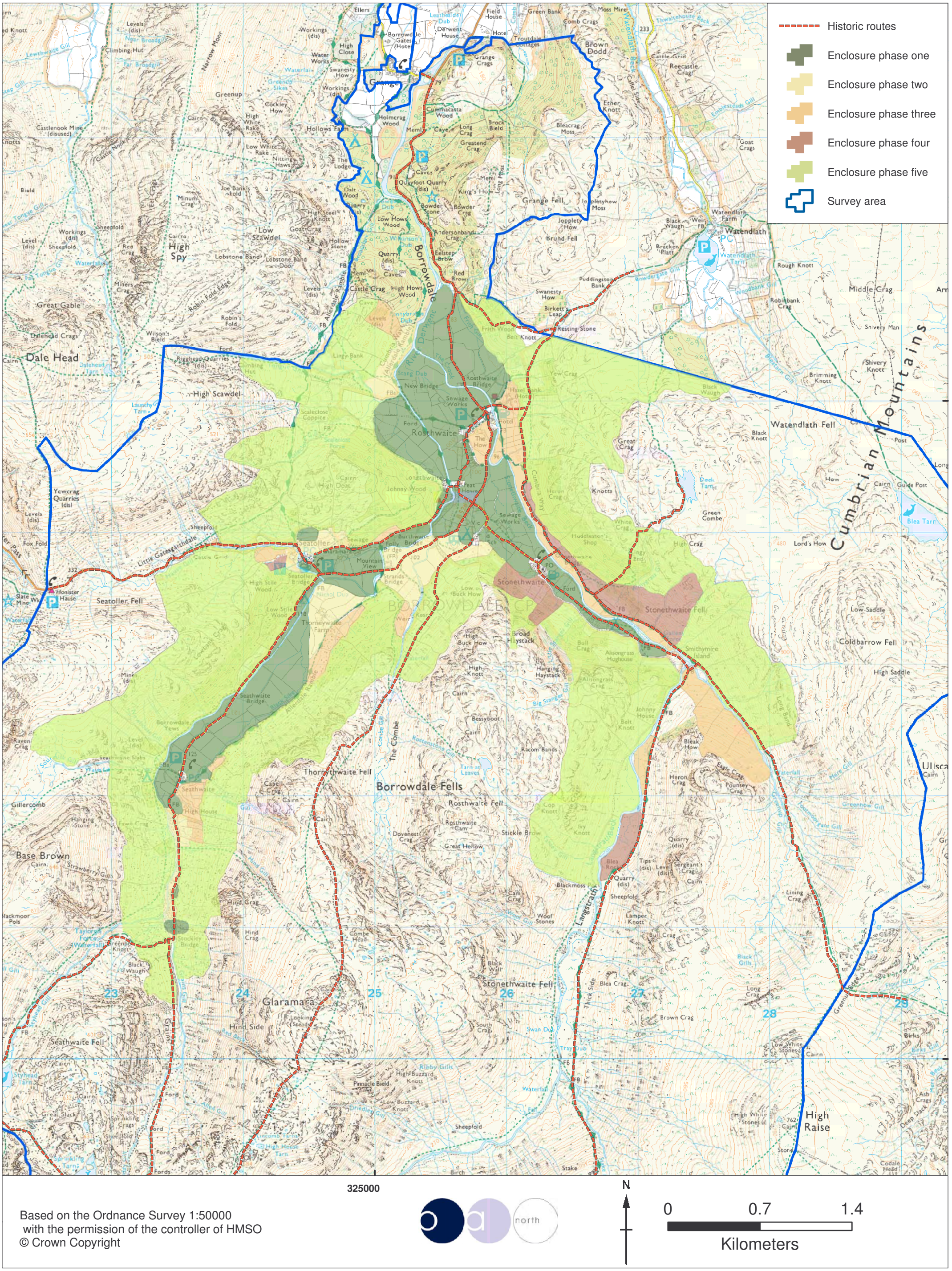
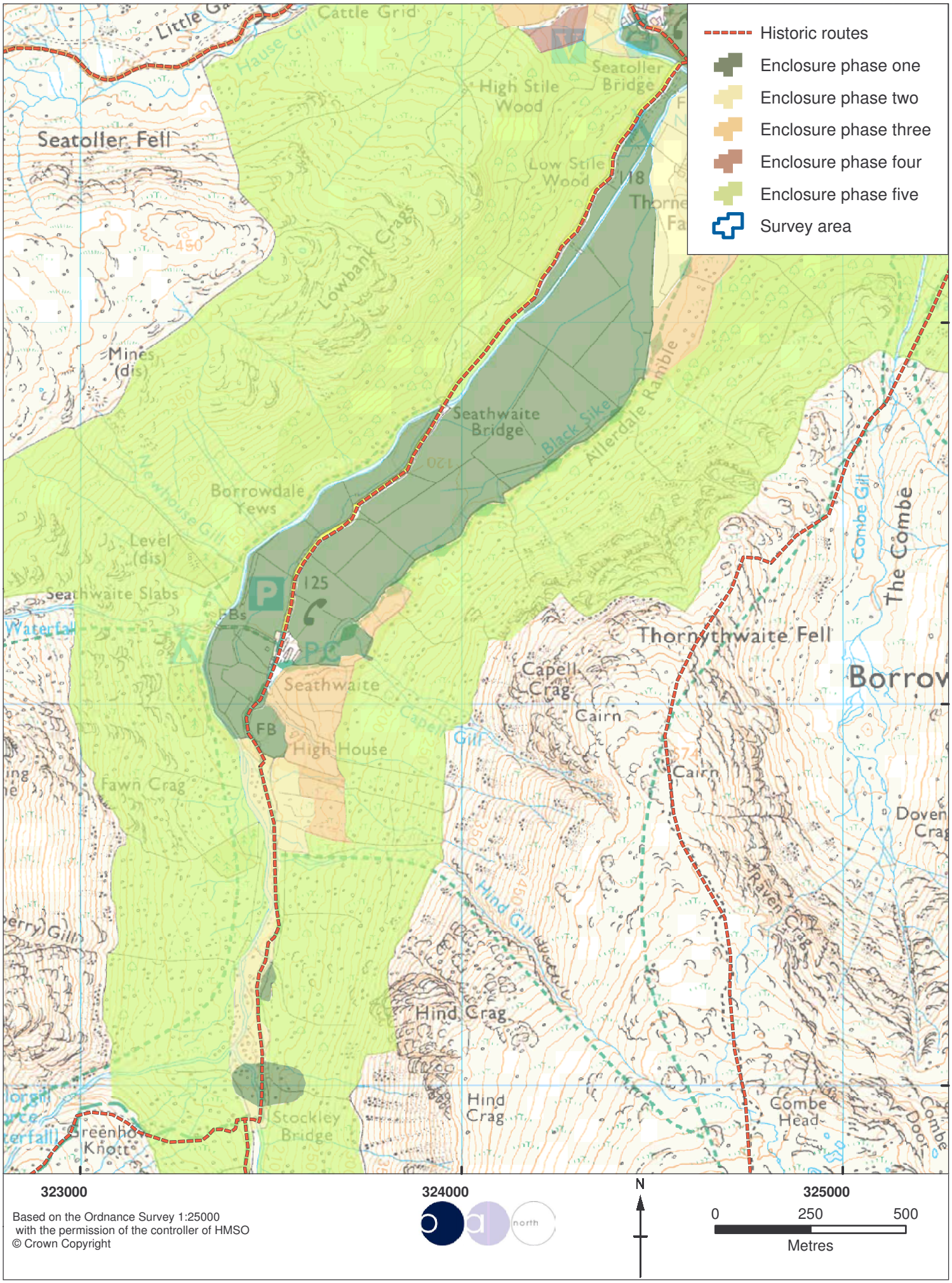


Figure 7: Phasing of enclosure within Borrowdale



Based on the Ordnance Survey 1:25000
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Figure 8: Phasing of Enclosure in Seathwaite

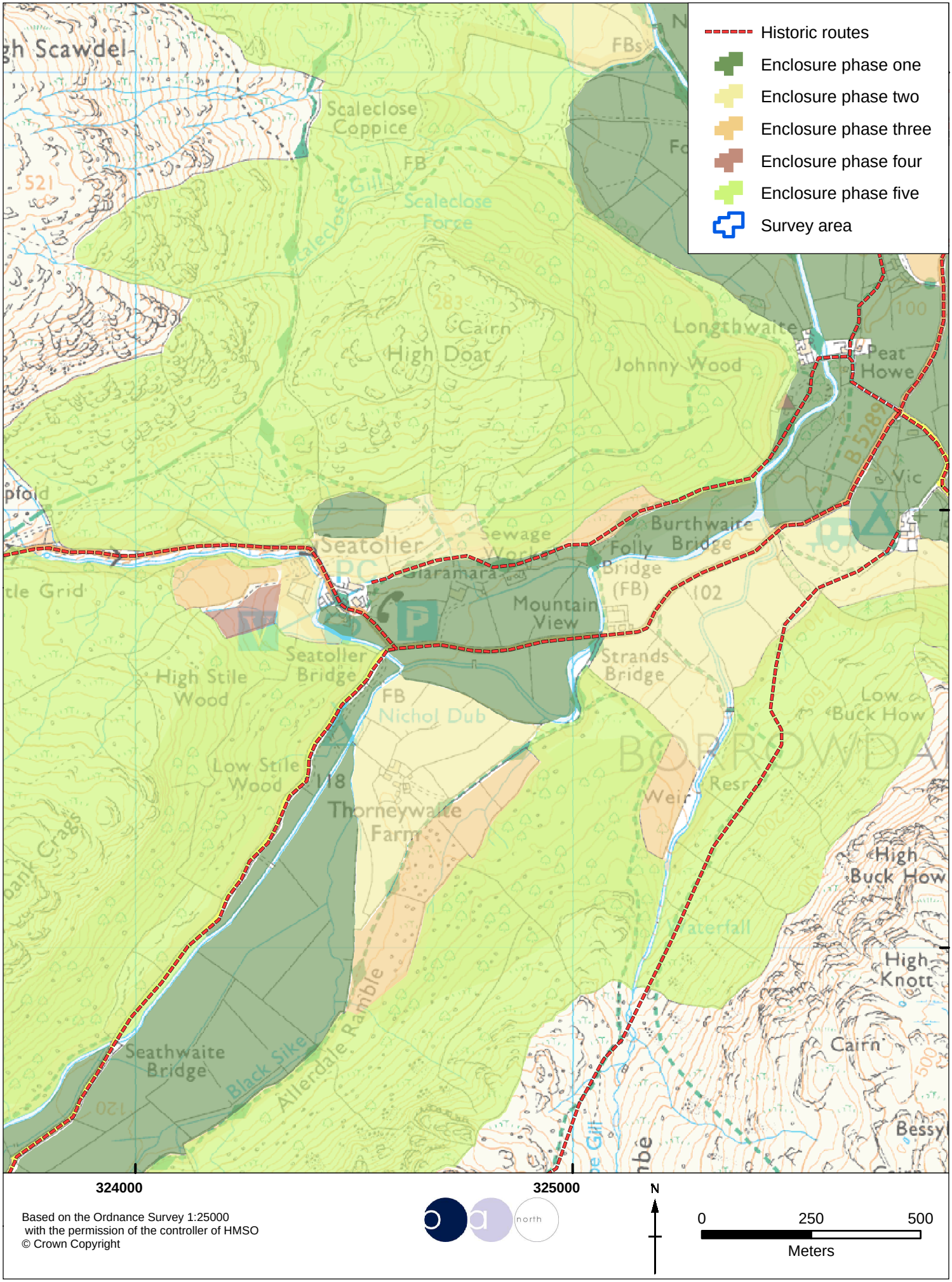


Figure 9: Phasing of Enclosure in Seatoller

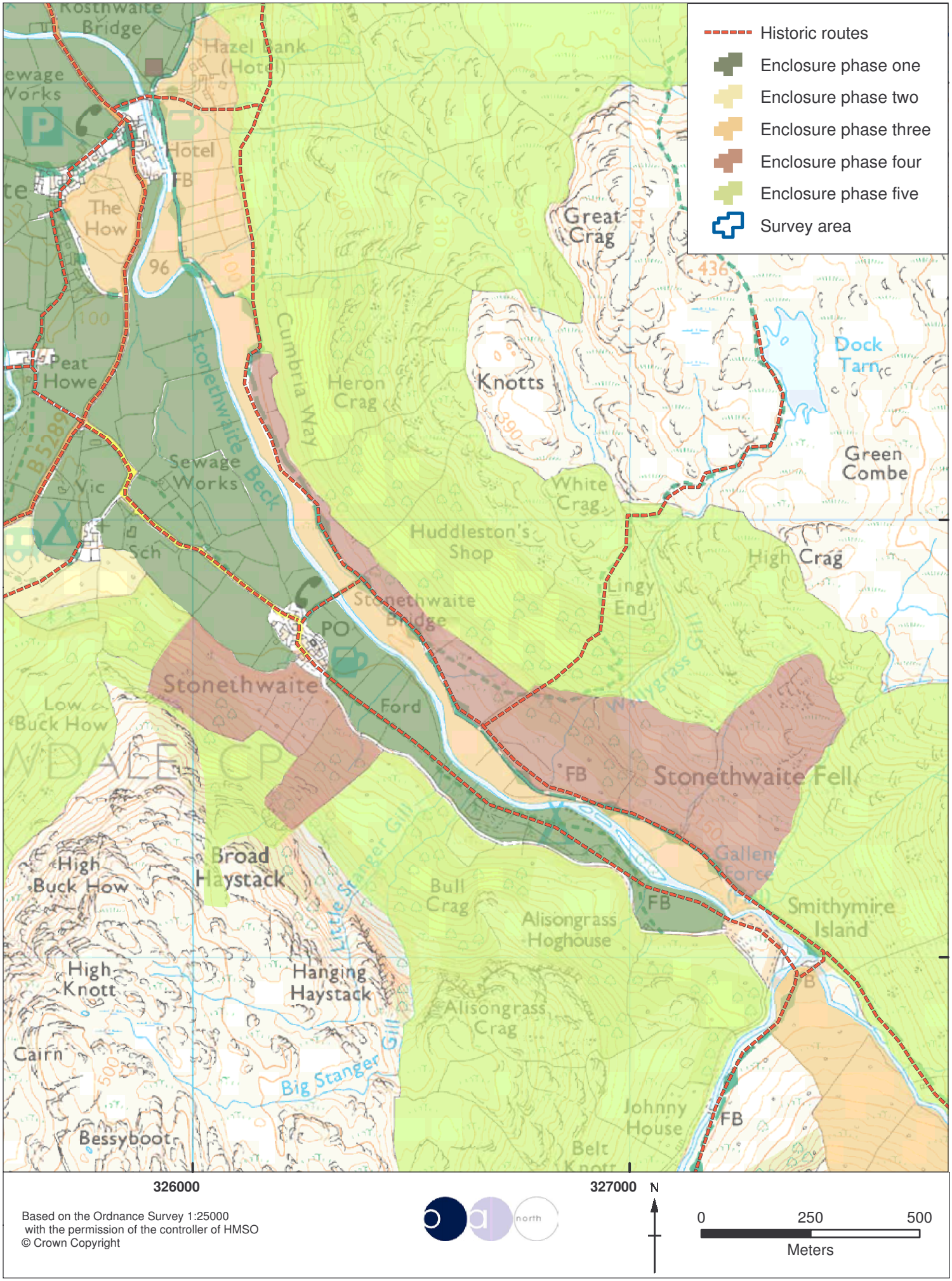


Figure 10: Phasing of Enclosure in Stonethwaite

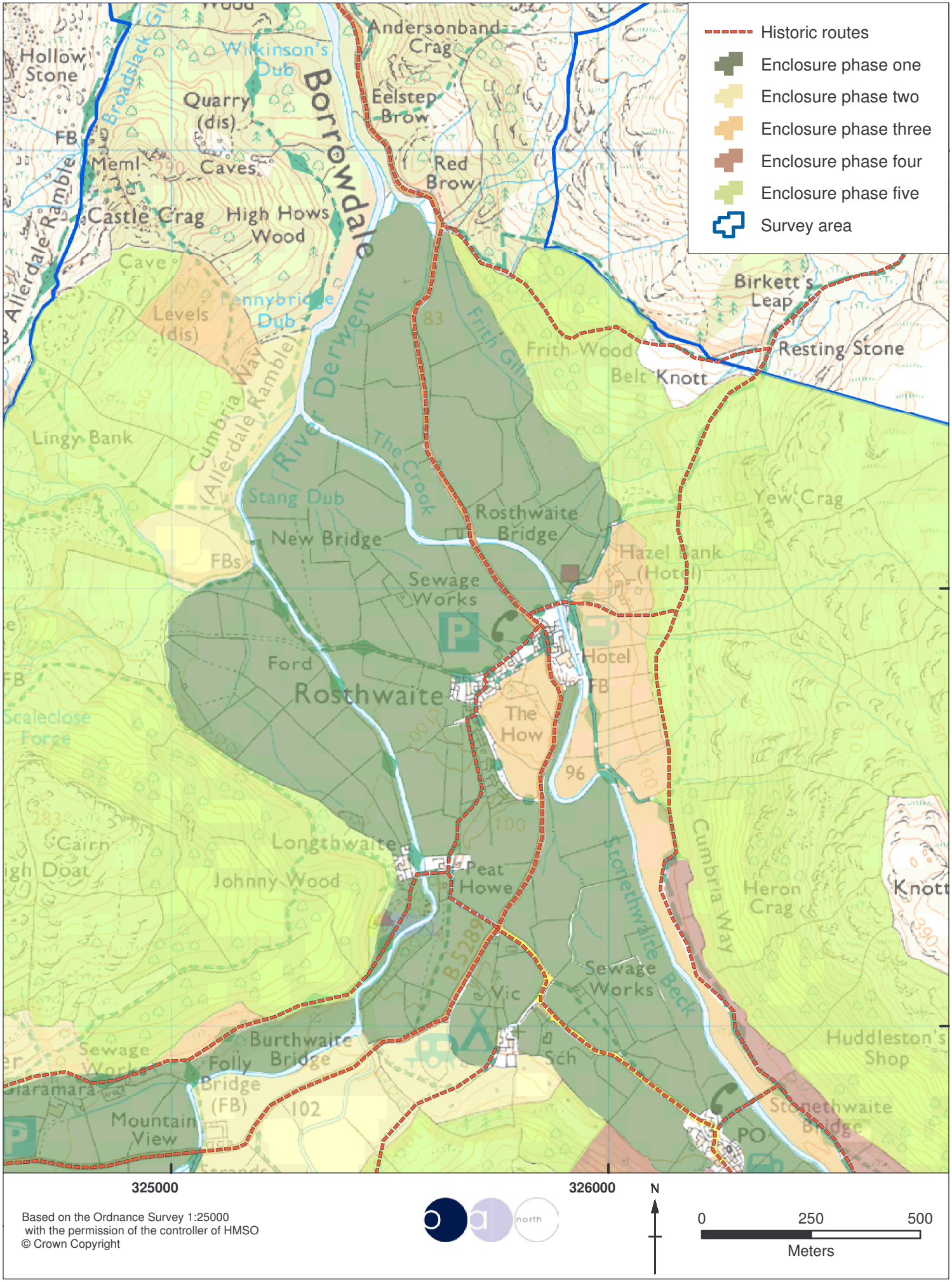


Figure 11: Phasing of Enclosure in Rosthwaite

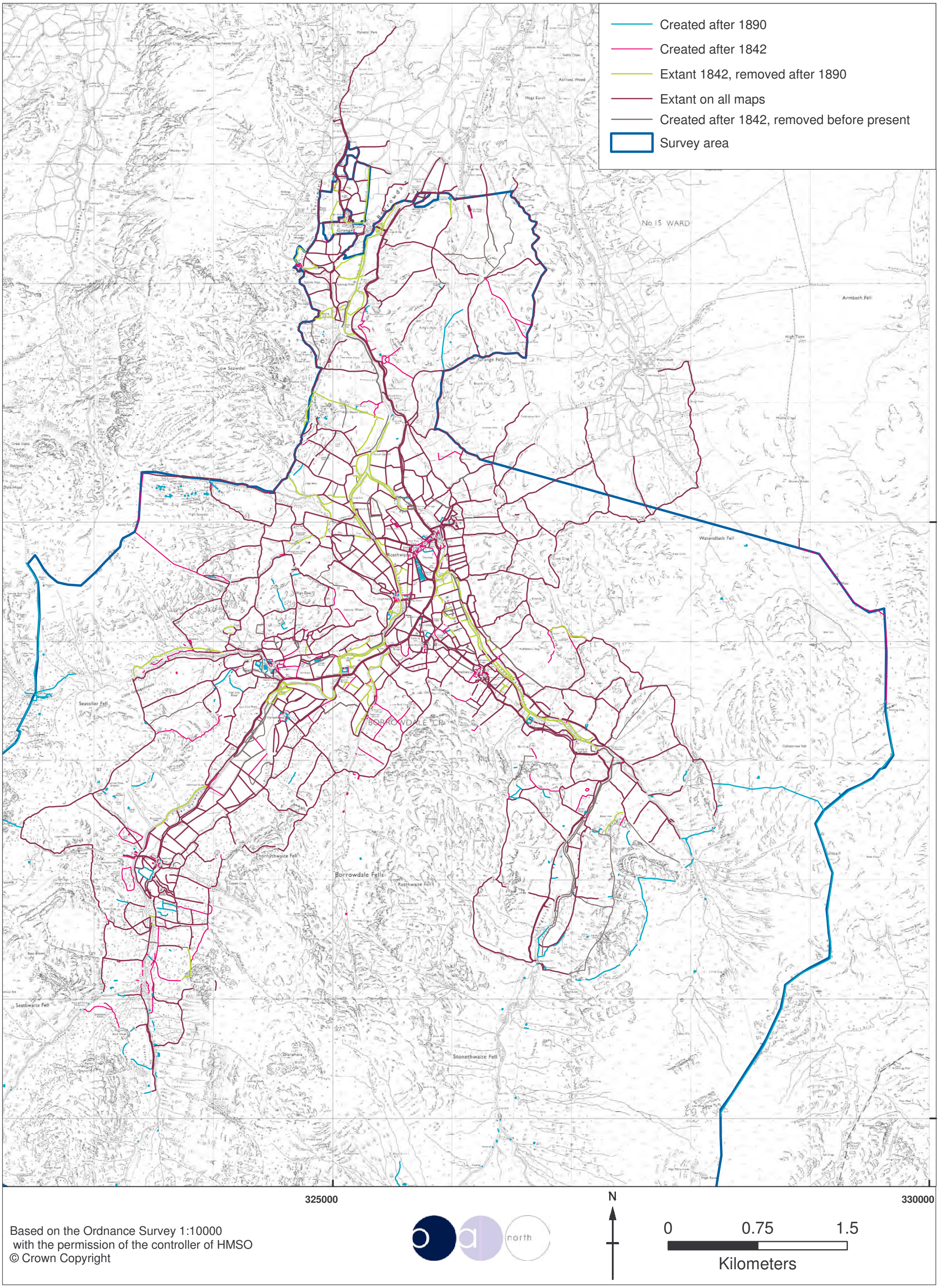


Figure 12: Boundary phasing from cartographic sources

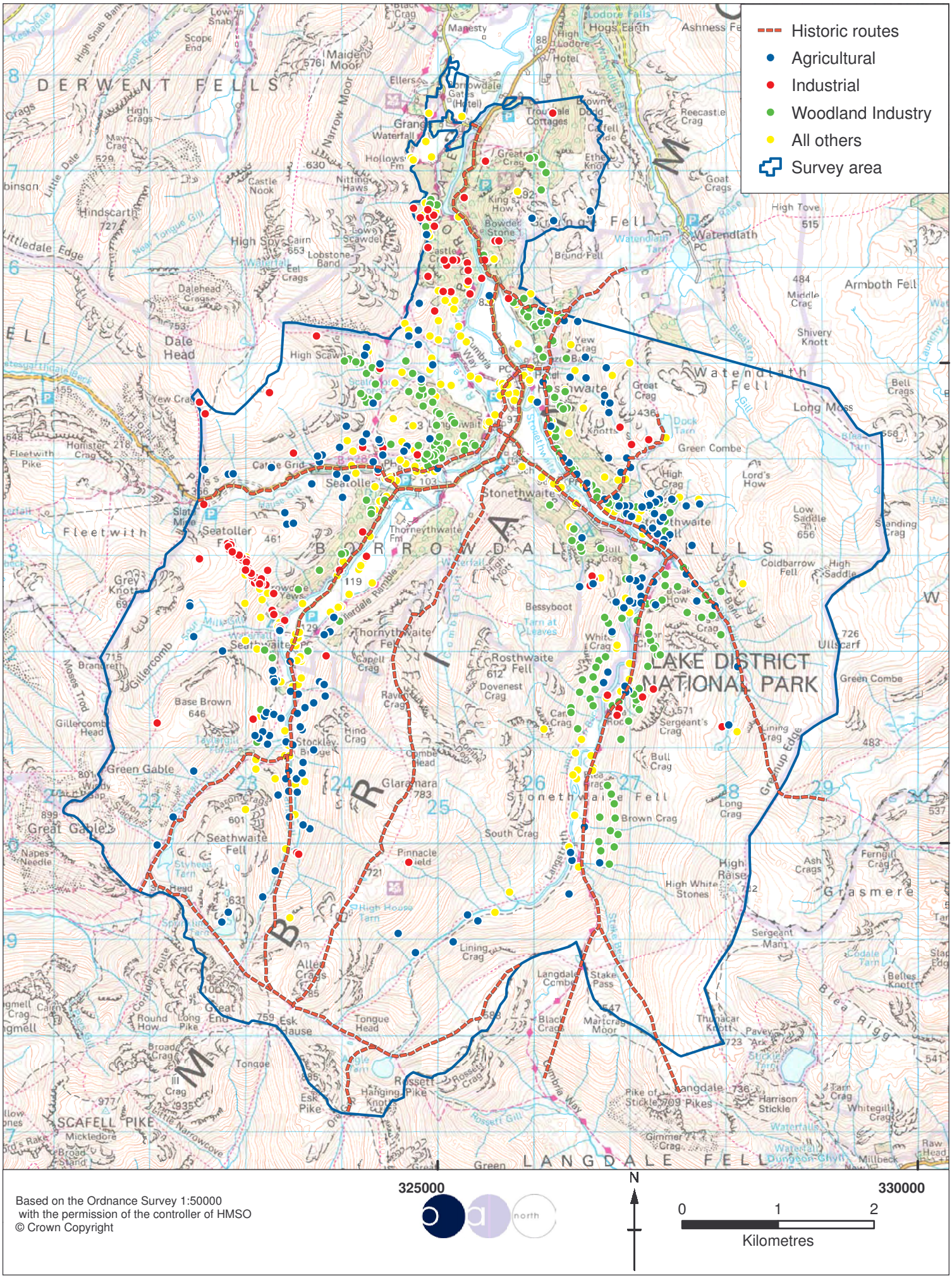


Figure 13: General view of Post-Medieval archaeological sites

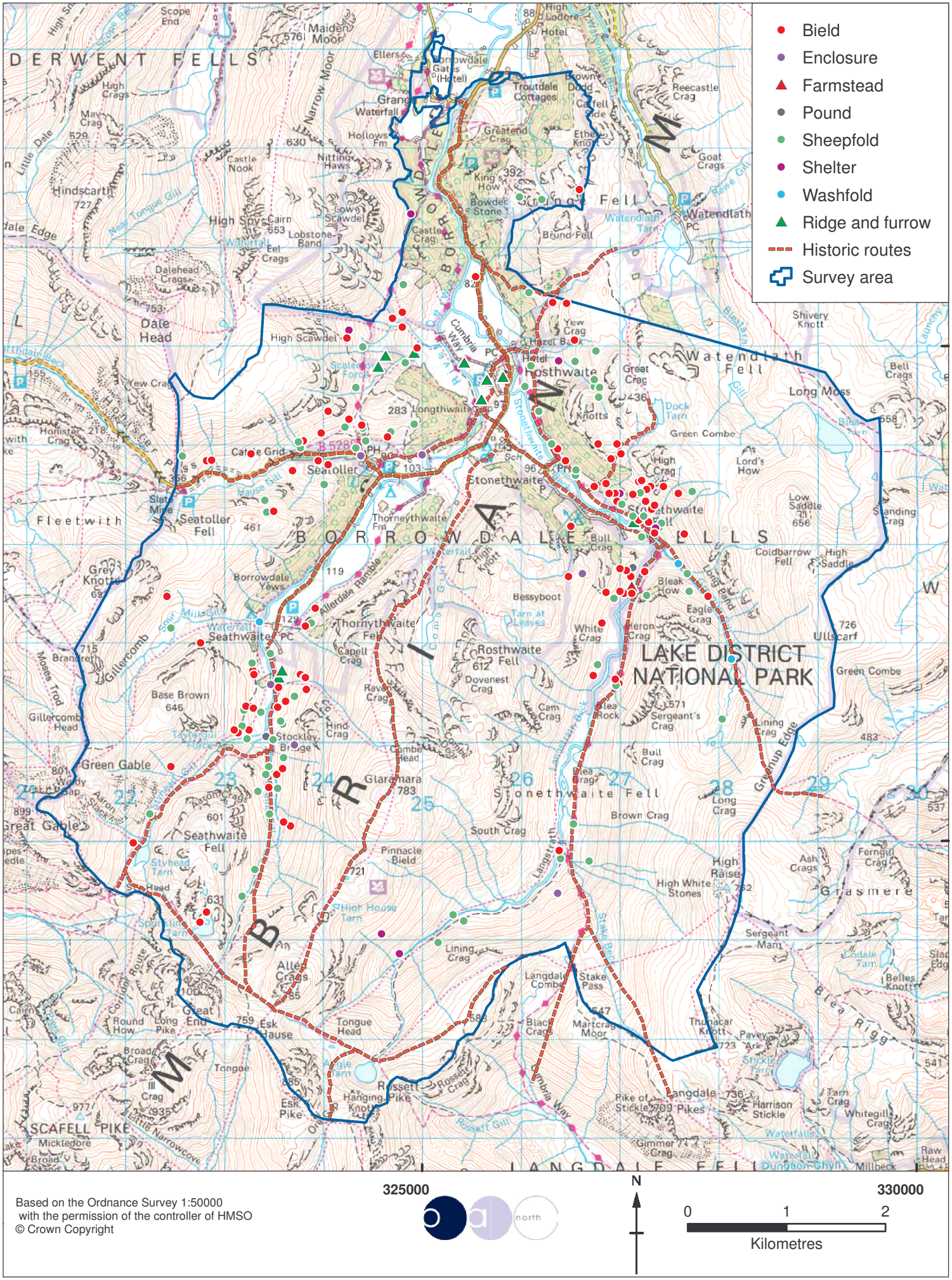


Figure 14: Post-Medieval agricultural sites

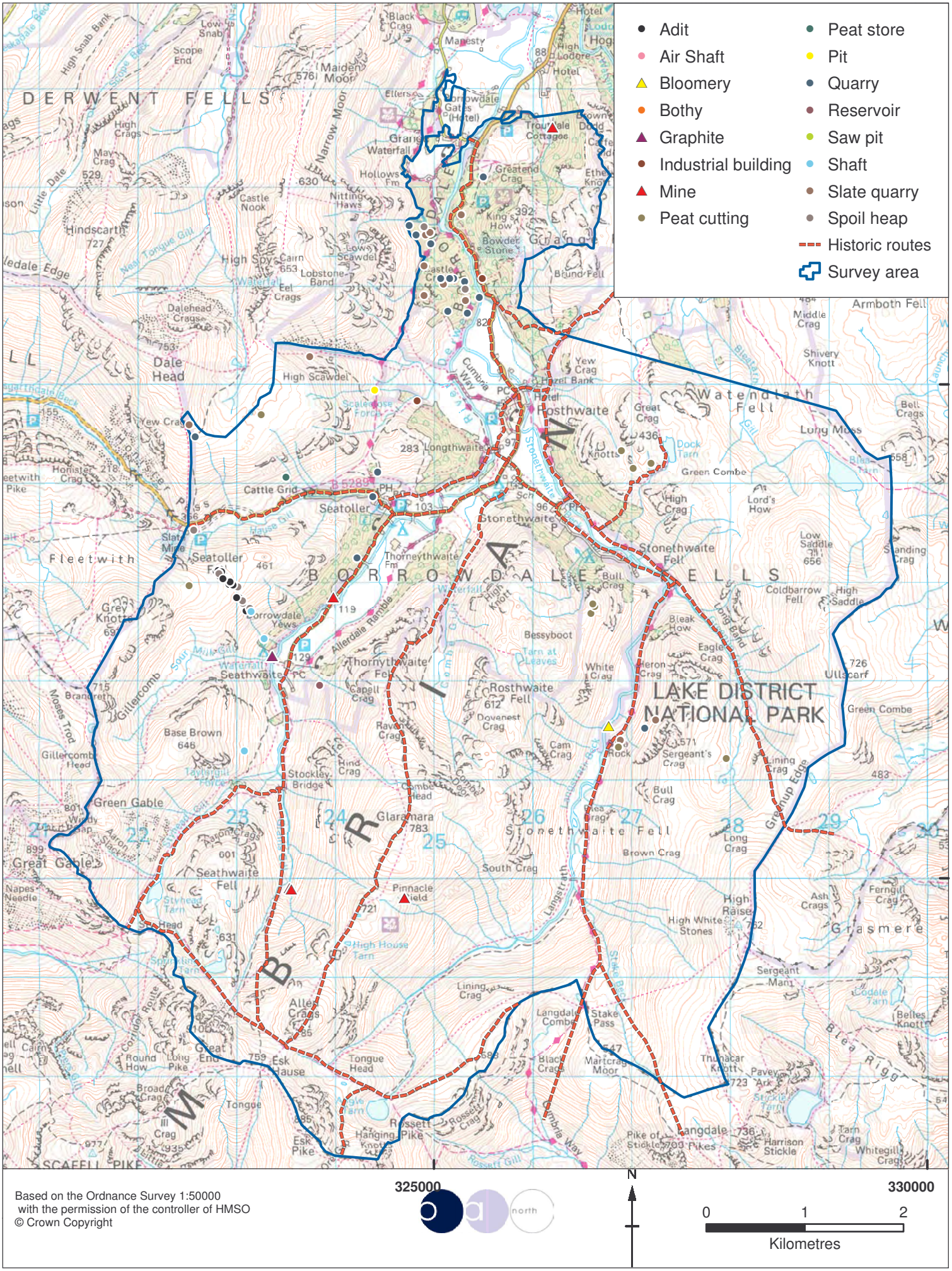


Figure 15:Post-Medieval industrial sites

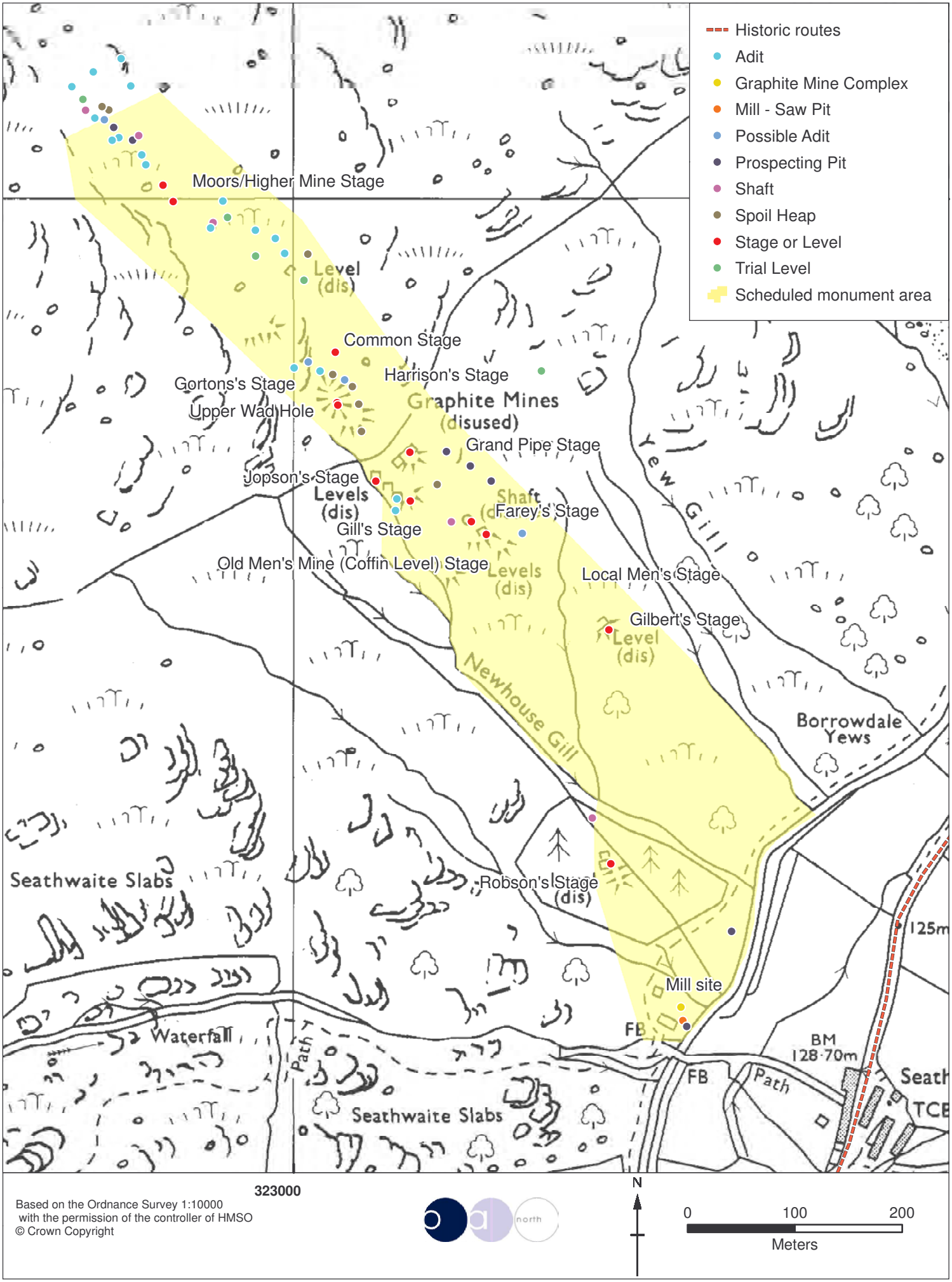


Figure 16: Detail of Seathwaite graphite mine

RCHM	ROYAL COMMISSION ON THE HISTORICAL MONUMENTS OF ENGLAND			
OFFICE OF ORIGIN: NEWCASTLE	COUNTY: CUMBRIA	SCALE OF SURVEY: 1:1000	METHOD: EDM, plane table	OS MAP No: NY 21 SW
PROJECT NAME: Seathwaite graphite mines Survey	DISTRICT: ALLERDALE	DATE OF SURVEY: May 1995	ASSOCIATED PLANS:	NAR No:
SITE NAME: Seathwaite	PARISH: BORROWDALE	SURVEYOR(S): AJL MC33 NK3 H3		SAM No:
DOCUMENT STATUS:	NGR: NY 23 12	© RCHME Crown Copyright	SHEET:	CATALOGUE No: [illegible]

Fig 17: RCHM(E) Topographic Survey of Seathwaite Graphite Mines (Lax 1995)

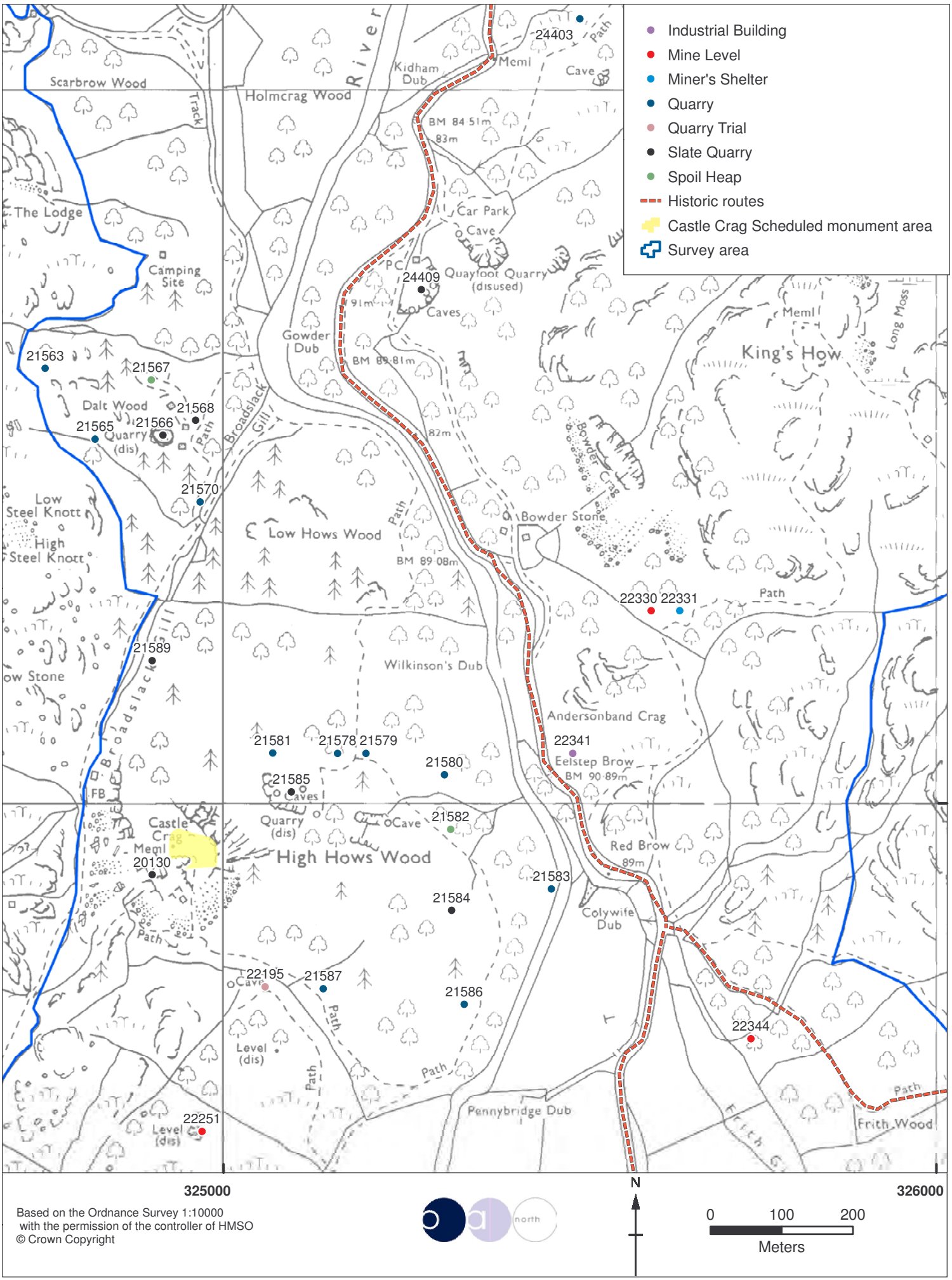


Figure 18: Extractive industry at High Hows Wood

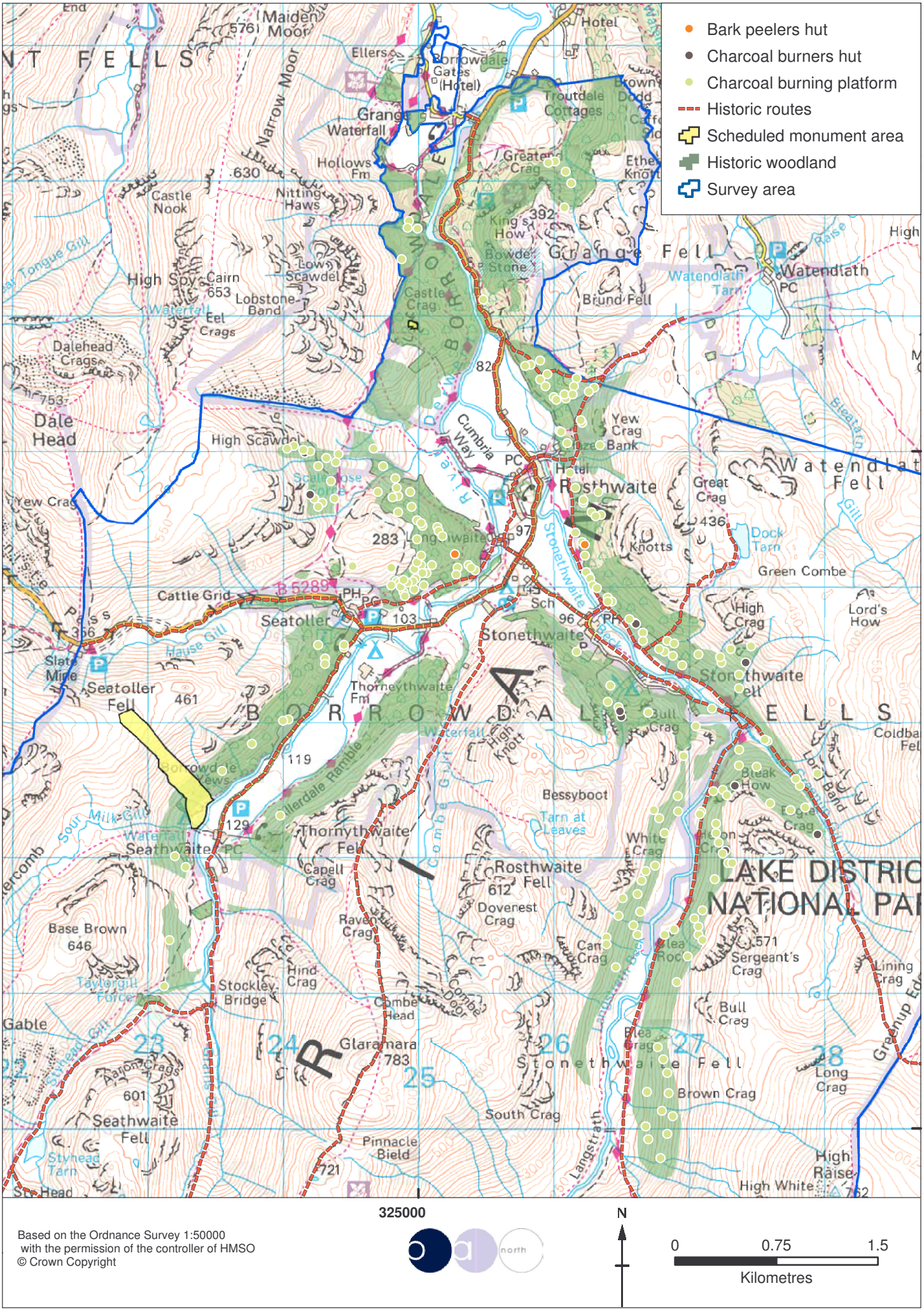


Figure 19: Post-Medieval woodland and associated sites

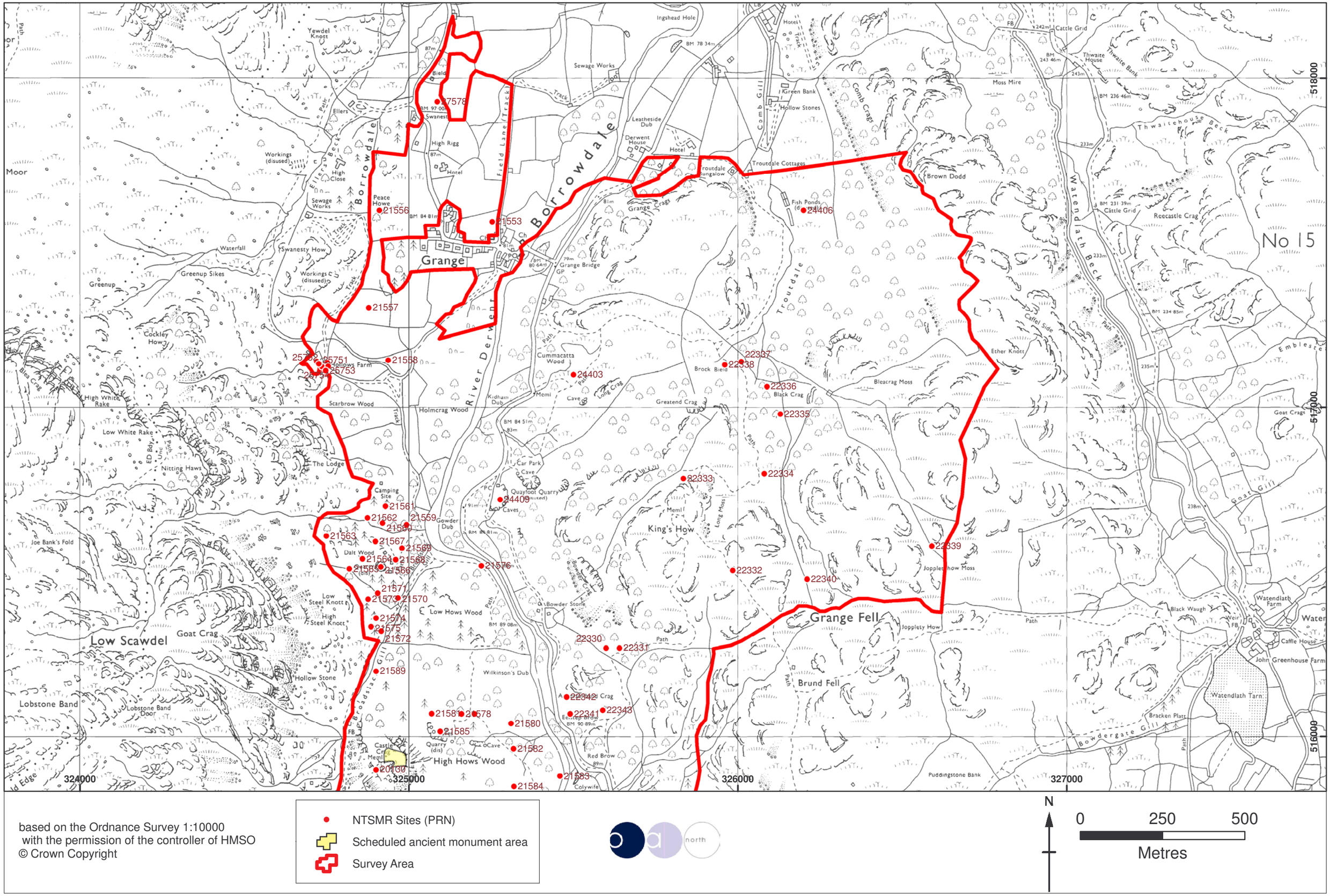


Figure 20: Location map of NTSMR sites

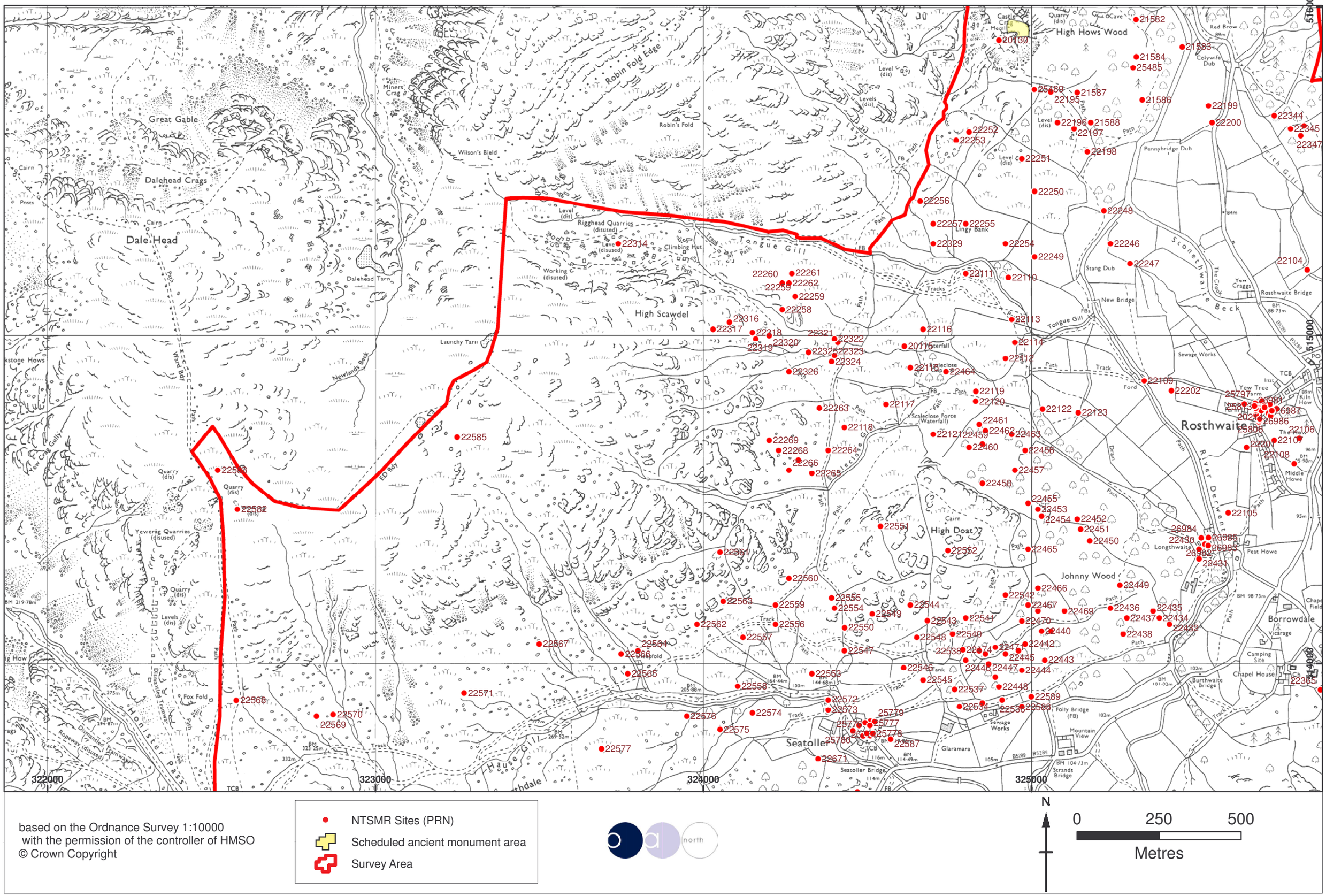


Figure 21: Location map of NTSMR sites

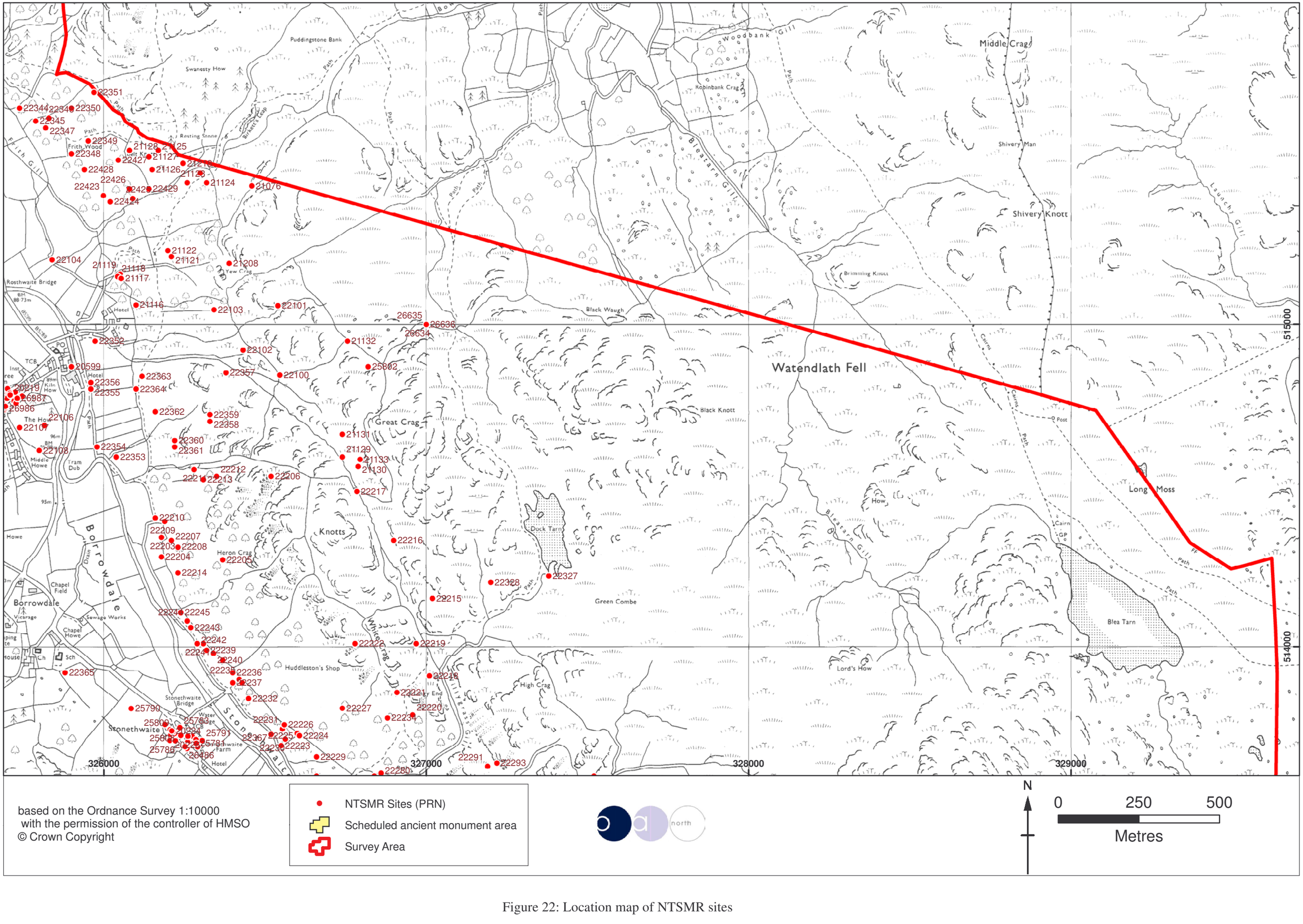


Figure 22: Location map of NTSMR sites

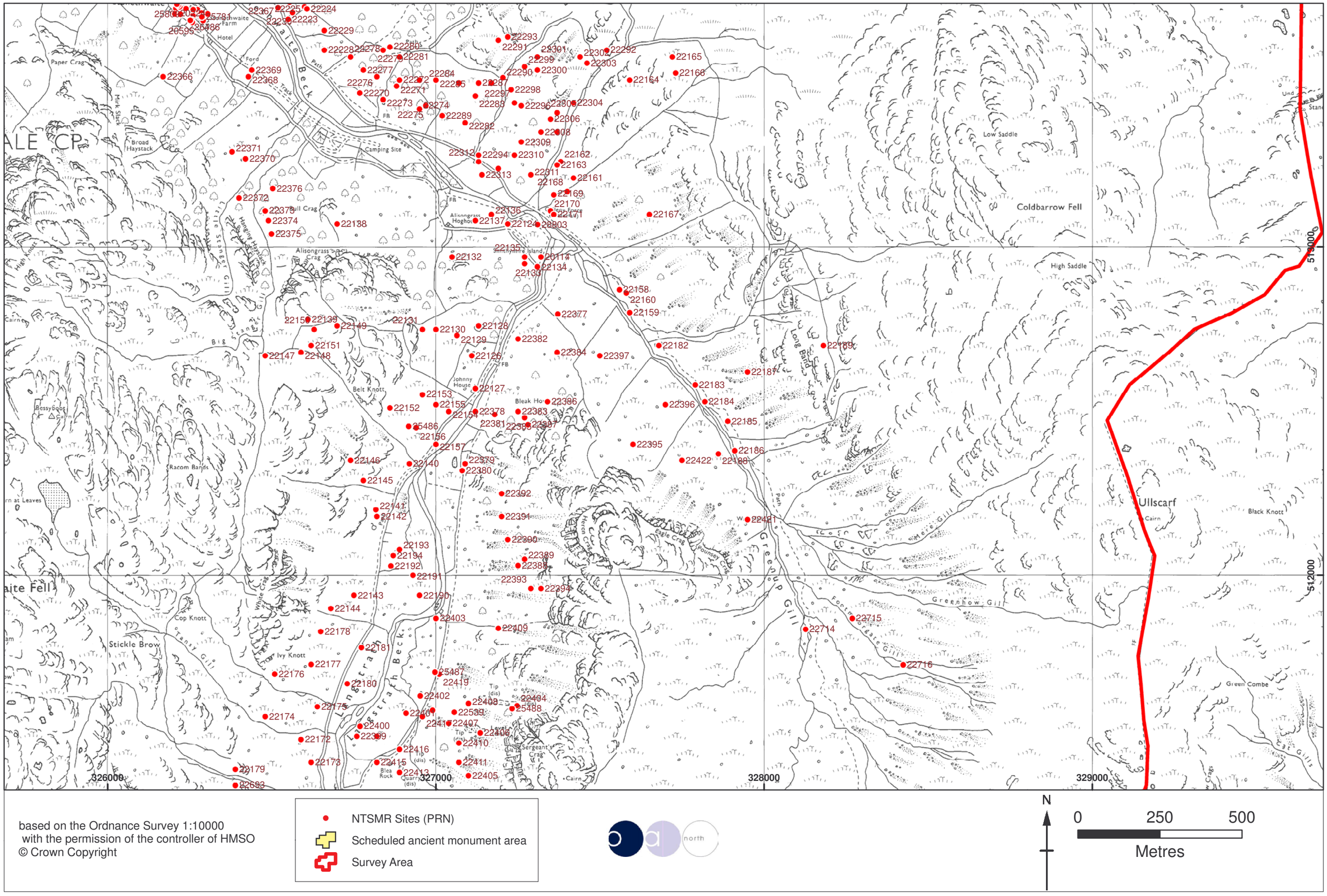


Figure 23: Location map of NTSMR sites

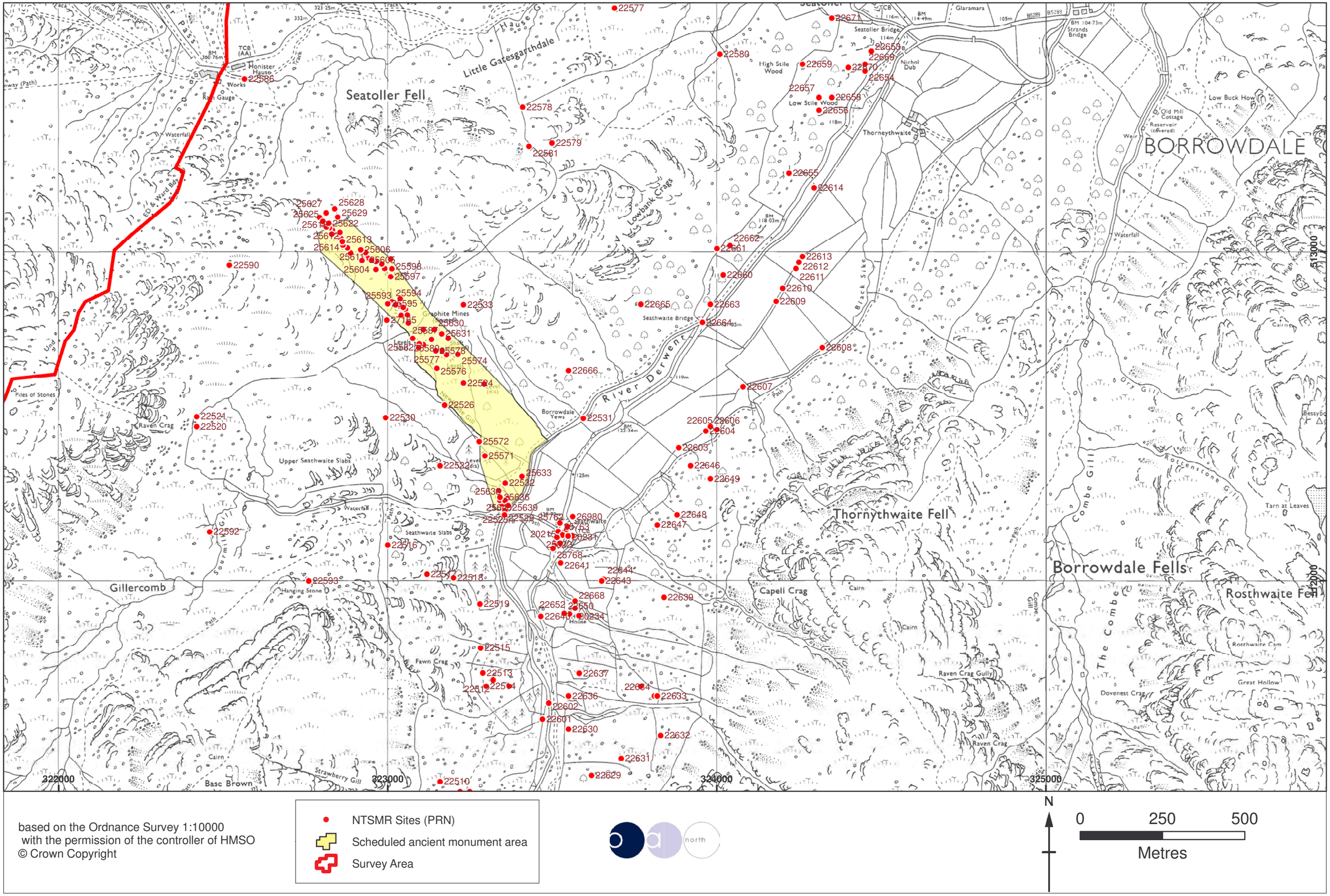


Figure 24: Location map of NTSMR sites

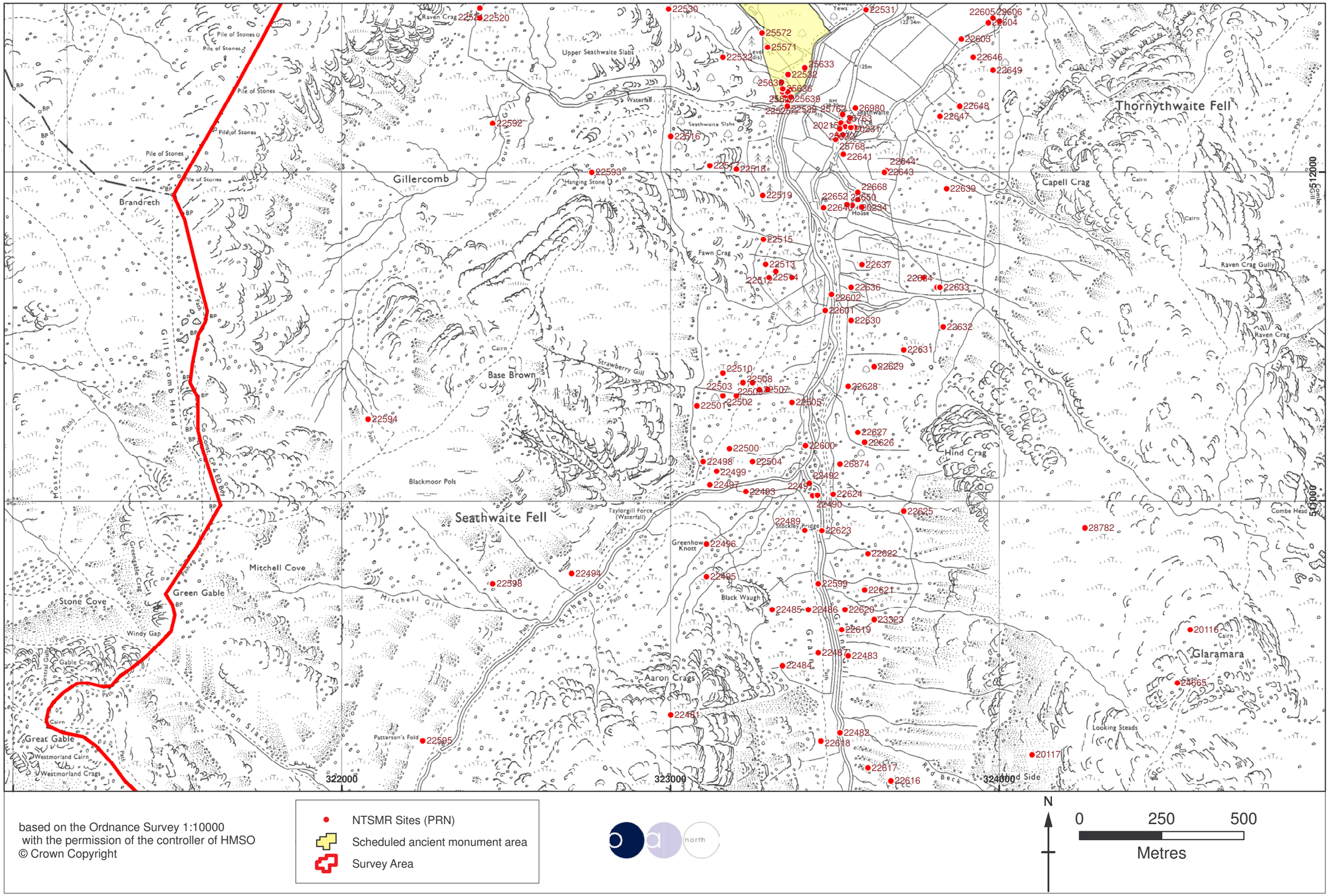
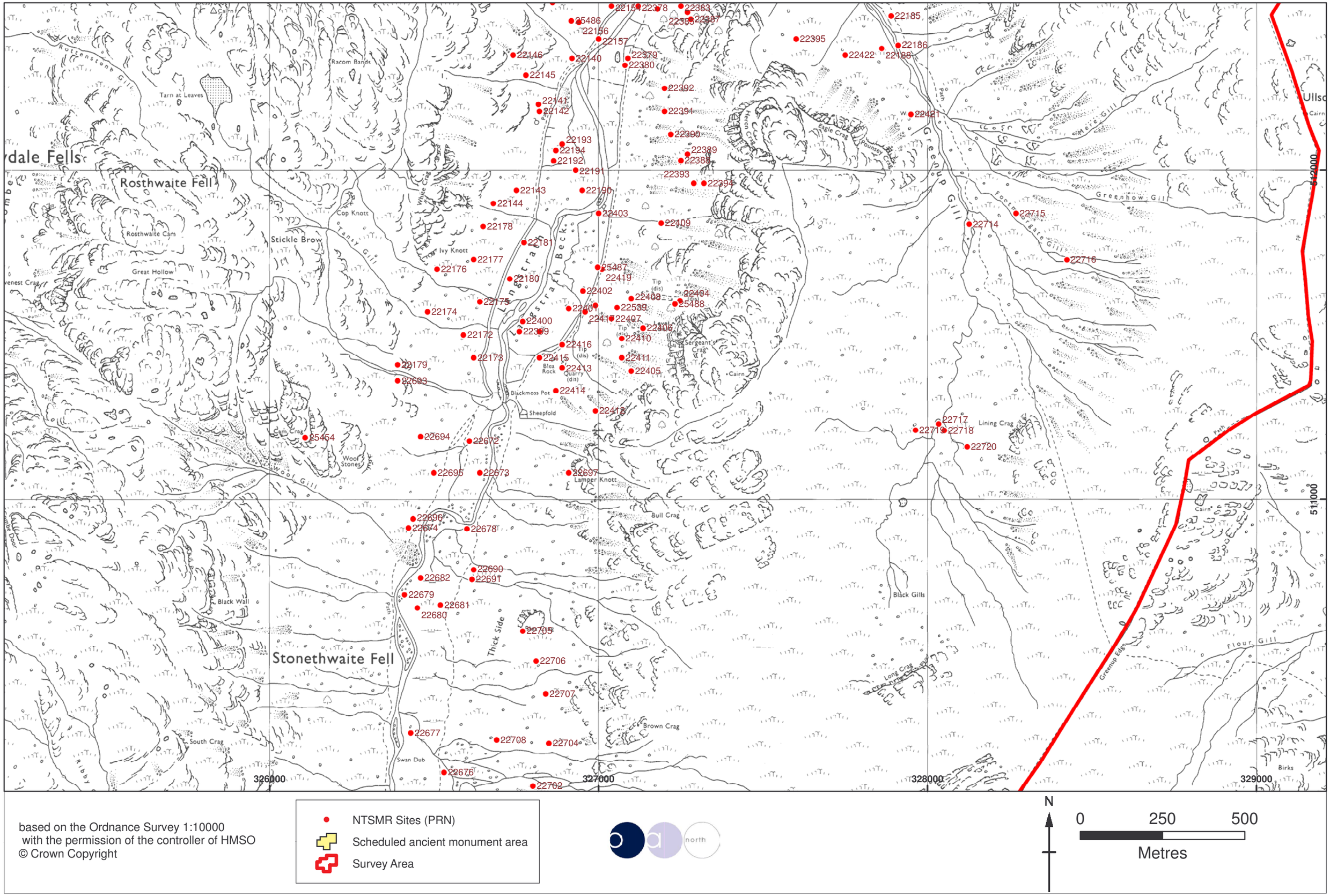


Figure 25: Location map of NTSMR sites



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NTSMR Sites (PRN)
Scheduled ancient monument area
Survey Area

N
0 250 500
Metres

Figure 26: Location map of NTSMR sites

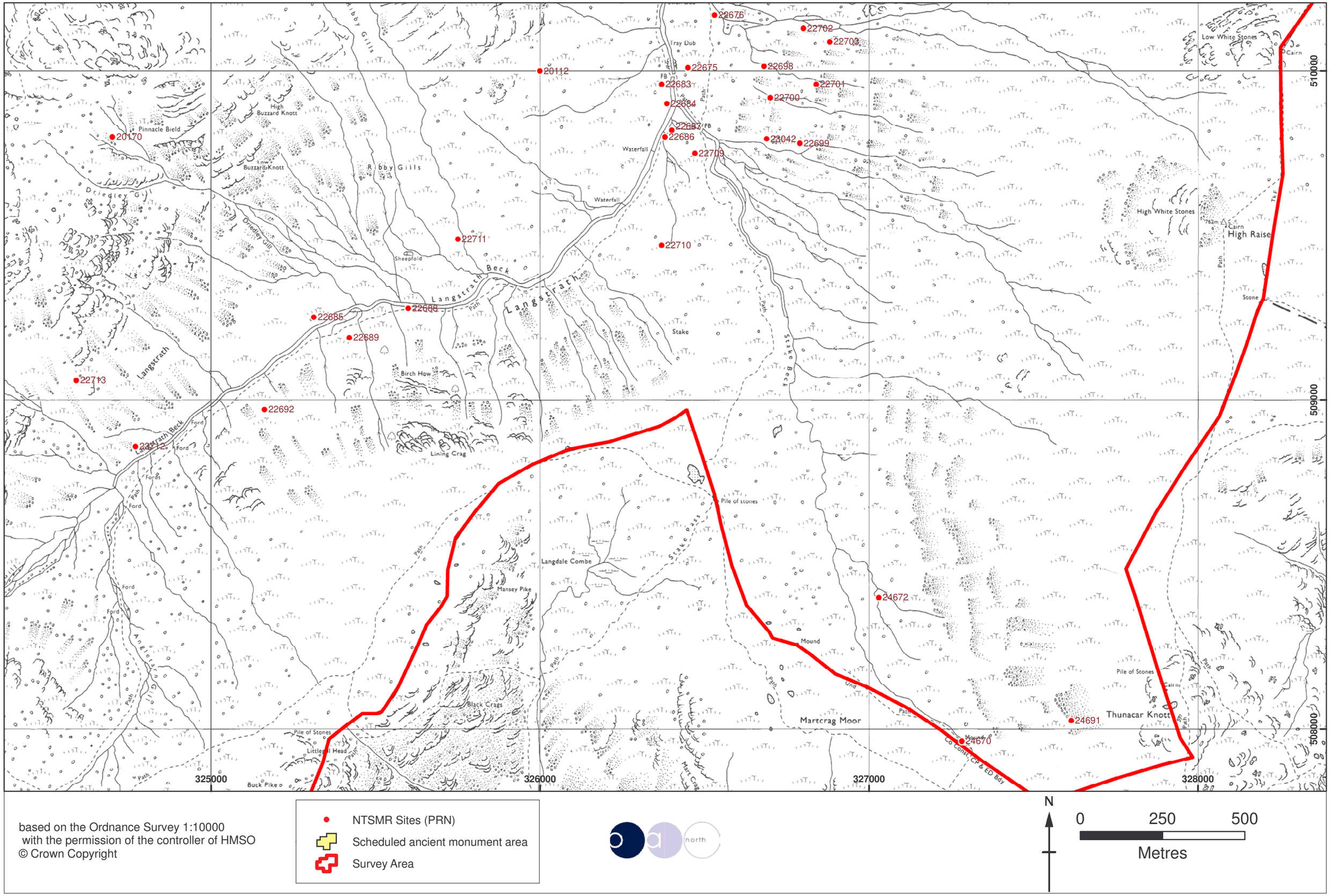
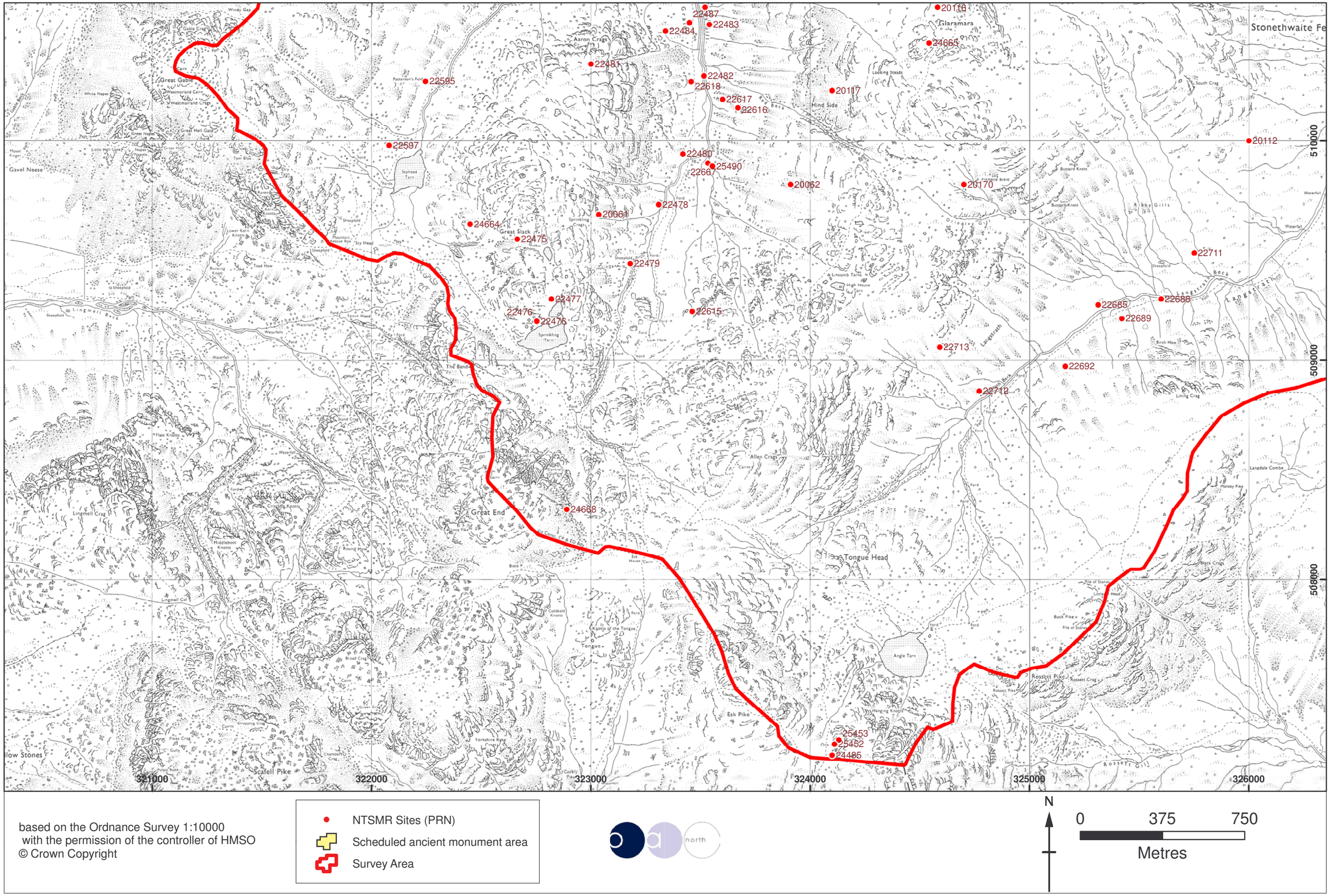


Figure 27: Location map of NTSMR sites



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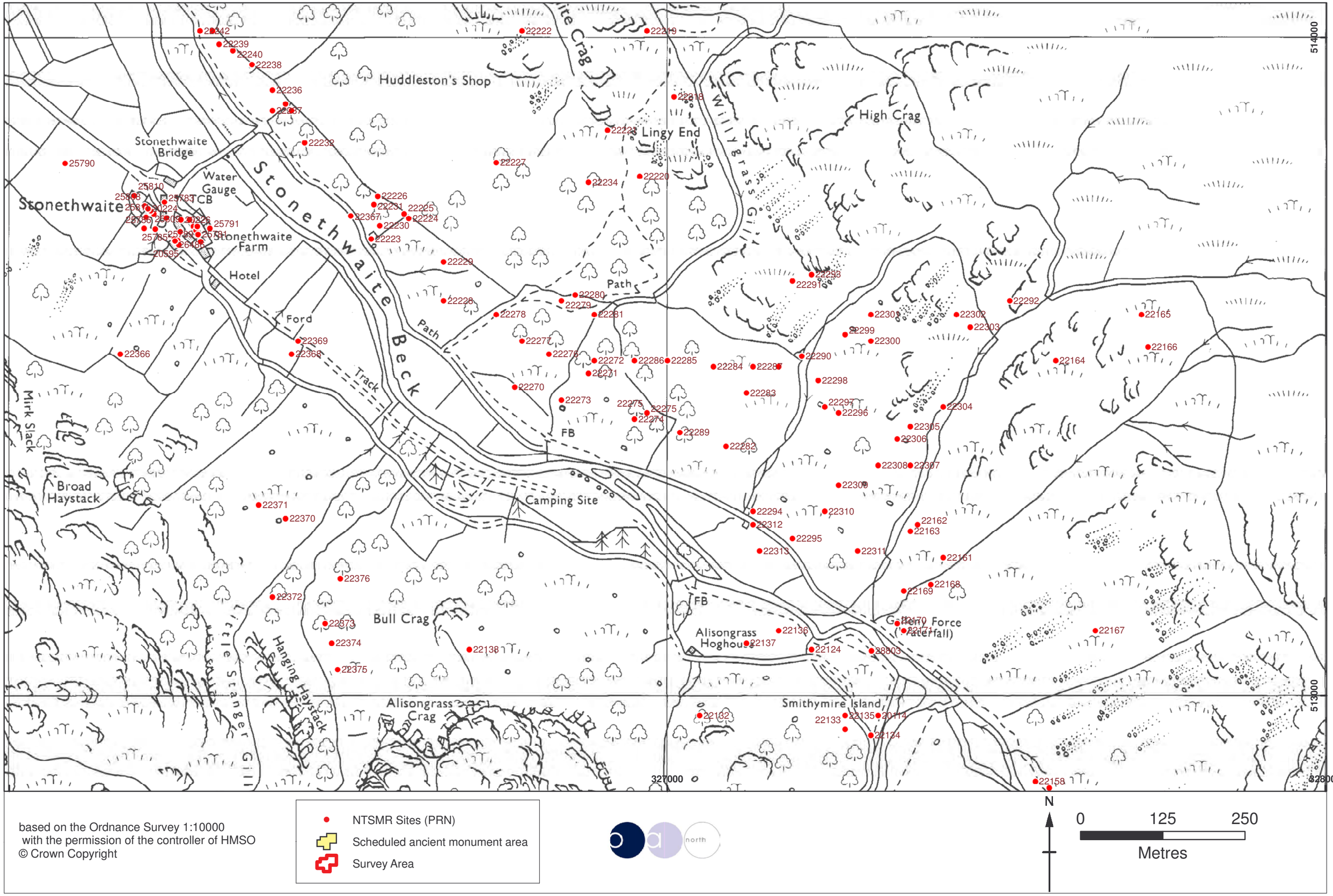
NTSMR Sites (PRN)
Scheduled ancient monument area
Survey Area

north

N

0 375 750
Metres

Figure 28: Location map of NTSMR sites



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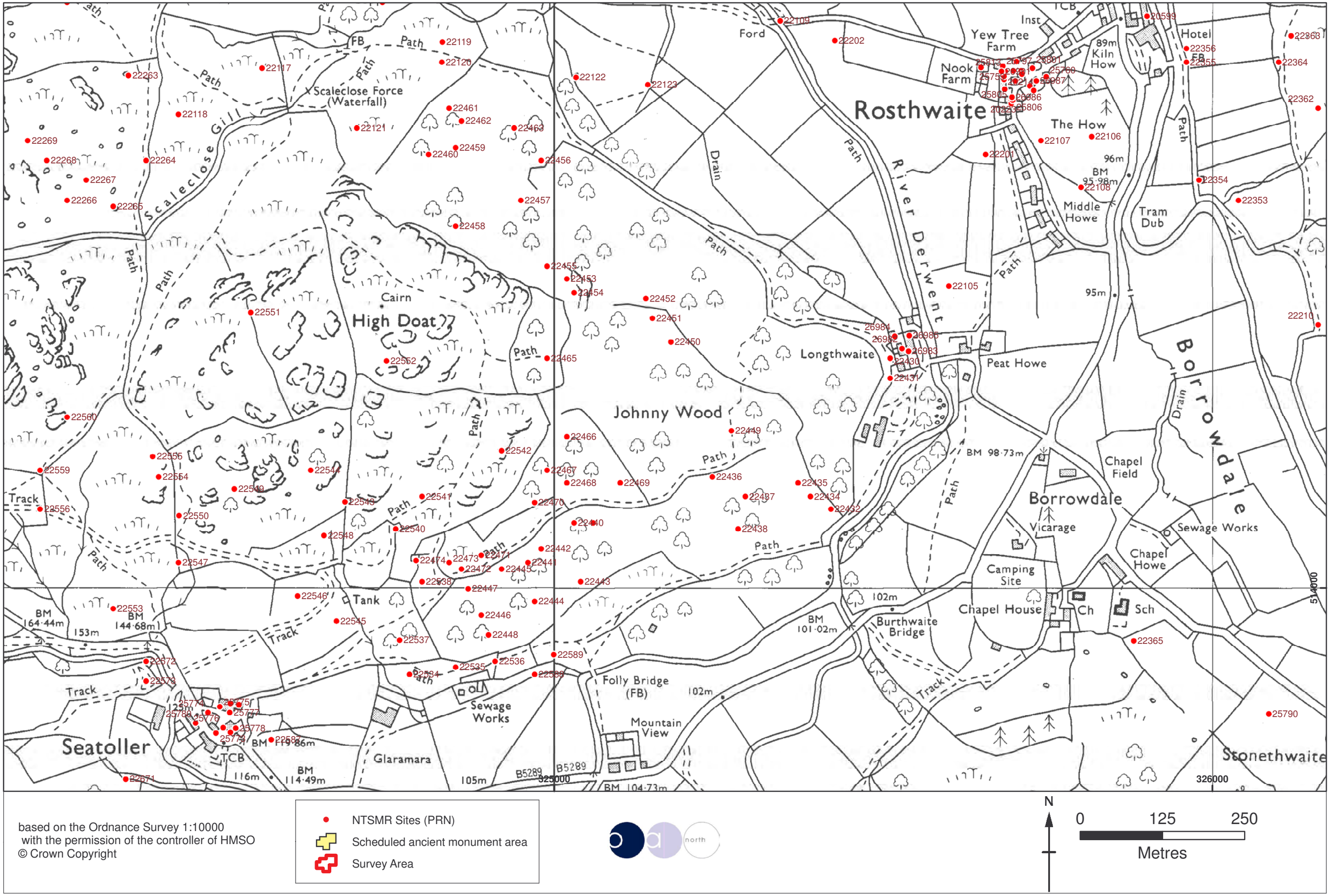
- NTSMR Sites (PRN)
- Scheduled ancient monument area
- Survey Area

Figure 29: Location map of NTSMR sites



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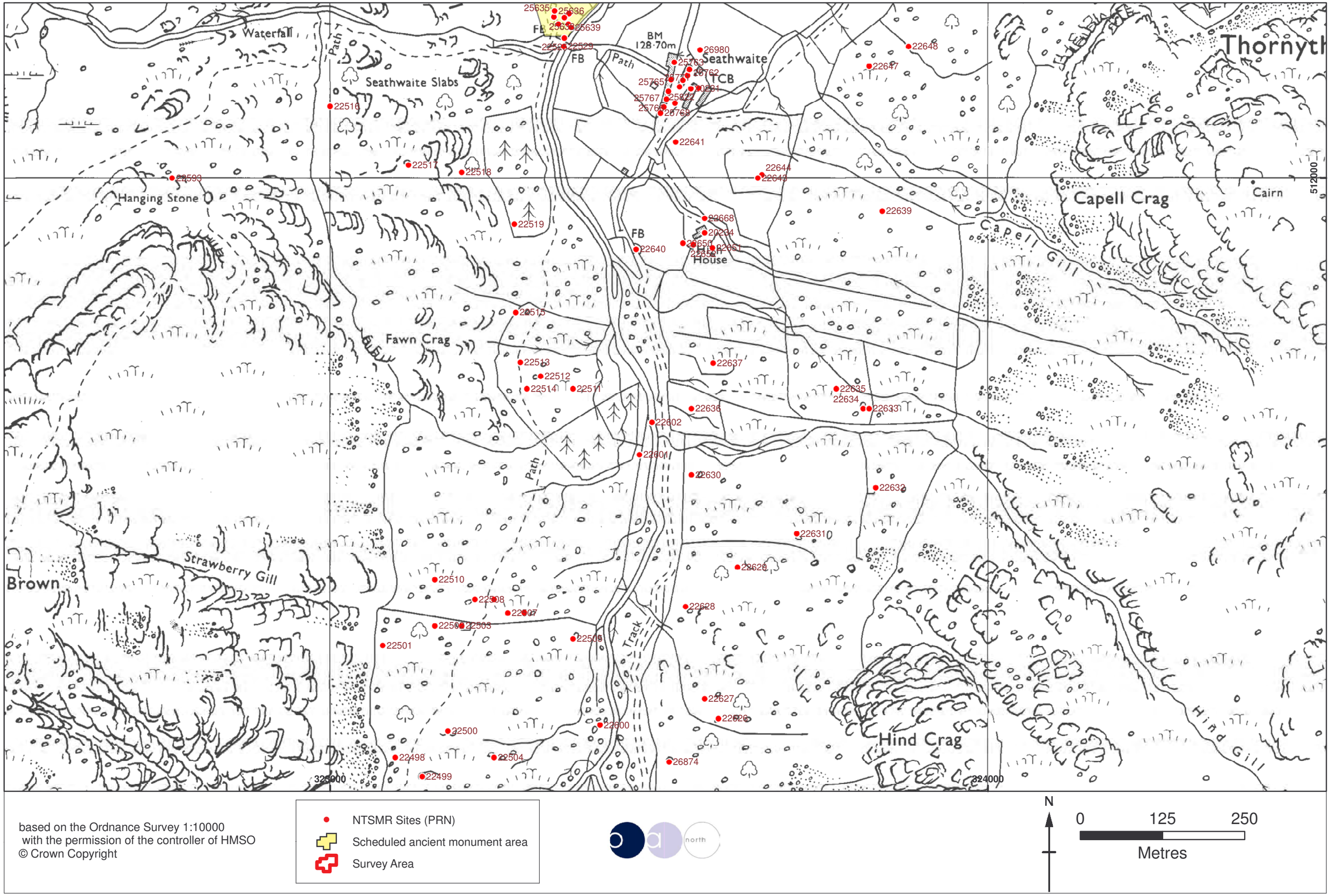
NTSMR Sites (PRN)
Scheduled ancient monument area
Survey Area

north

N

0 125 250
Metres

Figure 30: Location map of NTSMR sites



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- NTSMR Sites (PRN)
- Scheduled ancient monument area
- Survey Area

oa north

N

0 125 250

Metres

Figure 31: Location map of NTSMR sites

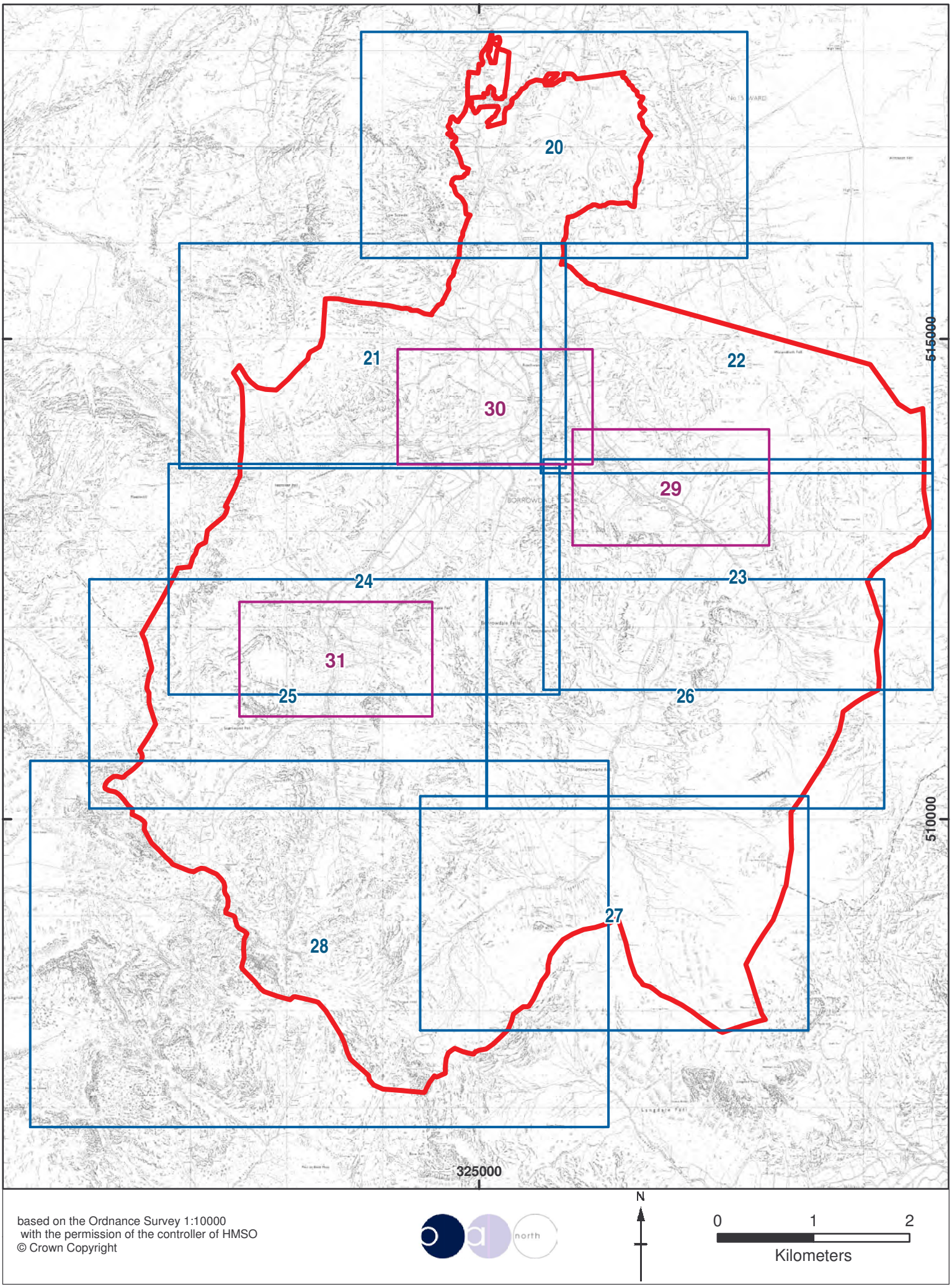

Figure 32: Location of NTSMR site maplets

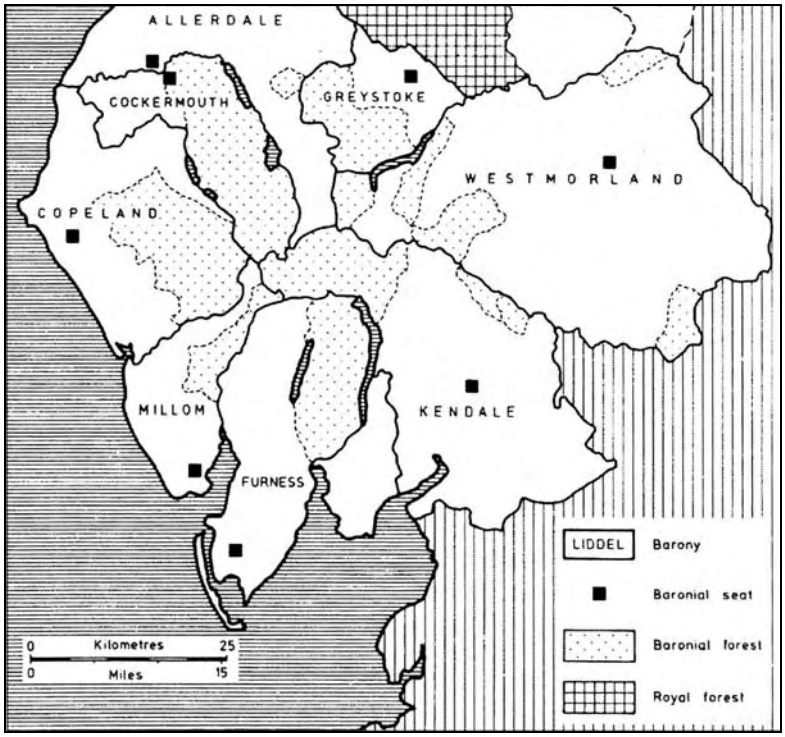

Plate 1: The Norman baronies of the Lake District (Winchester 1987)

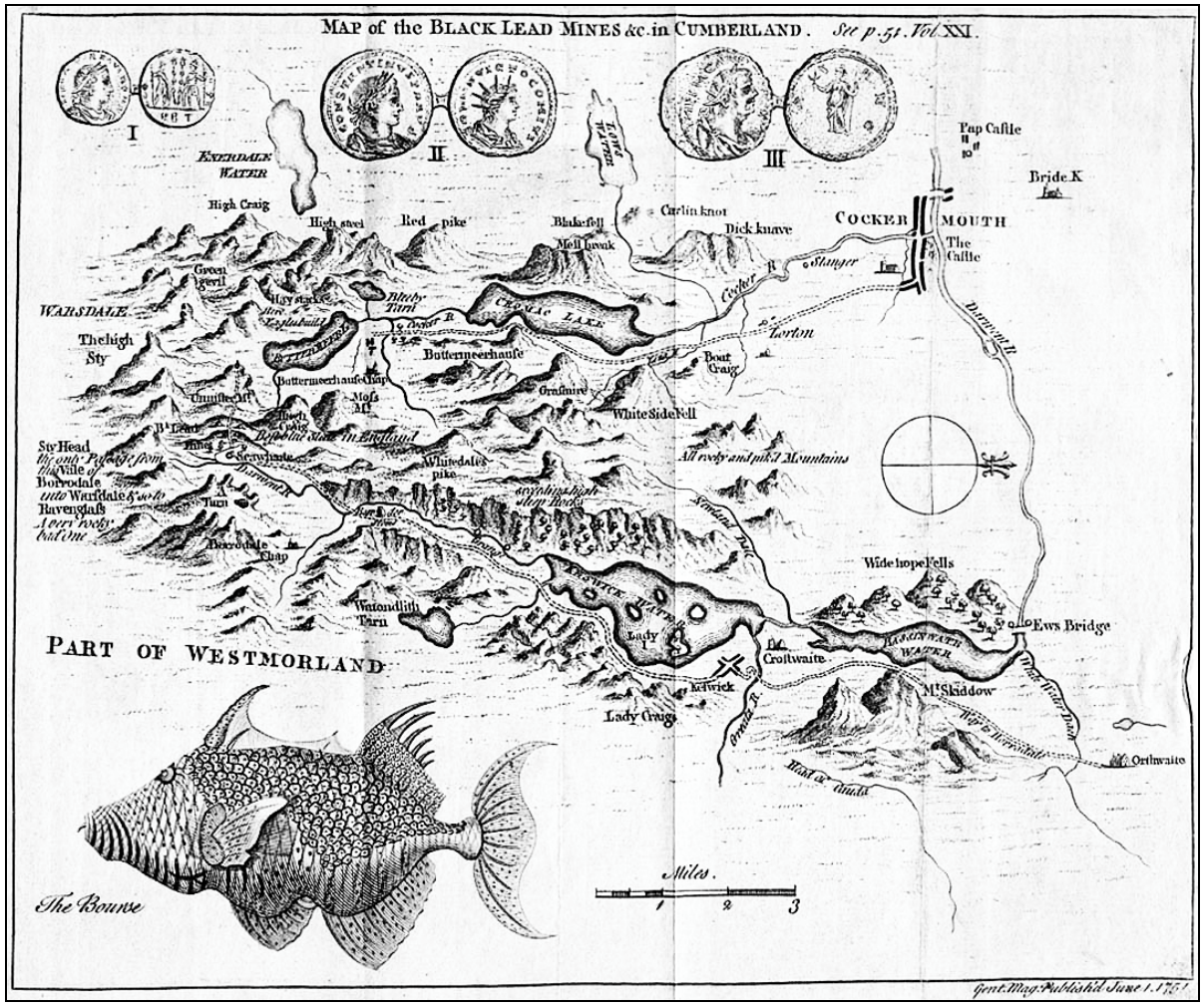

Plate 2: G Smith's, 'Map of the Black Lead Mines &c in Cumberland', 1751

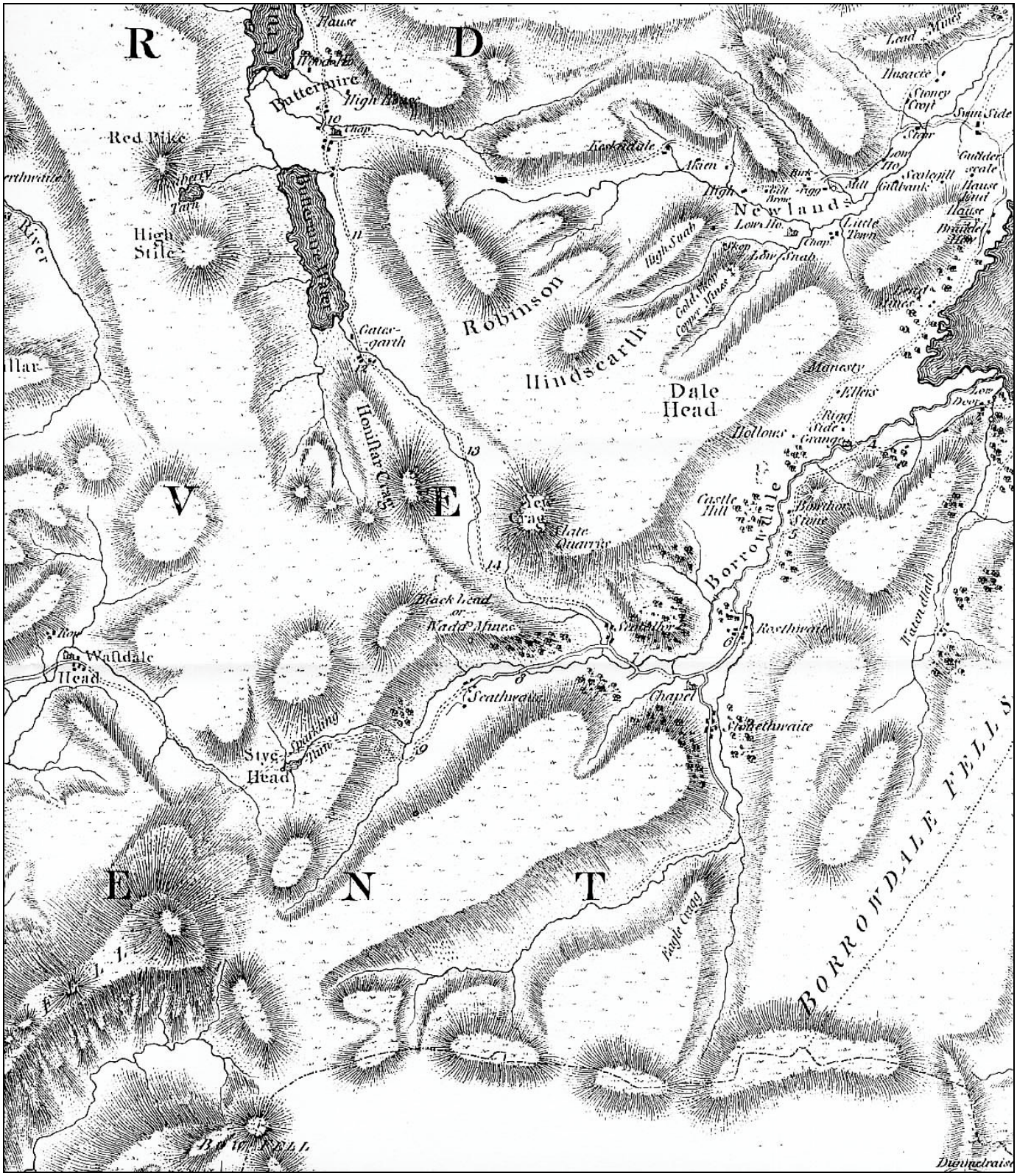

Plate 3: Excerpt from Hodgkinson and Donald's 'County of Cumberland Map', Surveyed 1770-1

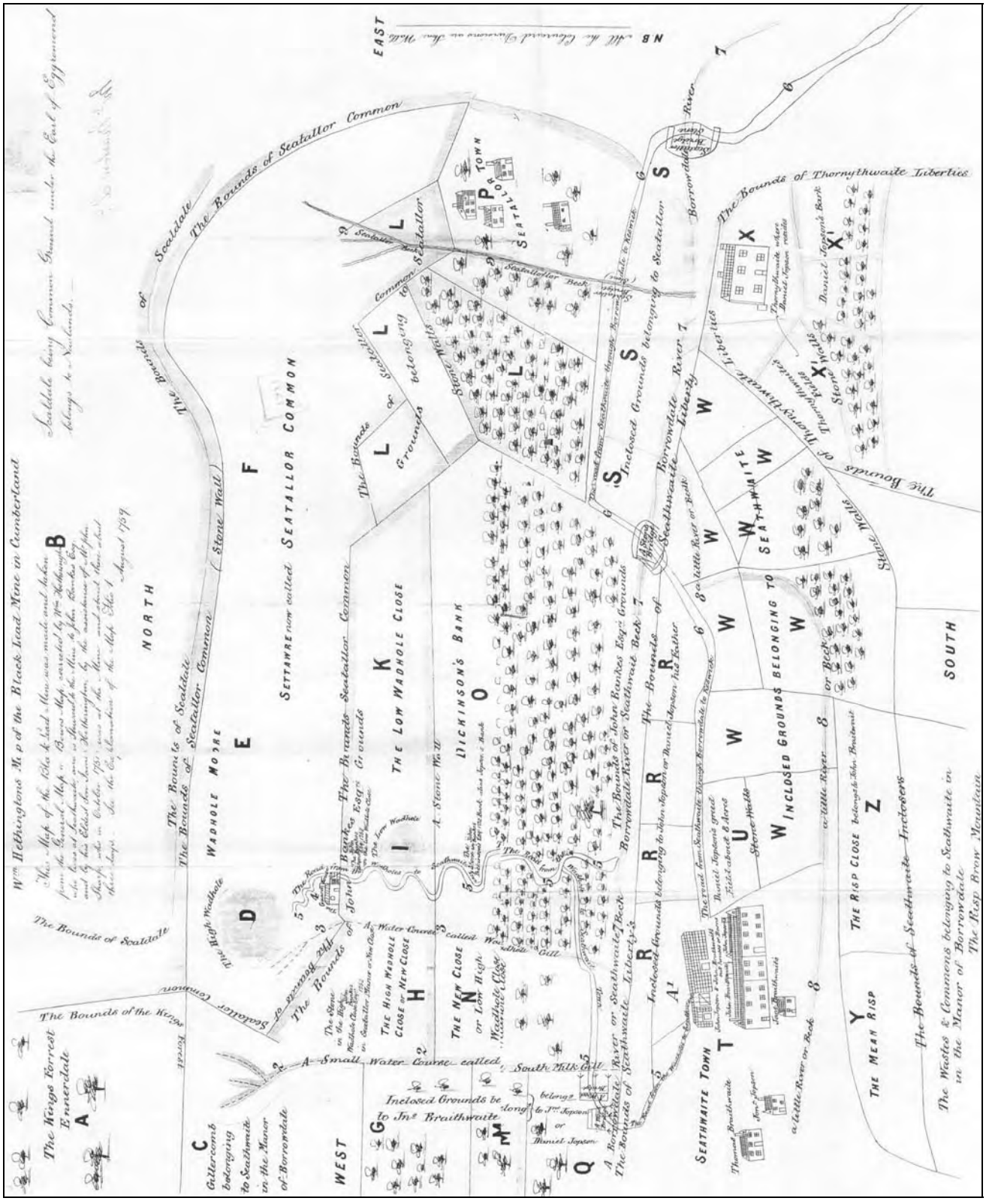

Plate 4: William Hetherington's map of the Black Lead Mine in Cumberland, August 1759

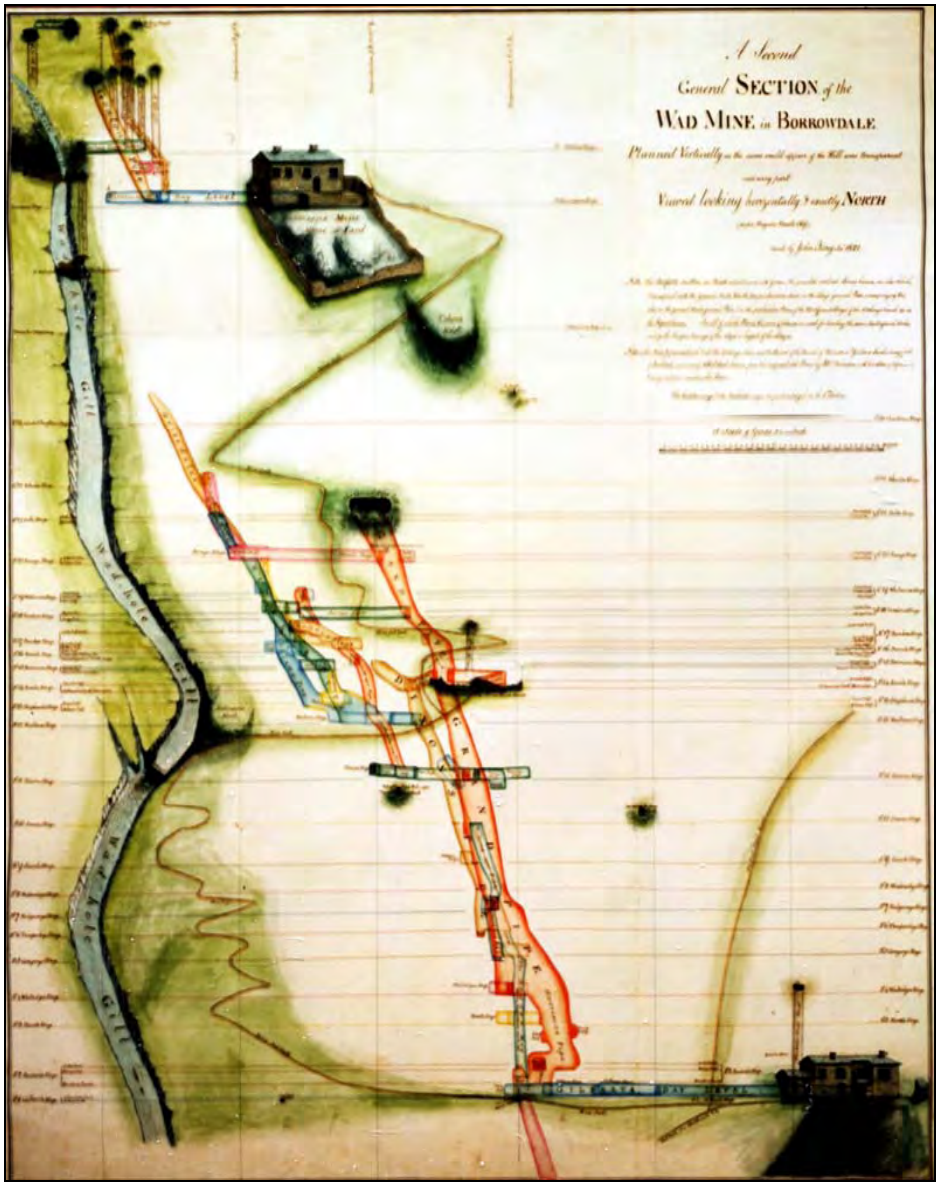

Plate 5: Second general section of the Wad mine in Borrowdale, by John Farey, 1821

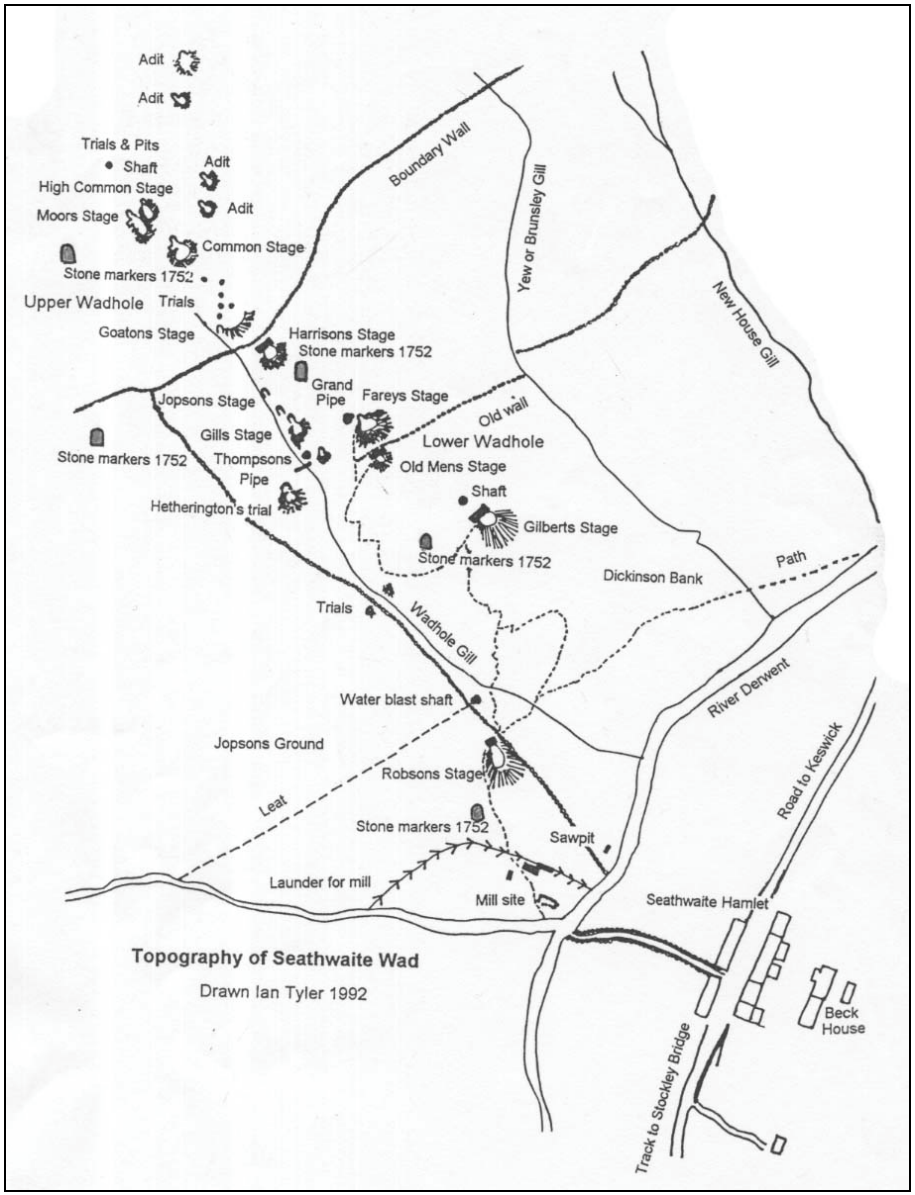

Plate 6: A plan of the topography of Seathwaite Wad in 1992 (Tyler 1995)

Plate 7: View looking west of the ridge and furrow cultivation around Rosthwaite

Plate 8: View looking south at of the ridge and furrow cultivation on the valley floor to the west of Rosthwaite

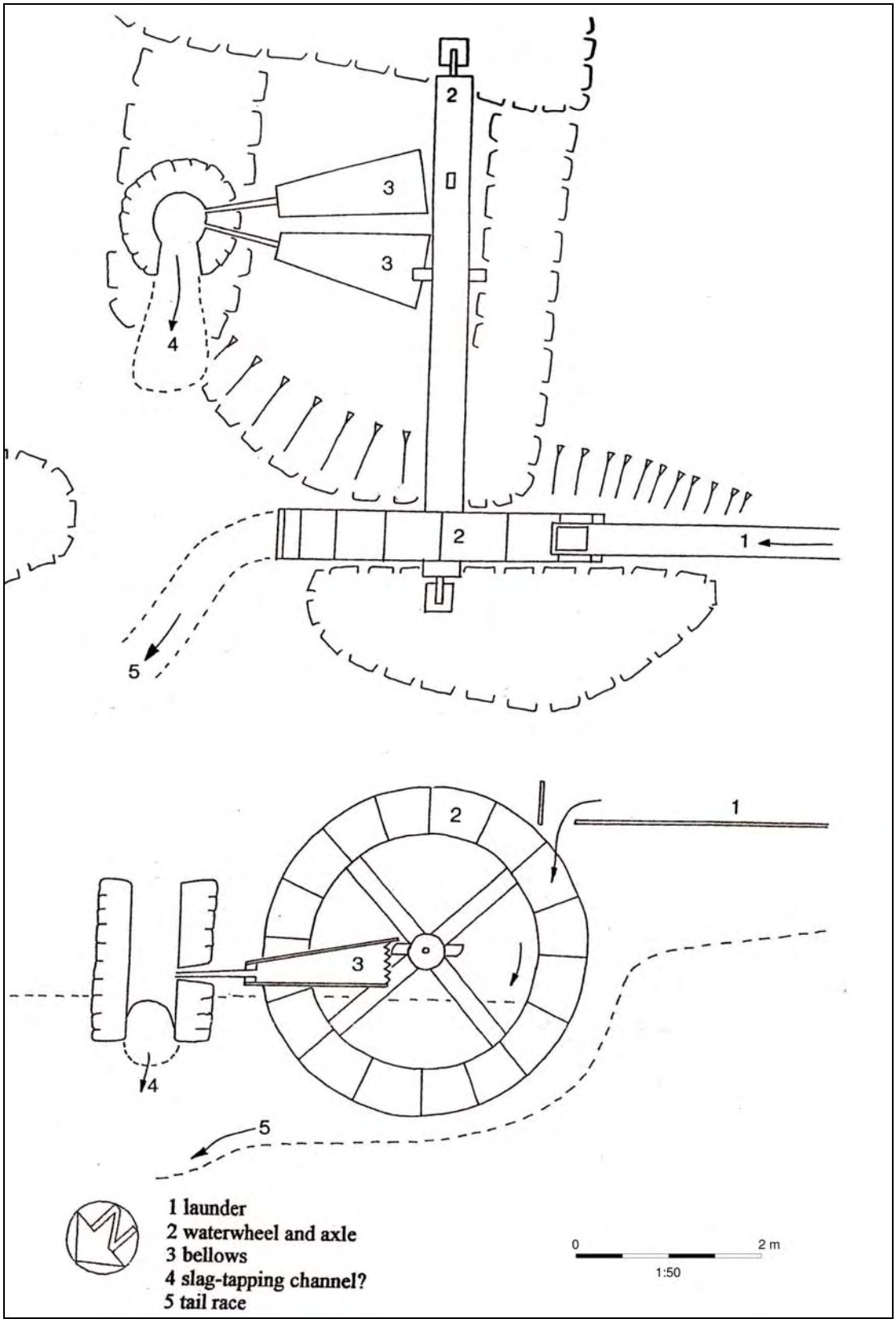

Plate 9: Reconstruction of the water-powered furnace at Black Moss Pot, Langstrath (Crew *et al* 2002)

Plate 10: View of Seathwaite village sat within its field-system on the valley floor

Plate 11: View of Stockley Bridge, Seathwaite, and the packhorse track running towards Sty Head Pass.

Plate 12: View of pollarded trees on a modern boundary on the road running towards Seathwaite

Plate 13: View of one of the ancient ‘Borrowdale Yews’ in Seatoller Wood

Plate 14: View to the south up Seathwaite valley