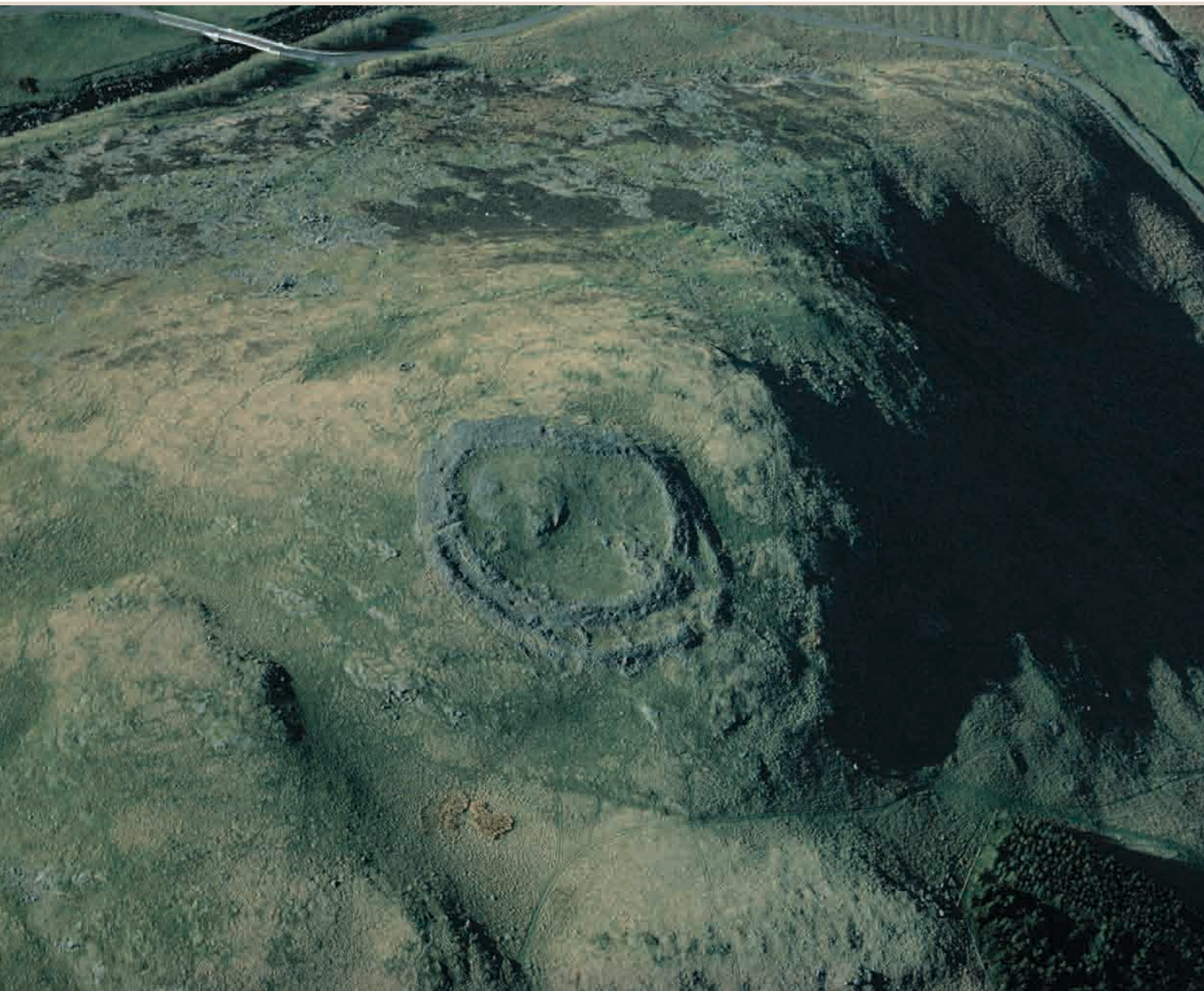


# THE SOUTH-EAST CHEVIOTS PROJECT A DESCRIPTIVE ACCOUNT OF THE PREHISTORIC LANDSCAPE

Pete Topping and Trevor Pearson



**THE SOUTH-EAST CHEVIOTS PROJECT:  
a descriptive account of the prehistoric landscape**

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With contributions from Keith Blood, Mark Bowden, Anne Carter, Vickie Fenner, Donnie Mackay, David McOmish, Iain Sainsbury, Philip Sinton and Humphrey Welfare

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## **SUMMARY**

This paper is a descriptive account of the results of the South East Cheviots Project (SECP) undertaken by the former Royal Commission on the Historical Monuments of England (now part of English Heritage) during the 1980s. This account is designed to complement a more analytical overview published in the Proceedings of the Prehistoric Society, Volume 74 (Topping 2008). Trevor Pearson initiated and developed the GIS analysis of the project data.

For the purposes of the SECP, an area of 66 square kilometres was recorded in great detail, ranging from the Breamish Valley in the N, to Alnham in the S, and from Brandon in the E to Schill Moor in the W. A holistic survey strategy recorded with metrical accuracy all forms of cultivation remains, field systems and settlements of all periods (only the prehistoric evidence will be fully reported in this report). This landscape approach enhanced our understanding of settlement histories and fluctuations in colonisation in these remarkably well-preserved uplands. Recent excavations undertaken by the Northumberland Archaeological Group and Durham University, under the auspices of the Northumberland National Park Authority (NNPA), have helped to clarify and contextualise some of the issues and chronological stages in the development of the historic environment of these historic landscapes.

## **CONTRIBUTORS**

Peter Topping & Trevor Pearson

With contributions from Keith Blood, Mark Bowden, Anne Carter, Vickie Fenner, Donnie Mackay, David McOmish, Iain Sainsbury, Philip Sinton and Humphrey Welfare

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Access was kindly granted by the Northumberland Estates and their tenant farmers, which made the project both possible, and through the interest and support of the farming fraternity very enjoyable. To all go the author's sincere thanks. As ever, any errors or omissions are the sole responsibility of the authors.

## **ARCHIVE LOCATION**

The project archive is curated by the National Monuments Record Centre, Swindon, where it is catalogued under 'RCHME: SE Cheviots Project'.

## **DATE OF SURVEY**

1985 to 1989

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# CONTENTS

1	INTRODUCTION	1
2	A BRIEF HISTORY OF FIELDWORK IN THE PROJECT AREA	3
3	ORIGINS OF THE SOUTH EAST CHEVIOTS PROJECT	8
4	SURVEY METHODOLOGY	9
5	THE GEOLOGY, SOILS AND VEGETATION OF THE PROJECT AREA	10
6	PREHISTORIC LAND-USE	11
6:1	Cross-ridge dykes and linear boundaries	11
6:2	Other forms of boundary	15
6:3	Field systems	15
6:4	Cultivation remains	26
7	SETTLEMENT RECORD	29
7:1	Unenclosed sites	29
7:2	Enclosed stone-built settlements	35
7:3	Timber-built sites	41
7:4	Defended settlements	44
8	BURIAL MONUMENTS	51
9	THE GIS ANALYSIS OF THE PROJECT DATA	53
9:1	Sources of data	54
9:2	Results from the SECP GIS	54
9:3	Discussion of the GIS results	65
9:4	Conclusions from the GIS analysis	68
10	DISCUSSION	71
11	REFERENCES	74



## LIST OF ILLUSTRATIONS

Cover	<i>Brough Law viewed from the air (© Tim Gates)</i>	
Figure 1	<i>The location of the South East Cheviots Project</i>	1
Figure 2	<i>The settlements and field system on the east summit of Hartside Hill (© Tim Gates; NMR TMG 1348/18)</i>	3
Figure 3	<i>The multi-period landscape recorded by the South East Cheviots Project</i>	(bound at end)
Figure 4	<i>The prehistoric landscape abstracted from the South East Cheviots Project</i>	(bound at end)
Figure 5	<i>The locations of the detailed surveys illustrated in the present paper</i>	8
Figure 6	<i>The tentative depiction of fort hinterlands based upon the location of cross-ridge dykes, linear boundaries and topography</i>	12
Figure 7	<i>The multi-period landscape of the Brough Law ridge</i>	16
Figure 8	<i>The Knock Hill field system</i>	17
Figure 9	<i>Hartside Hill, showing the central group of enclosed settlements (© Tim Gates; NMR TMG 1348/21)</i>	18
Figure 10	<i>The Grieve's Ash co-axial field system</i>	19
Figure 11	<i>Grieve's Ash hillfort and part of its associated field system (© Tim Gates; NMR TMG 1532/38)</i>	20
Figure 12	<i>The Prendwick Chesters field system</i>	21
Figure 13	<i>The Prendwick Chesters pit alignment</i>	22
Figure 14	<i>Prendwick Chesters hillfort and environs (© Tim Gates; NMR TMG 1346/44)</i>	23
Figure 15	<i>The High Knowes landscape</i>	24
Figure 16	<i>The prehistoric field systems on Hartside Hill</i>	25
Figure 17	<i>The unenclosed roundhouses, putative smoothed area and terraced plots on Het Hill</i>	29
Figure 18	<i>The unenclosed settlement and field system on Long Crag</i>	31
Figure 19	<i>The Chesters Burn unenclosed settlement, enclosures and groups of cairns</i>	33
Figure 20	<i>The multi-period landscape of Haystack Hill and Middledeanburn (© Tim Gates; NMR TMG 1756/197A)</i>	36
Figure 21	<i>The enclosed settlements and terracing on Ritto Hill</i>	39
Figure 22	<i>Northfieldhead Hill palisaded enclosure with adjacent cairns</i>	43

*and cord rig cultivation (NT9838 1198)*

Figure 23	<i>Knock Hill promontory fort lying on the lower slopes of the Breamish Gorge</i>	48
Figure 24	<i>Comparative plans of the hillforts recorded by the South East Cheviots Project shown at the same scale and orientation</i>	50
Figure 25	<i>The putative enclosed cremation cemetery on Ewe Hill</i>	52
Figure 26	<i>Map showing the natural topography of the SECP project area with the steepest slopes highlighted</i>	55
Figure 27	<i>Graph showing the height range of medieval fields recorded in the SECP study area</i>	56
Figure 28	<i>Map showing the height range of medieval fields recorded in the SECP study area</i>	56
Figure 29	<i>Map showing the relationship between medieval field systems and all prehistoric remains</i>	57
Figure 30	<i>Map showing the area overlooked by the sites at Brough Law and Old Fawdon with the sites of other defended settlements</i>	58
Figure 31	<i>Graph showing the gradient of slope (in degrees) where evidence of cultivation terraces occurs</i>	59
Figure 32	<i>Map showing gradient of slope (in degrees) where evidence of cultivation terraces occur</i>	59
Figure 33	<i>Graph showing the height range (in metres) of cairn groups recorded in the SECP project area</i>	60
Figure 34	<i>Diagram showing the slope aspect of the three categories of cultivation remains recorded in the SECP project area</i>	60
Figure 35	<i>Graph showing the height range of the four main types of prehistoric settlement recorded in the SECP project area</i>	61
Figure 36	<i>Graph showing the proximity of the four categories of prehistoric settlement to cairn groups</i>	62
Figure 37	<i>Graph showing the setting of enclosed settlements against natural slope</i>	62
Figure 38	<i>Map showing the relationship between defended settlements along the Breamish valley and natural topography</i>	63
Figure 39	<i>Graph showing the distance to water of all categories of prehistoric settlement</i>	64
Figure 40	<i>Map showing the costed-distance to water of individual prehistoric settlements</i>	65
Figure 41	<i>Map showing the ground visible from a c. 6.5km route along the Breamish Valley</i>	66
Figure 42	<i>Map showing the cluster analysis model for settlements</i>	67

- Figure 43 *Map showing the cluster analysis model for all prehistoric settlements with the addition of evidence for prehistoric cultivation and field systems* 68
- Figure 44 *Map showing the cluster analysis model for all prehistoric settlement sites with the addition of evidence for medieval field systems* 69

# I INTRODUCTION

This paper will present a synthesis of the former RCHME's South East Cheviots Project (SECP) undertaken between 1985 to 1989, which recorded 66 km<sup>2</sup> of the Northumberland Cheviots at a scale of 1:2500 (Figure 1). This project was the first to record holistically the total archaeological landscape of this part of upland Northumberland and gain an understanding of the broad sweep of landscape change over time (Figure 3). Since the completion of the project, a major programme of research excavation focussed upon the Breamish Valley, sponsored by the

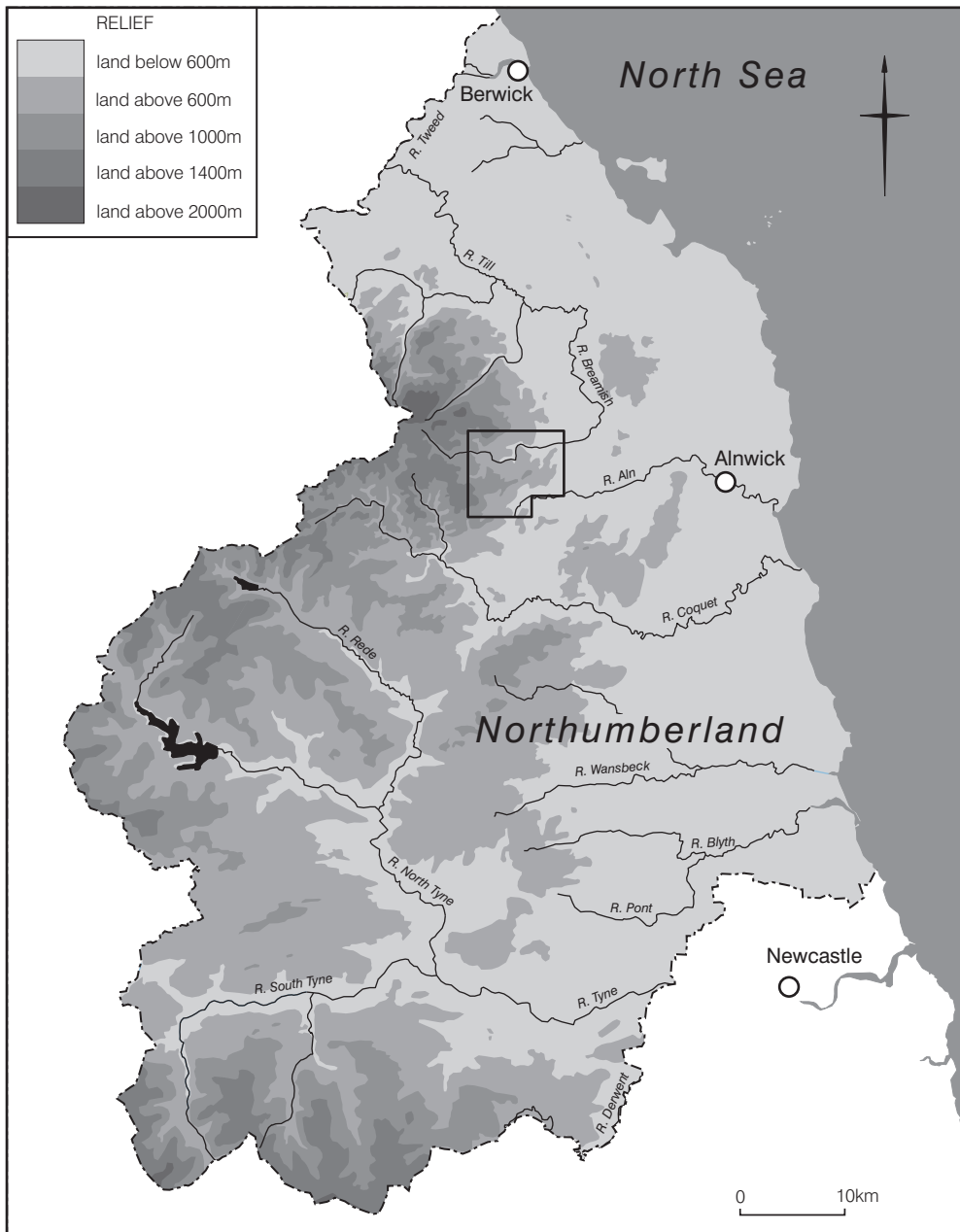


Figure 1: The location of the South East Cheviots Project.



Northumberland National Park Authority (NNPA), has refined our understanding of the detailed chronology of land-use and helped to contextualise the results of the project reported here.

The Northumberland Cheviots, in common with much of the uplands of the Anglo-Scottish Border (cf. RCAHMS 1956; 1957; 1967; 1997), preserve some of the finest archaeological landscapes in Europe. This situation has arisen as a result of the unstable political history of the preceding millennium and its consequent impacts upon settlement and land-use during the Medieval period; by the post-Medieval period and the Union of the Crowns, most cultivation in these hills had effectively come to an end. The lack of intensive cultivation combined with static acid soils has ensured a relatively high level of surface preservation of even the slightest earthworks in many areas, particularly beyond the 'ridged zone' of the Medieval fields. The construction trenches of timber-built structures still score the turf (e.g. Northfieldhead Hill or High Knowes, Alnham) and the ephemeral traces of broadly Iron Age to Romano-British cord rig cultivation survives as ridged fields or plots (e.g. Linhope Burn or Wether Hill). The landscape narratives of the ebb and flow of colonisation have left their scars on these hills. Natural processes and climatic events have also, inevitably, impacted periodically upon the palimpsest, in places restructuring the topography and at times obscuring earlier archaeology. This is most graphically illustrated at Powburn at the mouth of the Breamish Valley where substantial deposits of gravels were washed down the valley and re-deposited here following the Neolithic period (e.g. Tipping 1992; 1996), possibly a by-product of the Iron Age agricultural expansion which is well attested in the valley, coupled to woodland clearance and arguably increasing soil instability. If such a scenario was impacted with an extreme local climatic event, erosion and gravel movement would have been inevitable (cf. Topping 2004).

Fieldwork and excavation have now recovered evidence of human activity in the Cheviot Hills ranging from the Mesolithic (e.g. Topping 1993; ASUD 1996; McOmish & Topping forthcoming) to an extensive Medieval phase of colonisation. It is the prehistoric period which will form the basis of the present paper, although the impacts of the Medieval period cannot be ignored (cf. Figure 3). Regularly spaced Deserted Medieval Villages (DMVs), generally some 2kms to 3kms apart, have exploited many of the most suitable valley floor locations and more workable hill slopes up to altitudes of c.244m (c.800 feet) above OD. Inevitably, the fields of ridge-and-furrow and settlements have adapted, altered, obscured or obliterated the Prehistoric record. Of interest to the debate on Prehistoric marginality is the fact that the driver for the abandonment of many Medieval settlements in these uplands was not the climatic deterioration initiated by the Little Ice Age, but the social impact of cross-Border politics and the increase in warfare following the disintegration of relations between England and Scotland in the 13<sup>th</sup>-century AD. Consequently, climatic determinism may be too simplistic an explanation for the prehistoric desertion of these uplands, and the elusive impacts of political and social drivers may need to be considered alongside the environmental issues, to recognise that single solutions are unlikely to be the answer to what was undoubtedly a complex melange of issues. It is interesting to speculate upon what may have been the final driver that created the tipping point and forced the upland communities from their traditional homelands.

## 2 A BRIEF HISTORY OF FIELDWORK IN THE PROJECT AREA

The first significant fieldwork undertaken in the project area was that of Henry MaLauchlan (cf. Charlton & Day 1984) during the second half of the 19<sup>th</sup>-century when he was employed by the Duke of Northumberland, firstly to record various Roman roads and then, inevitably, Hadrian's Wall. However, of most interest here, was his fieldwork on 'native' settlements which he encountered during his various projects and had meticulously recorded using the skills he had learned in the Ordnance Survey. These 'hill-sketches', which were not generally included in his publications, were finally brought together in 1867 as *'Notes not included in the memoirs already published on Roman roads in Northumberland'* (Privately published). Here, 144 sites are described with accompanying plans on interleaved pages. Although recorded at a relatively small scale (generally eight chains to the inch), the surveys depict a remarkable degree of detail, placing each site in its topographic setting by using subtle shading to suggest landform; in some cases he depicted monument complexes such as that on the eastern summit of Hartside Hill comprising an aggregated settlement overlooking a radial field system (cf. Figure 2). MaLauchlan's fieldwork in the Breamish Valley took place between June and October 1861.



Figure 2: The settlements and field system on the E summit of Hartside Hill (NT988 158), showing the re-use of prehistoric field boundaries by Medieval broad ridge-and-furrow. (Photo copyright Tim Gates; NMR TMG 1348/18).



MaLauchlan's fieldwork was contemporary with that of the Berwickshire Naturalists Club, often directed by George Tate who went on to establish himself as one of the pioneering authorities on prehistoric rock art (Tate 1865). Between the late 1850s and 1860s, they explored several hillforts in the Breamish Valley by trial trenching, notably Brough Law, Prendwick Chesters and Grieve's Ash, in an attempt to discover the nature of the '*Celtic or ancient British race*'. At Grieve's Ash, an enclosed, defended settlement of 26 stone-built roundhouses and adjacent annexes, the 1861 excavations produced an impressive range of artefacts (Tate 1863). In due course these excavations were visited by a delegation of local luminaries and Club members led by George Tate, which included Canon Greenwell and Henry MaLauchlan (who periodically assisted Tate in directing the excavations). The '*diggings*' revealed information on the '*rude masonry of the walls*', the form of the dwellings and the layout of the '*ancient British Oppidum*', discovered pottery of '*the coarsest kind*', a fragment of a glass bangle, red deer bones and quern stones (Tate 1863). Following the site visit, the members of the Berwickshire Naturalists Club were entertained to a '*substantial dinner*' in a large tent which had been erected '*within the walls of the old Celtic town*' (Anniversary Address, *History of the Berwickshire Naturalists Club IV* (1856-1862), 238-245).

Other Antiquarian activity was recorded in the project area, particularly barrow digging at Brandon White House, Greenville / Brandon, Ingram Hill, Reaveley Hill, Knock Hill, Hartside Hill and Grieve's Ash. Bronze metalwork was recovered from Brandon, Branton, Alnham Moor, Blakehope and Glanton (Hardy 1886).

By the 1920s fieldwork focused upon the collection of baseline data to create inventories, firstly by RC and WP Hedley (Hedley 1924), then by AHA Hogg whose lists were accompanied by a number of surveys which attempted to categorise prehistoric sites (Hogg 1943; 1947). Hogg also went on to partly excavate the palisaded settlement at Ingram Hill (1942; 1956). The 1920s also saw the appointment of the Ordnance Survey's (OS) first Archaeology Officer, followed by the gradual creation of the Archaeology Division by the late 1940s. Despite a lull in fieldwork during the Second World War, OS archaeological mapping did begin to systematically develop a baseline data set which recorded most prominent archaeological sites throughout the country within mapping tolerances (i.e. that the earthworks survived 30cms above or below the surface). This data later formed the basis for the various national and local sites and monuments records created from the 1970s onwards. The majority of the OS fieldwork in the project area occurred between 1956 and 1975 (*cf.* Bowden & Mackay 1999, 4, Fig 1)

Research-led fieldwork also took place during the 1950s when George Jobey and his adult education students embarked upon an influential programme of plane-table surveys of mostly prehistoric sites throughout the county (e.g. 1960, 1962, 1963, 1964, 1965, 1972), backed up by a series of key excavations designed to develop a chronological framework for this prehistoric settlement. Jobey primarily recorded individual sites and only rarely surveyed parts of adjacent field systems (e.g. Jobey 1964), reflecting the limitations of the survey equipment, contemporary perceptions and the strategic requirement to create baseline data. Within the project area, Jobey excavated parts of the palisaded settlements and cairnfields at High Knowes, Alnham, during 1962-3, thus improving our understanding of timber-built houses and the structure of palisaded

enclosures, although much of this remained imprecisely dated (Jobey 1966). He went on to sample the ramparts of the Iron Age hillfort at Brough Law and the palisaded enclosure at Ingram Hill in 1970 (Jobey 1971), producing two of the six pre-SECP <sup>14</sup>C dates for the project area –all of which came from just three sites (see Table 1). Jobey's final excavations in the project area occurred at Standrop Rigg between 1979-81, where a later Bronze Age unenclosed settlement and field system produced the final four <sup>14</sup>C dates (Jobey 1983; see Table 1).

Site	Context	Radiocarbon age bp	Calibrated <sup>14</sup> C date (OxCal v4.0)
Standrop Rigg unenclosed settlement (Jobey 1983)	House 4; Pit A	4020±80 (HAR-3983)	2871-2307 cal BC [95.4%]
Standrop Rigg unenclosed settlement (Jobey 1983)	House 2; occupation layer	3000±80 (HAR-3538)	1425-1012 cal BC [95.4%]
Standrop Rigg unenclosed settlement (Jobey 1983)	House 2; charcoal on surface of ?occupation layer giving a <i>terminus ante quem</i> for the house and main occupation phase	2360±70 (HAR-3399)	757-231 cal BC [95.4%]
Standrop Rigg unenclosed settlement (Jobey 1983)	House 4; Pit B ('intrusive pit')	2300±70 (HAR-3981)	732-176BC [95.4%]
Brough Law hillfort (Jobey 1971)	Charcoal from below hillfort rampart	2215±90 (I-5315)	486-1 cal BC [95.5%]
Ingram Hill palisaded settlement (Jobey 1971)	Charcoal from Phase 2 bank	2170±90 (I-5316)	397-1 cal BC [95.4%]

Table 1: The radiocarbon chronology available for the SECP area in 1983

During the 1970s government-sponsored expansion in archaeology, the North Eastern Archaeological Unit was established at Newcastle University, from where Tim Gates undertook a series of survey programmes in Northumberland, including fieldwork in the project area which culminated in a study of Romano-British field systems (Gates 1982) and the first iteration of the nature and distribution of unenclosed settlements in the county (Gates 1983). Alongside terrestrial survey Gates also undertook a systematic programme of aerial reconnaissance which has discovered many new sites (e.g. Gates 2000).



By the mid-1970s, Colin Burgess established a large Job Creation scheme under the auspices of the Manpower Services Commission, which employed a number of landscape archaeologists who worked primarily in the N of the county. Some of their number went on to make significant discoveries, particularly of the recognition of prehistoric cord rig cultivation, which has had a profound effect on the understanding of prehistoric land-use in the Borders, particularly in challenging traditional perceptions of the nature of Iron Age / Romano-British agricultural practices (cf. Halliday 1986, 1993; Topping 1989a, 1989b). Many of the cord rig sites were first discovered on Tim Gates' aerial photographs as ephemeral striations amongst the archaeological palimpsest at sites such as Greenlee Lough immediately N of Hadrian's Wall (Welfare 1986); such recognition led to further discoveries of cord rig in the project area by the RCHME team.

During the 1980s Burgess produced a synthesis of the county's prehistory which contextualized many of the sites in the RCHME project area and remains the most detailed survey of the county to date (Burgess 1984).

In the early 1980s both the Job Creation scheme and the NE Archaeological Unit were wound up, bringing a temporary halt to systematic fieldwork in the county. However, in August 1983 the RCHME opened a new field office in Newcastle, which placed a four man team in the NE for the first time. In March 1985 the RCHME team embarked upon the SECP, which became a regular spring fieldwork campaign until completion in 1989. In the new millennium, analytical fieldwork resumed when English Heritage (EH) embarked upon a programme of hillfort surveys to support the conservation strategies of the Northumberland National Park and EH's own commitment to targeted research in protected landscapes (Oswald et al. 2006). This included a more detailed analytical survey of one site in the SECP area at Castle Hill, Alnham (cf. Pearson et al 2001).

Since completion, the SECP has stimulated much interest in the archaeological landscapes of the area and its archive has been used for management purposes by both the National Park and the Forestry Commission. Academically, the project also highlighted the gaps in knowledge relating to settlement chronology and land-use, emphasised by the recognition of extensive prehistoric field systems and other forms of land-use previously unsuspected (e.g. Grieve's Ash co-axial field system; cf. Figure 10). One of the authors (PT) addressed some of the emerging research questions in 1989 with a series of excavations at Linhope Burn, which sought to further refine the chronology of an unenclosed settlement and field system which had been overlain by cord rig cultivation. These excavations were informed by those of Burgess (1980) at Houseledge/Black Law and Jobey (1983) at Standrop Rigg, which had both demonstrated that some unenclosed settlements are associated with a local Bronze Age horizon. The expectation was similar for Linhope Burn, possibly with subsequent re-colonisation by Iron Age cultivators who may have used the large swathes of cord rig which overlay the lynched fields associated with the unenclosed houses. Although much evidence was recorded concerning the nature of the various forms of cultivation and two of the unenclosed houses, no organics or diagnostic artifacts were recovered thus the chronology remains unclear (Topping 1993a). Interestingly, the Linhope Burn unenclosed settlement lies some 0.5km to the E of Jobey's Standrop Rigg settlement.

In the early 1990s, the Northumberland National Park appointed its first archaeologist, Paul Frodsham, which led to a more structured programme of research excavations stimulated by the RCHME project and primarily focused upon Ingram Farm in the Breamish Valley (Frodsham & Waddington 2004). This project brought together archaeologists from the Northumberland Archaeological Group (Topping & McOmish forthcoming) and Durham University, working in parallel, and using a broad landscape approach to design the excavation strategy. This strategy has enhanced our understanding of the prehistory of these valleys, which must now be some of the most intensively studied in the Cheviot massif (ASUD 2001). This fieldwork also helps to place the discoveries of the SECP into a more robust chronological context than was possible in the 1980s and immediately thereafter.

### 3 ORIGINS OF THE SOUTH EAST CHEVIOTS PROJECT

The SECP was originally conceived in the late 1970s by Tim Gates in response to the dual threats of land improvement and afforestation in North Northumberland. A pre-emptive aerial survey was planned, and in 1981 the Inspector of Ancient Monuments agreed to sponsor a photogrammetric survey of 66 square kilometres of the southern Cheviots, which included some of the most threatened areas. The Cambridge University Committee for Aerial Photography (CUCAP; now Unit for Landscape Modelling) was commissioned by the RCHME to undertake the aerial survey in 1982, and in March 1985 the RCHME Newcastle field office began the project fieldwork.

The overarching aim of the SECP was to enhance the archaeological record and make it capable of mitigating and monitoring threats to the historic environment. The emerging threats were large scale in nature, particularly forestry plantations and pasture improvement schemes. Consequently the need for baseline, analytical, *landscape* surveys became critical to inform management decisions. Since completion, the SECP survey data has effectively underpinned historic environment management in this part of the National Park, it has been used for public outreach and interpretation strategies at Park visitor centres, and informed the choices for archaeological trails to engage the public in understanding and valuing their rich historic landscapes.

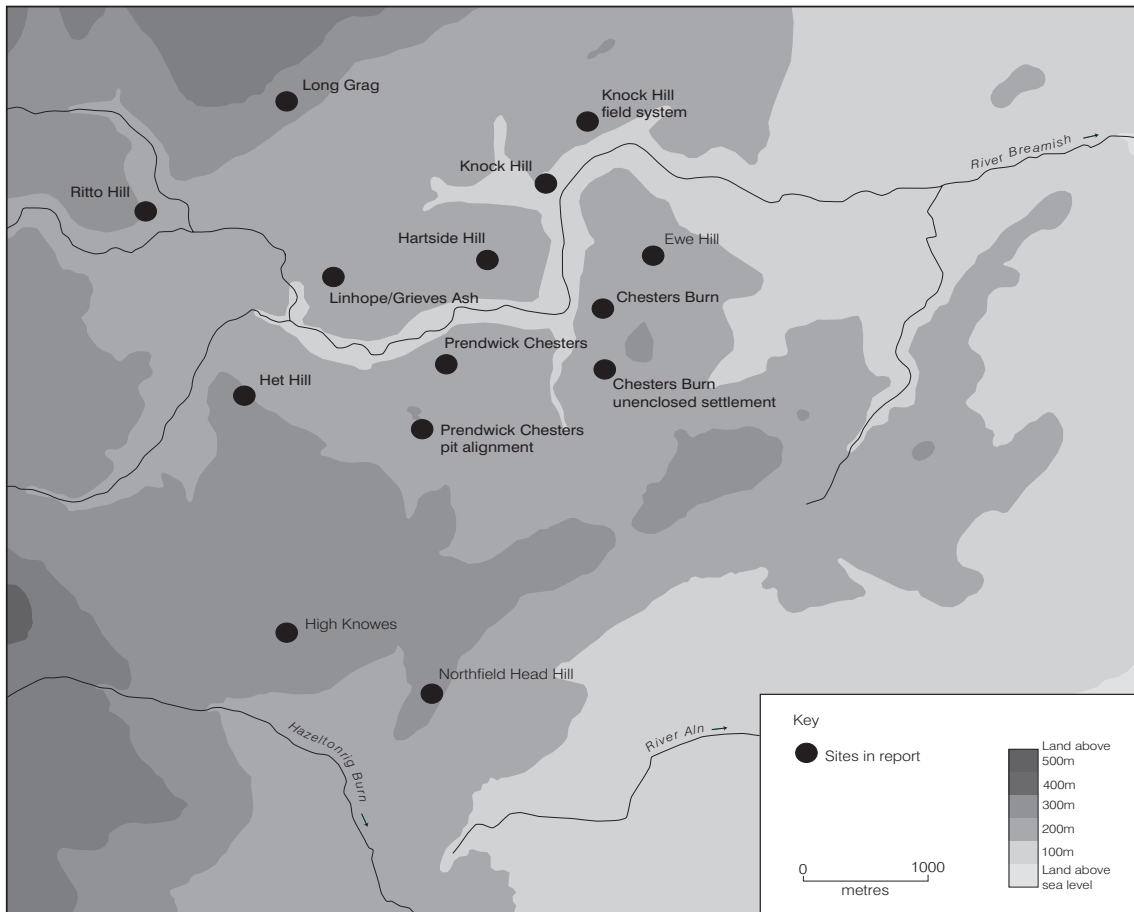


Figure 5: The locations of the detailed surveys illustrated in the present report.

## 4 SURVEY METHODOLOGY

The project area was initially mapped by photogrammetric air survey. Although the resulting aerial transcription still required field checking, considerable time savings were made in comparison to traditional terrestrial mapping as practiced in the 1980s using Electronic Distance Measuring equipment (EDMs) - a situation which remained largely unchanged until the introduction of GPS equipment.

The vertical photographic coverage was captured by CUCAP on 17th May 1982 using a Wild RC8 camera at a photographic scale of approximately 1:7500 for mapping at 1:2500; oblique aerial photography and Ordnance Survey (OS) vertical photography was also used to assist the detailed plotting of archaeological features. The transcription began in March 1984 targeted upon areas immediately threatened with land improvement (Hartside Hill and Hazeltonrigg) using an analogue Thompson Watts MkII stereo plotter. In January 1986 the transcription continued on an Officine Galileo Digicart analytical stereo plotter, one of a new generation of photogrammetric instruments incorporating micro-computers.

Each kilometre square transcription plot was produced at 1:2500 scale on archivally-stable plastic film. The plots also contained topographic information to help orientate the field teams.

Initially the accuracy of the aerial transcription plots was field checked with a Wild EDM, which demonstrated that the plots were accurate to within 6cm. When it is recalled that the thickness of a pencil line at 1:2500 scale is equivalent to 60cm to 70cm on the ground, the level of accuracy could not be appreciably bettered.

In parallel to the main survey programme, a small fieldwalking trial project was also undertaken to assess the potential for artefact collection. Cultivated fields were selected adjacent to Greensidehill and Hartside farms in the Breamish Valley which produced mostly medieval pottery from areas on the periphery of medieval field systems.

Overall, the fieldwork for the entire project took 33.5 weeks to complete, averaging 2.5 km<sup>2</sup> surveyed, recorded and interpreted per week with an additional 16 large scale surveys of key sites at 1:100 to 1:1000 scale. In terms of man days the project took 448 days in the field and 438 days of office time. A total of 2428 archive reports were written, ranging from 2 to 160 reports per square kilometre.



## 5 THE GEOLOGY, SOILS AND VEGETATION OF THE PROJECT AREA

The gently undulating igneous hills of the Northumberland Cheviot massif are cut by several steep-sided valleys forming a radial drainage pattern emanating from the high point of the system, the Cheviot itself. Morphologically, this Devonian geology represents an eroded volcano intruded from below by granite to form The Cheviot (815m) and adjacent Hedgehope Hill (714m), both surrounded by a halo of andesitic volcanic lavas. Within the project area the most prominent valley is the Breamish in the N, fed by numerous small burns and sikes and at its most dramatic cutting through the steep-sided Breamish Gorge skirting Brough Law. The higher rugged landscapes of the N fall away to more rounded, glacially-smoothed terrain in the S. The valley floors fall steadily towards the E, the Breamish at Linhope Spout lies at 290m OD near the W edge of the project area, but by the time it has meandered 5kms to Ingram on the E perimeter it has dropped to 125m OD.

The geology of the project area is formed from Lower Old Red Sandstone Andesite lavas scored by a series of dykes. Several conspicuous Granite tors can be observed on the skyline, notably on Cunyan Crag (NT976 182), but also immediately beyond the project area on Standrop Rigg (NT942 180). Throughout the Cheviot massif fault lines influence the topography and drainage pattern.

Glaciation has stripped soil cover from some hill tops, and subsequent periglacial conditions have created scree-slopes on the steep valley sides such as the dramatic Ingram Glidders cascading from Brough Law in the Breamish Gorge. The soils covering the Andesite range from leached podzols and peaty gleys on the hill tops to locally fertile brown earths on the valley floors. Similar soils have developed over the intrusive Granites, although podzols are more prevalent and the brown earths more acidic. Blanket peat bog can be found at the highest elevations (Johnson 1995; Lunn 2004).

The flora ranges from heather and cotton grass bog (*Calluna-Eriophorum vaginatum spp*) colonising the less fertile higher altitudes, to purple moor-grass (*Molinia caerulea spp*) and bent grass (*Agrostis spp*) cloaking the more fertile soils of the lower hills; the lower slopes and valley bottoms are host to bent-fescue grassland (*Agrostis-Festuca spp*) with intrusive communities of bracken (*Pteridium spp*) and gorse (*Ulex europaeus spp*) (Lunn 1976; 2004).

## 6 PREHISTORIC LAND-USE

The major discovery of the SECP was the recognition of the survival of evidence for extensive prehistoric landscape organization and land-use, ranging in scale from major linear boundaries articulating large tracts of the landscape to field systems and small agricultural plots (Figure 4). The analytical landscape methodology of the SECP led to a more complete understanding of landscape change over time than had previously been possible – despite taphonomic processes and the impacts of later land-use, particularly during the Medieval period (cf. Figure 3). Medieval field systems attached to Ingram village, for example, have been laid out over the gradually ascending slopes of Ingram Hill and Ewe Hill [NU 005 153] to a height of roughly 300m above OD; at Leaffield Edge [NT 988 135] Medieval cultivation reaches 310m above OD; and at Hart Law [NT 990 124] the cultivation peaks at some 330m above OD. Considering prehistoric agriculture generally lies below 400m above OD in the project area, the regularly spaced Medieval field systems (normally 2-3kms apart) have had a considerable impact upon the survival of prehistoric evidence on some hillsides and valley floors leaving a narrow ‘tideline’ of prehistoric evidence on the upper hill slopes, or surviving as a patchwork of parcels at lower levels. That prehistoric land-use was originally far more extensive is effectively illustrated by the deposition of the extensive beds of gravels at Powburn Quarry which have completely masked the Neolithic and Bronze Age landscapes on the Breamish Valley floor.

For a discussion of the land-use strategies for the different prehistoric periods in this area, see Topping (2008). The following sections will provide a synthesis of the various site/monument types recorded during the project, and place them in their local contexts.

### 6.1 Cross-ridge dykes and linear boundaries

Some evidence for the creation of large scale land division is provided by the distribution of cross-ridge dykes and linear boundaries, which often sub-divide discrete blocks of landscape by manipulating the dramatic local topography (cf. Figure 6). In many cases the linear monuments form only a small part of the putative perimeter, the majority is defined by the topographic features. Spatially, most of these major land divisions would appear to be juxtaposed with hillforts and defended settlements, although caution is needed as few have a direct relationship to the forts and are often located some distance away; to date, only two linears have been tested by excavation and both were of a similar age *and* both were broadly contemporary with the nearby hillforts (these dykes were at Wether Hill and Brough Law; cf. ASUD 2001, 42-3). In addition, the different character of the round-houses found within these sites may suggest that they represent different periods of abandonment, thus the various land divisions may not all be contemporary.

All but one of these boundaries is located beyond the Medieval village head dykes, or the nearest Medieval / post-Medieval cultivation, thus suggesting that they were associated with an earlier phase of high altitude colonisation. Fewer boundaries survive in the E part of the project area, but this area has been heavily cultivated since the Medieval period, leaving hillforts (e.g. Gibb’s Hill, Castle Knowe) stranded as islands in a sea of ridge-and-furrow, divorced from their original landscape contexts. In the Cheviots the general

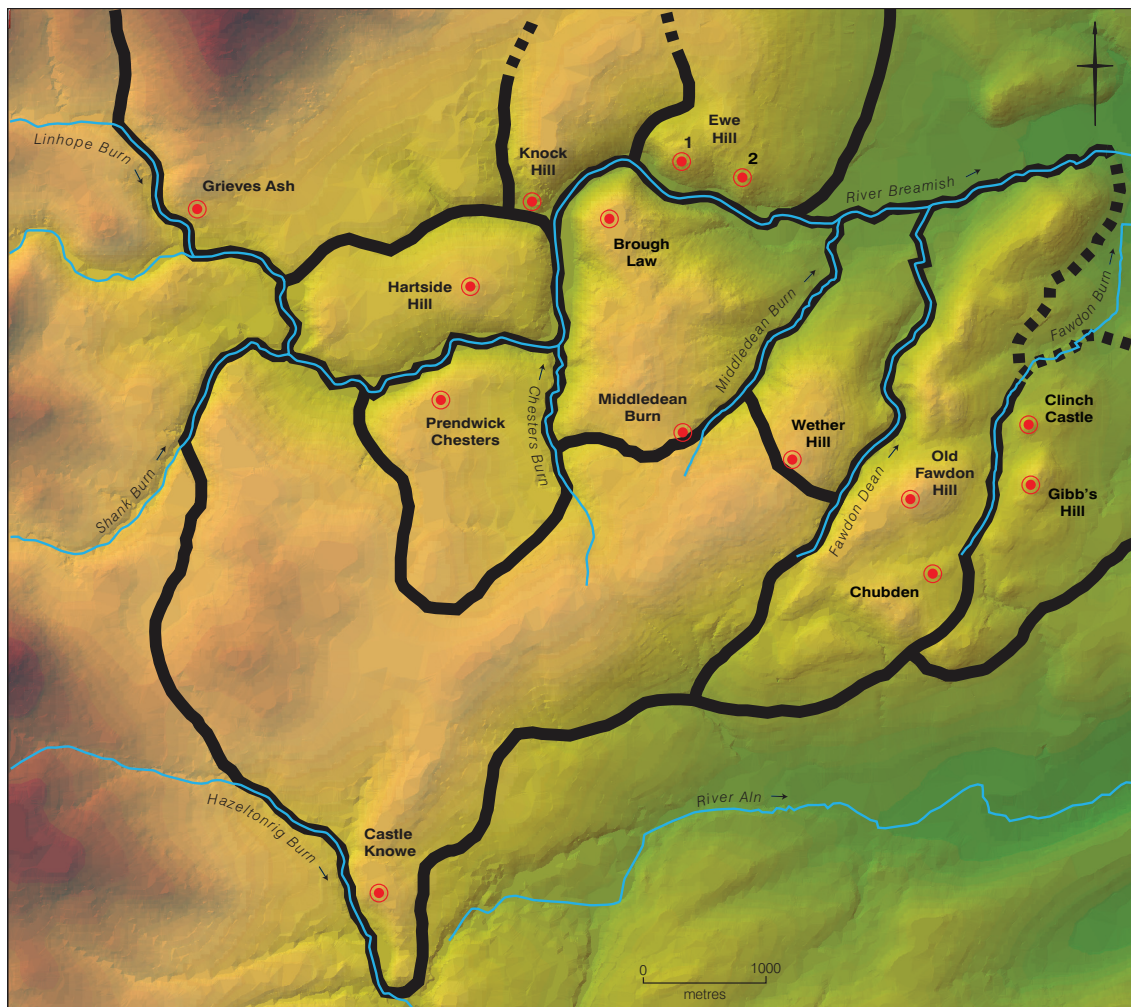


Figure 6: The tentative depiction of fort hinterlands based upon the location of cross-ridge dykes, linear boundaries and topography.

distribution of hillforts and defended settlements is ranged along the E perimeter of the range, with only the major valleys such as the College, Breamish and Coquet carrying hillfort distribution into the heartland of the massif (Topping 1999, 15-19). Clearly, this distribution is deliberately choosing prominent locations to dominate both the boundary to the Cheviots themselves and reference the major routeways into the hills, creating an imposing interface demonstrating cultural claims to these uplands.

The putative hinterlands surrounding the hillforts are often irregular in plan, and enhance or utilise geological features to create or extend the land divisions, generally relying upon the natural topography to define the majority of the perimeter. In many cases the anthropomorphic boundaries are not significant landscape features, but appear to be a token sign-posting of an area and not designed to primarily impede movement. Even the cross-ridge dykes adjacent to hillforts such as Wether Hill and Brough Law, often considered to have been outer defensive works, are relatively slight compared to the hillfort defences. In addition, they are occasionally breached by causeways (e.g. Wether Hill) or could be easily circumnavigated (both Wether Hill and Brough Law). A similar situation exists in Upper Coquetdale where a series of cross-ridge dykes straddle The

Street (a prominent ridge route which crosses the Border at Mozie Law), but again these are cut by causeways or are easily by-passed.

The largest surviving bounded area encircles Brough Law, enclosing 3.8km<sup>2</sup>, mostly by the use of natural landforms for all but 4.7% of its perimeter. A roughly triangular area with the hillfort near its N apex, it is defined by the steep-sided valley of the Chesters Burn on the W until it joins the dramatic Breamish Gorge forming its N and NE sides. The perimeter continues along the River Breamish to its confluence with the Middledean Burn where it returns in a SW direction ascending up the course of the burn to a small gorge overlooked by a D-shaped cliff edge hillfort at NU 004 147 (Middledean Burn). Beyond the small gorge, two separate lengths of boundary ditch have been dug to extend the line of the gorge into the stream system of the Ramshaw Burn, thus completing the circuit. The built elements at Brough Law total no more than 300m in length, yet this helps to encircle a significant land mass which, interestingly, would appear to be broadly equivalent in size to the area enclosed within the field systems associated with the adjacent and partly overlapping Ingram Medieval village. However, the Medieval village will have included grazing lands beyond the head dyke, whereas the Brough Law hinterland would appear to have comprised all elements of the agricultural economy. This scenario contrasts with the relatively small cross-ridge dyke adjacent to the hillfort which is best seen as part of the enhancement of the fort's presence and defences when approached from the S.

On Wether Hill, another such bounded area abuts the SE perimeter of the Brough Law hinterland, and again is defined mostly by topographic features enclosing some 2km<sup>2</sup>. The anthropomorphic elements form 12% of this perimeter, but in this instance with the hillfort near the S boundary. This system utilizes Corbie Cleugh in the SW; then in common with the Brough Law system the Middledean Burn for its NW perimeter; the River Breamish forms its northern limit up to its confluence with the Fawdon Dean Burn which defines its east side; at the Gingling Cleugh the southern perimeter is partly defined by a seasonal streamlet; the gap between Corbie Cleugh and Gingling Cleugh is filled by a cross-ridge dyke some 310m in length. This cross-ridge dyke is characterized by a double bank with central ditch; each bank is no more than 4.6m wide with outer scarps up to 0.5m high; the central ditch is 1.2m wide at its base and no more than 1.2m deep from the top of the N bank. A central causeway bisects the dyke and appears to be a contemporary feature; a second break has been created by a modern trackway leading to the summit of Cochrane Pike. This cross-ridge dyke lies across one of the major routes between the Breamish Valley and Coquetdale to the S, thus it not only defines a land mass but controls access along the ridge route - at least symbolically, if not physically.

Both boundary systems described above define topographically prominent areas lying near the mouth of the Breamish Valley. Brough Law hillfort clings to the edge of the dramatic Breamish Gorge, its huge stone ramparts straddling the summit make it one of the most visually prominent enclosures at the entrance to the valley, clearly dominating the surrounding countryside – a situation which must have underpinned its role in society.

The large hilltop palisaded enclosure on Old Fawdon Hill (NU0225 1415) displays many



of the characteristics of a hillfort. It has a similar location, its internal detail suggests it may be multi-period in use, it contains over 45 house stances, and it is enclosed by a double palisade (cf. Oswald et al 2006, 75). A linear boundary abuts the W perimeter of the palisade and leads downslope into the steep-sided valley of the Fawdon Burn, demarcating the hilltop from the valley. The E side of the hill is close to the edge of the Cheviot massif, thus the site was prominently positioned when viewed from the E and the coastal plain.

At present the only dated linear features are the cross-ridge dykes or outworks adjacent to the hillforts at Brough Law and Wether Hill; although the dates obtained at Brough Law could be associated with the development of the fort itself, the evidence from Wether Hill clearly relates to both the hillfort and the creation of the bounded fort catchment. The Wether Hill date was obtained from an organic-rich old land surface sealed beneath the N bank of the dyke and produced a date of  $2170\pm 70$  bp [Beta-89362] which calibrates to 386-52BC [OxCal v4.0 at 95.4%]. At Brough Law a charred twig from the basal ditch fill of the outwork returned a date of  $2150\pm 55$  bp [GU-9202] which calibrates to 363-51BC [OxCal v4.0 at 95.4%] (ASUD 2001, 42-43). Clearly there is a good concordance between these two dates suggesting the possibility of contemporaneity. If the single date obtained by Jobey (1971) from beneath the rampart at Brough Law is compared,  $2215\pm 90$  bp [I-5315] which calibrates to 486-1BC [OxCal v4.0 at 95.5], and the  $^{14}\text{C}$  chronology obtained from the hillfort on Wether Hill, which ranges from  $2260\pm 40$  bp [AA-54969(GU-10986)] to  $1985\pm 45$  bp [AA-40757(GU-9209)], giving calibrated dates of 398-206BC to 96BC-AD126 [OxCal v4.0 at 95.4% probability] (Topping & McOmish forthcoming). It would appear that this local episode of neighbouring hillfort construction and land division broadly spans the Middle to Late Iron Age, and may even have overlapped with the Roman Iron Age.

Within the Brough Law complex lies a group of field remains which include a major linear boundary focusing upon Ewe Hill and spanning the ridge (Figure 7). Recent excavations were unable to provide a satisfactory construction date for this feature, but it appears to form the S boundary of an extensive series of clearance cairns, short lengths of walling and unenclosed settlements and what *may* be an enclosed cremation cemetery (see below and Figure 25). In addition, a series of agricultural terraces associated with unenclosed houses are laid off this boundary as it descends down to the Chesters Burn. Morphologically, such field remains might date from the Bronze Age by analogy with Houseledge/Black Law (Burgess 1980) and Standrop Rigg (Jobey 1983), but caution is needed until further securely dated evidence is available.

Each bounded area described above includes access to water, and if the sketchy palaeo-environmental evidence is a broad indication (cf. Young 2004), then some woodland and scrub may have been available, with larger areas of pasture and varying amounts of cereal cultivation – taken together indications of a mixed economy. Linear boundaries elsewhere in the Borders have been viewed as farm boundaries or forming part of large enclosures (Halliday 1982, 75), or have alternatively been recorded blocking routeways or straddling ridges (RCAHMS 1956, 51-3). Curiously, few boundary earthworks were discovered in Eastern Dumfriesshire (RCAHMS 1997, 47), illustrating the uneven distribution of such features in the Borders.

## 6.2 Other forms of boundary

A large encircling bank of earth and stone surrounds the summit of High Knowes in Alnham, enclosing an ovoid area of roughly 0.5km<sup>2</sup> (cf. Figure 15). Within the E part of the enclosure lie the two palisaded settlements excavated by George Jobey located on the shoulder of the hill. There is no clear association between the palisaded sites and the enclosure, although a series of low, radial field boundaries do focus upon High Knowes B. These banks are interspersed with ephemeral traces of cord rig cultivation (see below) – and two *appear* to abut the encircling boundary. This might suggest the possibility of contemporaneity, but this enclosure remains strictly undated and of uncertain association at present.

## 6.3 Field systems

The Southern Cheviots still preserve much evidence of prehistoric field systems, generally beyond the limits of Medieval cultivation and encompassing smaller areas than those defined by the major landscape boundaries described above, with the possible exceptions of the extensive field system on Hartside Hill and that on the E-facing flanks of Scaud Knowe, both of which encompass an area of some 2.5km<sup>2</sup>.

The surviving evidence of prehistoric agricultural systems is varied. Stratigraphically, some cultivation terraces are amongst the earliest features in the landscape, such as the group on the Brough Law ridge overlooking the Chesters Burn, which spring from major linears which themselves are overlain by later field systems - some of these are clearly Medieval in date (e.g. the field system associated with Ingram Deserted Medieval Village (DMV); cf. Figure 7). However, the formation of terraces is a process which has a longevity spanning prehistory to the medieval period, and may go beyond this in certain areas as a result of its general applicability in sloping terrain. In essence, terraces are a form of strip cultivation aligned along the contours and form from the destabilisation of soils upslope from a boundary. The quandary of the date and context of terraces from field evidence alone is typified on the S-facing slopes of Turf Knowe, where the sloping fields of broad ridge-and-furrow associated with Ingram DMV are enclosed by rising ground where the ridges gradually morph into terraced features. As these ridges ascend - or descend - the hillslopes they become more extreme in form and terrace-like, and it is difficult to ascertain whether they were created purely in the Medieval period, or they were simply adapted from pre-existing prehistoric terraces during the Medieval phase of land-use. However, the highest terracing on Turf Knowe does appear to be less developed in form to that on the lowest slopes, lending weight to the suggestion that the lower terracing may have simply re-used existing terraces, thus creating more exaggerated forms, whilst that on the highest slopes retained evidence of an earlier – possibly prehistoric – cultivation strategy which was less intensive.

Recent excavations on a group of terraces lying to the E and downslope from Brough Law hillfort, discovered evidence for cultivation during the Early Bronze Age; later Roman Iron Age activity was also recorded (Frodsham & Waddington 2004, 181). Other terrace systems opposite Ingram Hill and located on the slopes above the Middledean Burn are cut by Medieval broad ridge-and-furrow. Similarly, on the E-facing slopes of Ritto Hill, the downslope lynchet of one of a series of terraces has been quarried into by a roundhouse from an 'unenclosed forecourt' settlement (cf. Charlton & Day 1978, 77-78), again demonstrating the Prehistoric context of some cultivation terraces (Figure 21).

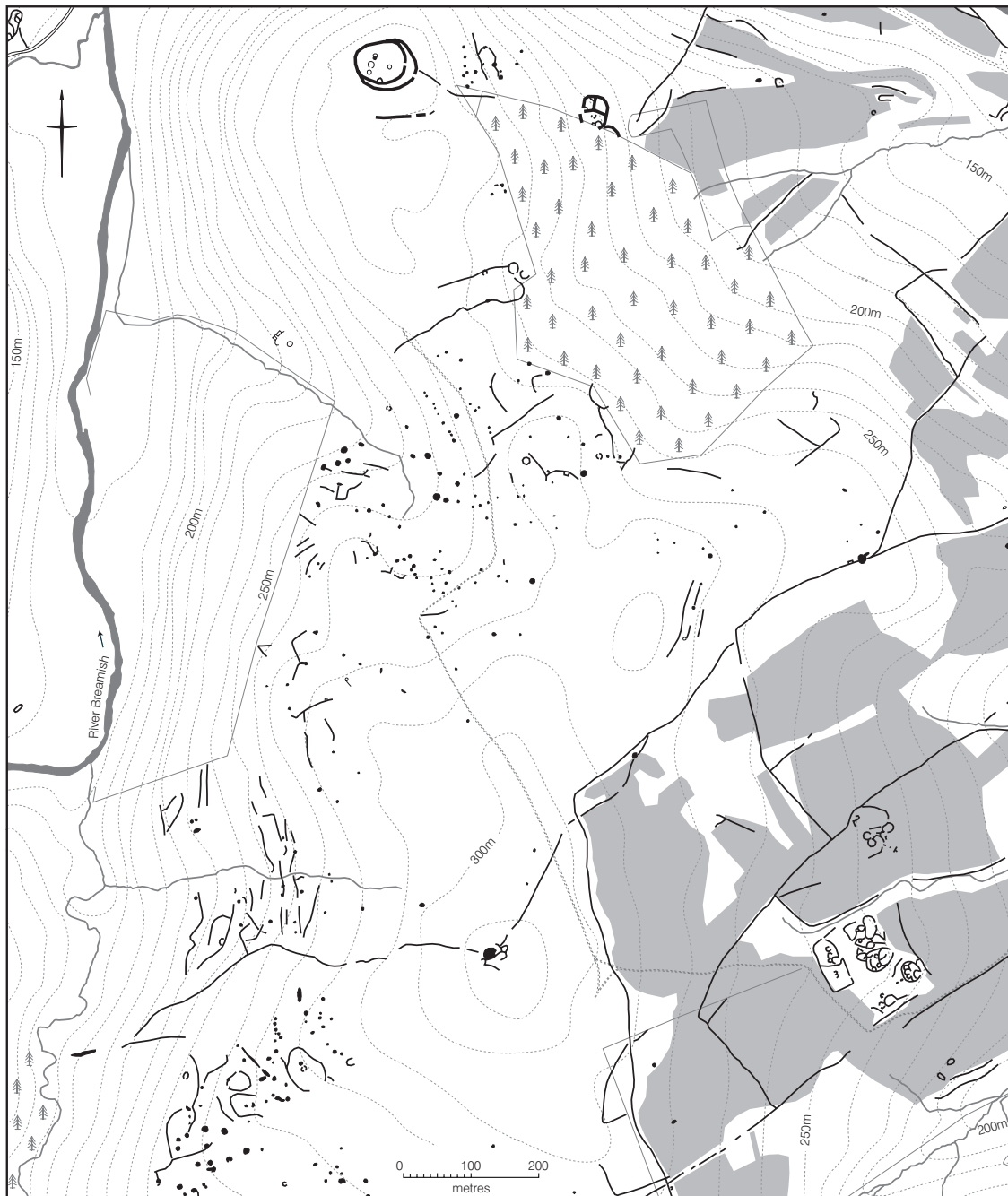


Figure 7: The multi-period landscape of the Brough Law ridge (NT 9915 / 0015 / 9916 / 0016), showing groups of small cairns, terracing, major linears, settlements and the hillfort (in the N). The areas depicted by grey tone are Medieval ridge-and-furrow cultivation.

On Knock Hill, high above the Breamish Gorge, a series of irregular terraces lie adjacent to enclosed stone-built settlements (two intrusive longhouses have also been positioned on the levelled ground), suggesting a coherent field system (Figure 8). In the Bowmont Valley, Roxburgh, the distribution of cultivation terraces closely parallels that of scooped settlements - medieval settlements do not have the same distribution (Inf. Roger Mercer). A similar relationship is evident in the SECP area where terrace groups on Knock Hill, Hartside Hill, Chesters Burn, Ritto Hill and elsewhere lie beyond the limits

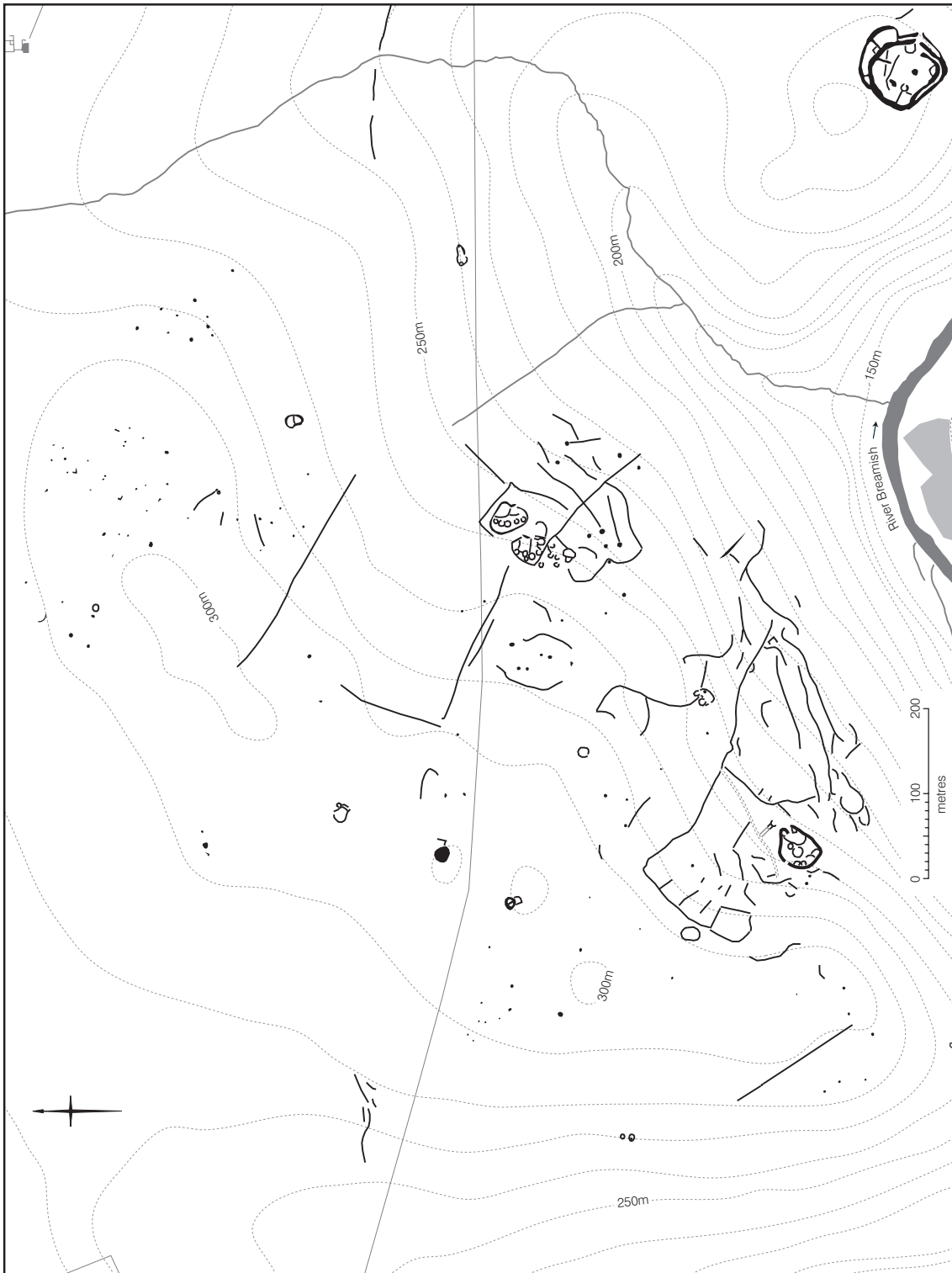


Figure 8: The Knock Hill field system (NT 9916 / 0016 / 9917 / 0017). The hillfort Ewe Hill lies in the SE.

of medieval field systems and many are directly associated with enclosed settlements. However, demonstrating contemporaneity without recourse to excavation is difficult, and the attendant problem of the precise chronological currency of 'scooped' or enclosed stone-built settlements remains unclear.





Figure 9: *Hartside Hill, showing the central group of enclosed settlements (NT983 157). (Photo copyright Tim Gates; NMR TMG 1348/21).*

Caution is also required with the relative chronology of terraces which can be superficially altered if they were spade dug, thus allowing them to be laid close to or even abutting an apparently 'overlying' settlement, therefore potentially obscuring their true surface – and thus temporal - relationship. Such a situation can be seen on Hartside Hill amongst the central cluster of prehistoric settlements, where broad ridge-and-furrow of Medieval or post-Medieval date (some of which is sub-divided by later narrow ridge-and-furrow) has been laid close against certain of the enclosure banks of these settlements – yet these banks record little evidence of plough damage (Figure 9). It is interesting to speculate upon whether some of the Cheviot ridge-and-furrow cultivation in difficult areas of upland terrain might not have been spade-dug, as was the norm on the W coast of Scotland and Ireland during the 18<sup>th</sup> and 19<sup>th</sup> centuries (cf. Gailey & Fenton 1970).

At altitudes between 250m and 350m above OD lie groups of small cairns, generally associated with unenclosed stone-built roundhouses such as Long Crag (cf. Figure 18) or Reaveley Hill (see also Gates 1983). Occasionally, as at Knock Hill above the Breamish Gorge, cairns are randomly scattered throughout a field system comprising terraces, enclosed irregular fields and scooped settlements suggesting shifting agricultural regimes, or if contemporary, mixed farming. The most extensive cairn grouping is found along the Brough Law ridge, covering an area of roughly 0.75km<sup>2</sup> (Figure 7). This is sub-divided by the major Ewe Hill linear referred to above, off which terraces are laid abutting its



Figure 10: The Grieve's Ash co-axial field system (NT 9616 - NT 9716). Note: the areas of tone depict intrusive systems of Medieval ridge-and-furrow cultivation.



N face complete with unenclosed roundhouses. As the topography descends to the Chesters Burn, and on the S side of the linear are a number of enclosures surrounded by further cairns (see also Gates 1983). What may be an enclosed cremation cemetery of Weird Law type also lies on this ridge (see below and Figure 25). Such a complex field system suggests a lengthy period of use, illustrating an initial strategy of large-scale land division (e.g. the Ewe Hill linear) which gradually evolved into a secondary phase designed to increase the amount of agricultural land by the construction of terraces. If analogy is accurate, the groups of cairns may have originated in the earlier Bronze Age (e.g. Houseledge/Black Law), and continued to accumulate into the Iron Age where they can be seen scattered amongst field systems (e.g. Wether Hill). In the case of the Brough Law ridge, the area might have been incorporated into the agricultural hinterland of the hillfort and partly defined by the linear boundaries referred to above.

More structured prehistoric field systems are located in the Breamish Valley, with an outlier to the S at High Knowes, Alnham. Both stratigraphically and by analogy, the earliest field systems are represented by Standrop Rigg (cf. Jobey 1983) and possibly Linhope Burn (Topping 1993a), characterised by irregular fields - at times enclosed by walls - with interspersed lynchets and unenclosed roundhouses. The excavations at Standrop Rigg suggest that this form of field system dates to the later Bronze Age, although the pottery assemblage from Houseledge/Black Law demonstrates that structured field systems were also created during the earlier Bronze Age (Burgess 1980, 1984, 1995; Topping 2008). At the foot of Long Crag (Figure 18) on S or SE facing terraces between 330m to 360m above OD, lies an unenclosed settlement comprising



Figure 11: Grieve's Ash hillfort and part of its associated field system (NT965 163). (Photo copyright Tim Gates; NMR TMG 1532/38).



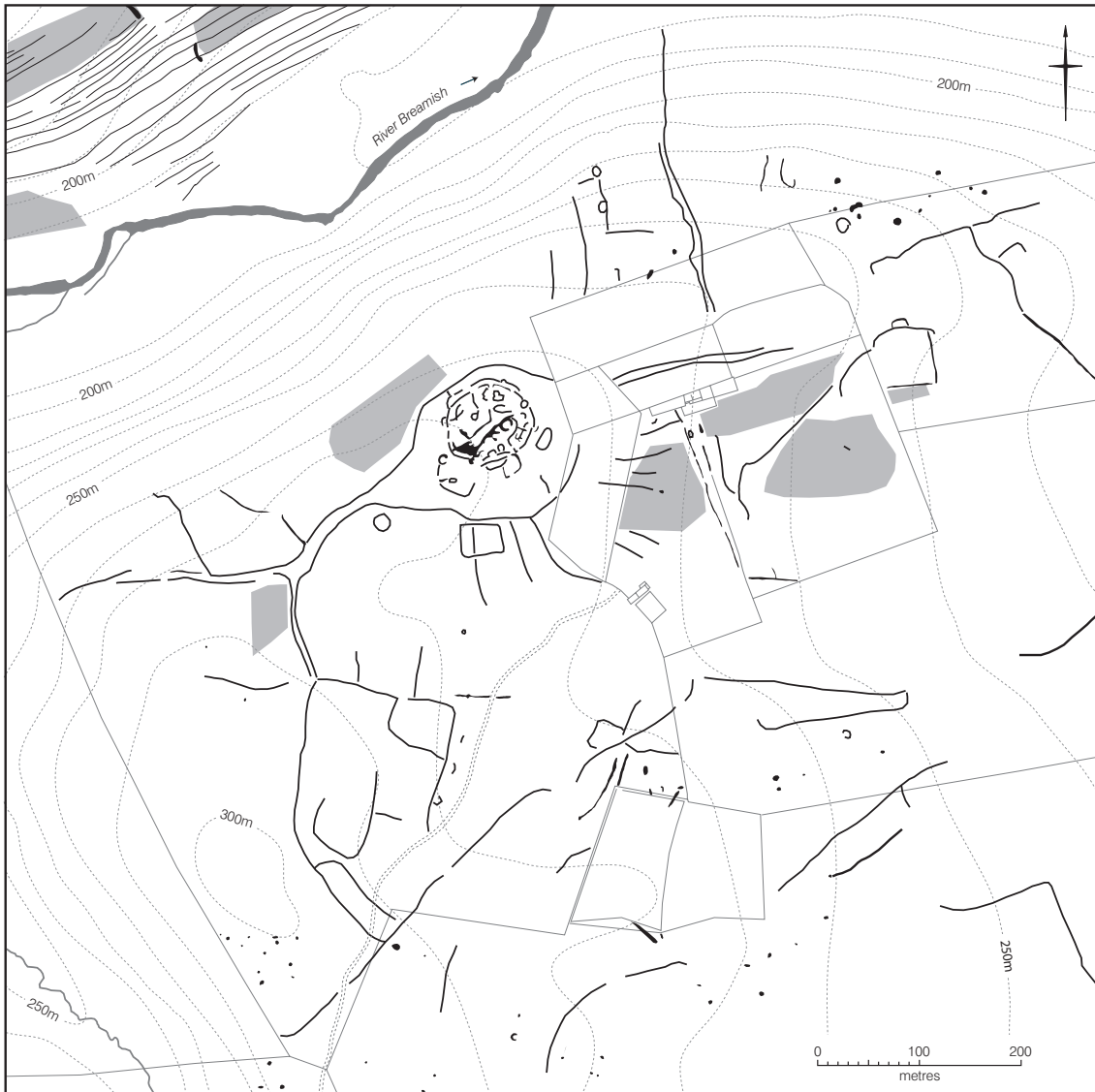


Figure 12: The Prendwick Chesters field system (NT9815 / 9915 / 9814 / 9914). Note: the areas of tone depict systems of Medieval ridge-and-furrow cultivation.

five stone-built roundhouses, four enclosures, and a field system with clearance cairns, short irregular walls, approached by two hollowed ways. Some two-three hundred metres to the E lies a further group of clearance cairns, suggesting a considerable field system if these elements were all contemporary. A more problematic site, chronologically, is represented by the unenclosed settlement and field system on the E side of Scaud Knowe, typified by large scale land boundaries which appear to respect or enclose roundhouses, but interspersed on either side of the boundaries are plots of cord rig, suggesting either a multi-period site or one founded largely in the Iron Age or Roman Iron Age period.

Formalised land division appears to reach its zenith during the later Iron Age or Roman Iron Age periods when defended settlements were constructed – but not always on prominent hilltop locations (e.g. Grieve's Ash or Middledeanburn). At Grieve's Ash and Prendwick Chesters co-axial field systems were laid off embanked trackways. At Grieve's

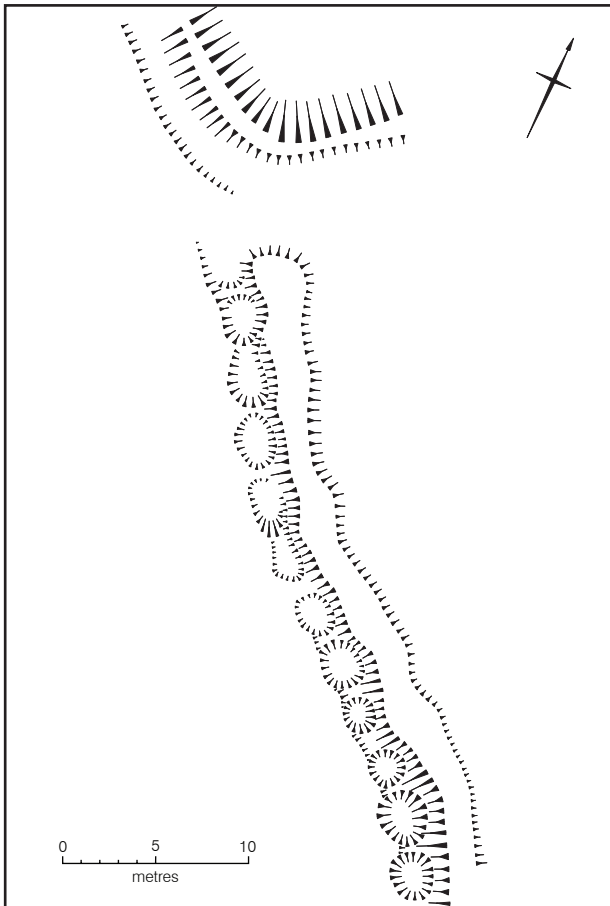


Figure 13: The Prendwick Chesters pit alignment (NT9827 1429), recorded on the southwestern edge of a major prehistoric (and later) field system.

Ash (Figures 10 & 11) a series of very regular fields lie to the E of the settlement complex and enclose a series of cairns and linear dumps of field cleared stones. Encroachment by recent forestry plantations may mask further elements of this field system overlooking the Linhope Burn. The surviving parts of this field system cover an area of roughly 0.25km<sup>2</sup> – an area not dissimilar to that of the DMV at Leaffield Edge some 3.5kms to the SE. The hillfort contains the foundations of at least 18 roundhouses and an adjacent scooped settlement some 200 metres to the E encloses a further 8, which suggests the possibility of a substantial population (allowing for variability in roundhouse use and numbers of inhabitants), and which might provide a yardstick to sketch the carrying capacity of contemporary land-use – always taking into account the variables concerning economic practices and whether arable or animal husbandry can be demonstrated in these fields. At Prendwick Chesters (Figures 13 & 14) many of the fields have been re-used in the medieval period, but the original field pattern survives, laid off a main E-W embanked trackway. Of interest in the large field directly to the S of the hillfort are a series of rectilinear, lynched fields very reminiscent of ‘Celtic’ fields which may be evidence of an earlier field pattern fossilized amongst the later boundaries. In addition, a short stretch of a pit alignment survives in the SW part of the field system (Figure 13), suggesting that this field system may have had a multi-period constructional history utilising different forms of boundary. The various parts of this field system cover an area larger than that of the nearby Leaffield Edge DMV, but the evidence for contemporary settlement is restricted to the hillfort with perhaps 10 roundhouses, and a further 4 unenclosed roundhouses scattered around the N edges of the fields. Clearly land-use



Figure 14: Prendwick Chesters hillfort and environs ((NT985 148). (Photo copyright Tim Gates; NMR TMG 1346/44).

and carrying capacities were variable in the prehistoric period, and these differences must reflect an amalgam of local topographic constraints, the effect of micro-climates and the communal desire or need to create an agricultural surplus.

On Wether Hill the field system is much less formalised. Here, a spur is demarcated by a cross-ridge dyke and its highest point is dominated by a multi-period hillfort, beyond which lies a field system characterised by groups of small cairns and fragments of cord rig surviving upon its S and E periphery. A sequence of palisaded enclosures was discovered during excavations on the E side of the field system and were found to be broadly attributed to the Middle to Late Iron Age, therefore contemporary with the main phases of the hillfort and the construction of the cross-ridge dyke; one enclosure contained a post-built roundhouse, but the remainder were simple enclosures, perhaps to corral animals, thus suggesting a mixed farming regime (Topping & McOmish forthcoming). The chronological span of these palisaded enclosures corresponds with one of the core periods of cord rig use in the Borders.

At High Knowes, Alnham (cf. Jobey 1966), the paired palisaded settlements appear to be located within a large – but undated – curvilinear enclosure described above (cf. Figure





Figure 15: The High Knowes landscape (NT9612 – NT9712). The enclosure surrounding the palisaded settlements encircles the high ground, enclosing the radial fields, but is strictly undated. The site of Jobey's (1966) excavations on the group of small cairns, unenclosed houses and burial sites lie in the SW. Grey tone depicts areas of prehistoric cord rig cultivation.

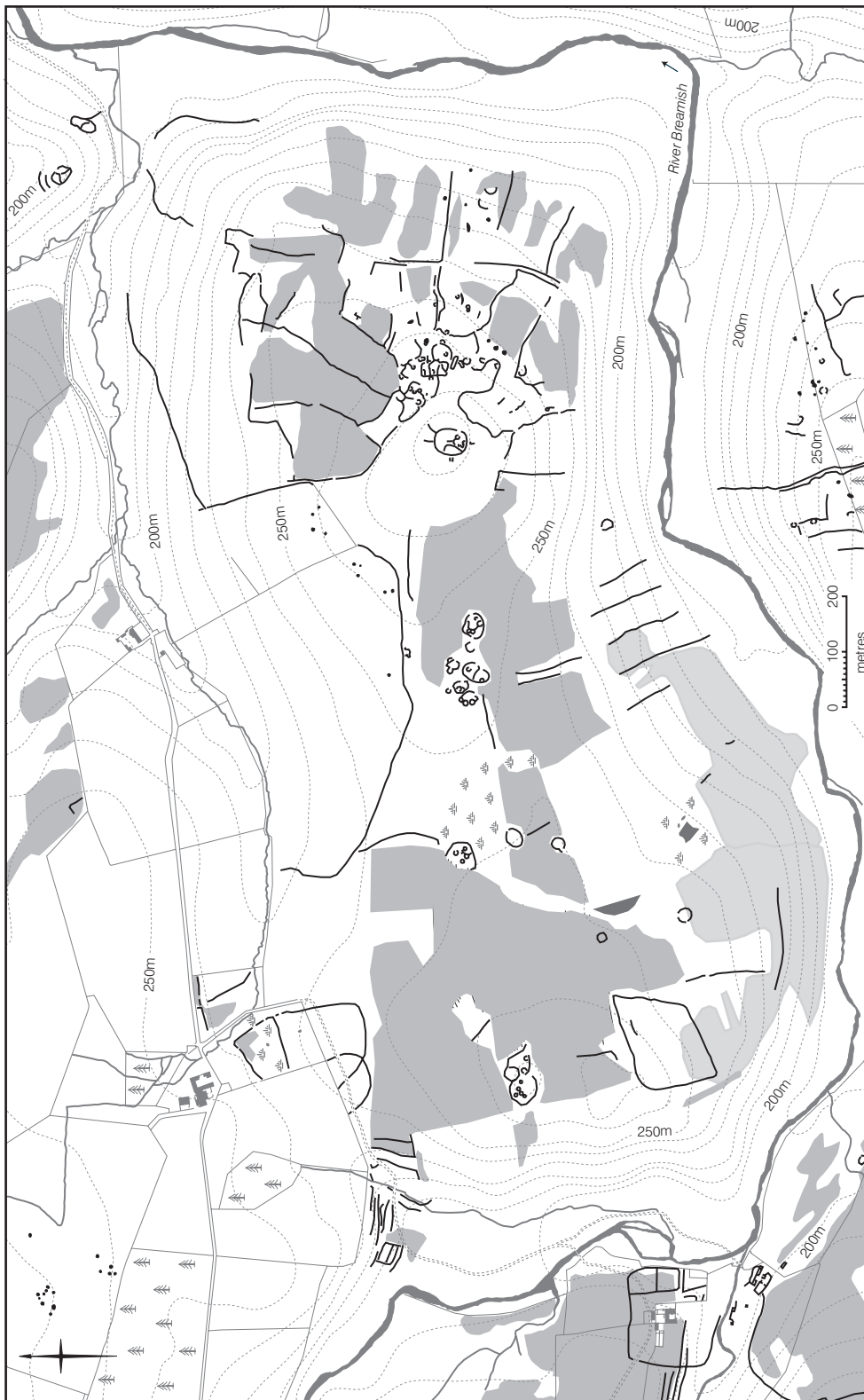


Figure 16: The prehistoric field systems on Hartside Hill (NT9716 / 9816 / 9916 / 9715 / 9815 / 9915). Areas depicted in light tone show cultivation terraces; mid tone shows intrusive broad and narrow ridge-and-furrow cultivation; dark tone depicts relict patches of cord rig (the northern patch truncated by pasture improvement, the southern survives amongst bog).

15). Aerial photographs taken by Tim Gates and Dennis Harding both show swathes of cord rig laid between radial field banks and ephemeral traces still survive on the ground. If the large enclosure were contemporary with the palisaded settlements, then the use of such a major boundary must have implications for land-use strategies. The fact that evidence of cultivation only exists within the curvilinear enclosure suggests that animals may have been deliberately excluded from the fields.

One of the most extensive field systems is located upon Hartside Hill, which reflects the main phases of Cheviot landscape development in microcosm (Figure 16). Here a series of radial fields – their plan dictated by the topography as on West Hill (Oswald et al 2000, 55) - dominates the E summit of the hill; the central saddle has two groups of settlements (the W group unusually includes a Tyne Valley type rectilinear settlement and an embanked trackway leading to a fragmentary field of cord rig); and the W summit appears to have another fragmentary radial field system now much obscured by broad ridge-and-furrow. It is tempting to view these settlement aggregations as proto-villages (if they could be proven contemporary and not evidence of settlement shift), set within a highly developed landscape which must fossilize co-existing land tenure patterns, with implications for kinship linkages and alliances. There would appear to be some time-depth to the use of this field system from the presence of the cord rig, and it is conceivable that in its original form such a field pattern might have included arable areas alongside pastoral to create opportunities for a mixed farming regime. Many of the prehistoric field boundaries were subsequently re-used during the Medieval period when broad ridge-and-furrow was laid out within the ready-defined field system.

## 6.4 Cultivation remains

The SECP recorded the contexts of various forms of prehistoric cultivation remains, comprising: (1) cultivation terraces, (2) groups of small clearance cairns and (3) cord rig.

The topographic preferences of these types of field remains are fairly consistent. The cultivation terraces generally follow the contours (obliquely or otherwise) and have a preference for S and E-facing slopes, although unusually a series of *undated* terraces ranged along the Fawdon Burn do face NW. The groups of small clearance cairns tend to be scattered over relatively level ground, along ridges or on high ground well above the valley floors. Cord rig (narrow ridges some 1.4m wide between furrows) is generally found laid across the contours with a S or S to E facing preference.

In broad terms, apart from the palisaded settlements at High Knowes (Figure 15) and Northfieldhead Hill (Figure 22) which are associated with cord rig, most timber-built settlements in the project area have little evidence for arable activity (cf. Topping 1989b). This contrasts with the evidence from Roxburgh, where there is a high correlation between palisaded sites or ring-ditch houses and cord rig (inf R Mercer & S Halliday). Similarly, enclosed stone-built settlements are fairly evenly split between those linked to formalised field systems and those without – in the Bowmont Valley in Roxburgh fieldwork discovered a link between scooped settlements and cultivation terraces (inf R Mercer), suggesting some localized differences in farming strategies. Unenclosed roundhouses or settlements are normally associated with groups of small cairns, irregular

lynchets and walls, and small rectilinear enclosures. However, at Linhope Burn (Topping 1993a) an unenclosed field system has been overlain by later cord rig cultivation, demonstrating that both cord rig and unenclosed settlements have a long chronology in the Borders.

Recent excavations by the Northumberland Archaeological Group (Topping & McOmish forthcoming) and Archaeological Services, University of Durham, have thrown new light on the chronological range of some forms of prehistoric cultivation in the project area, although final publication of these results is awaited. Nevertheless, the SECP also recorded examples of the relative chronology of the different types of cultivation, which has been tabulated below (Table 2). To summarise, some cultivation terraces appear to be broadly contemporary with certain demonstrably pre-Medieval linear boundaries – others are clearly Medieval in origin, particularly those which are low-lying, adjacent to ridge-and-furrow cultivation and show evidence of considerable use through pronounced profiles. In contrast, some less well-defined terraces (generally at higher altitudes) appear to be contemporary with adjacent enclosed stone-built settlements and lie beyond the limits of Medieval cultivation.

Cultivation remains	Earlier than	Contemporary with	Later than	Truncated by
<b>1 Cultivation terraces</b>	Ritto Hill [ES]	Knock Hill [ES]		Ingram DMV [R&F]
		Linhope Plantation [ES]		Brough Law [R&F]
		Chesters Burn - Ewe Hill linear		Middledeanburn [R&F]
	? Brough Law hillfort	? Brough Law hillfort		Heddon Hill [R&F]
<b>2 Cord rig</b>		High Knowes 2 [PS; R-G; C]	Linhope Burn [US]	
		Spartley Burn [R]		Old Fawdon Hill [R&F]
		Hartside Hill [ES]		
		? Northfield-head Hill [PS]		

Table 2: The relative chronology of cultivation remains recorded by the SECP; the site name is followed by the site typology (key: [C] = groups of small cairns; [DMV] = Deserted Medieval Village; [ES] = enclosed stone-built settlements; [PS] = palisaded settlement; [R] = stone-built roundhouse; [R&F] = broad ridge-and-furrow; [R-G] = ring-groove house; [US] = unenclosed settlement and field system;)



Cord rig cultivation, which is well attested in Iron Age contexts (cf. Halliday 1986; Topping 1989b) and even in earlier periods (e.g. North Mains, Strathallan, Perthshire; cf. Barclay 1983, 191-2), is contemporary with ring-ditch houses and palisaded settlements in the Borders (Harding 2004, 66-7), suggesting a mid-first millennium context for this particular conjunction of site types. In the SECP area cord rig is also associated or juxtaposed with groups of small cairns, ring-groove houses and some stone-built enclosed settlements, and is clearly later than the unenclosed settlement and field system at Linhope Burn (Topping 1993a). The association between cord rig and hillforts in Northumberland is at times tenuous (Topping 1989b, 147-9), but is definitive at Woden Law, Roxburgh, where extensive systems of ridging are interwoven between major linear boundaries and outworks.

The various episodes of agricultural colonisation have clearly left their imprint on the landscape, fossilized as 'tidelines' scored across the landscape, demonstrating a gradual retreat from the highest ground. At Standrop Rigg the later Bronze Age field system is located at 380m OD, and the morphologically similar Scaud Knowe lies at 400m OD, recording some of the highest altitude examples of agricultural activity in the project area. Groups of small cairns of possibly Bronze Age date can be found at altitudes up to 300m OD at Long Crag, and cultivation terraces occur at 320m OD at Ritto Hill and 260m OD at Knock Hill. In contrast, cord rig of broadly first millennium date reaches 360m OD at High Knowes and peaks at 400m OD at Scaud Knowe. The more structured field systems of Iron Age and/or Roman Iron Age type at Grieve's Ash lie at 320m OD and Hartside Hill at 270m OD, are some of the low altitude survivals. However, the impact of Medieval cultivation (cf. Figure 3) - which reaches up to altitudes of roughly 330m OD at Hart Law, 310m at Leaffield Edge and 300m at Ewe Hill - has had a profound effect upon the preservation of many prehistoric sites, and the imposition of regularly spaced DMVs and field systems on prime low-lying ground or valley floors has clearly removed much evidence of prehistoric land-use (cf. Tipping 1992).

## 7 SETTLEMENT RECORD

This section will present a synthesis of the settlement evidence, and the data will be presented in morphological categories for ease of reference.

### 7.1 Unenclosed sites

Recent excavations have done much to improve understanding of settlement chronologies but inevitably many questions remain unanswered. Following the discovery and characterisation of the Green Knowe unenclosed settlement and field system in Peeblesshire (Jobey 1980) as a distinctive Bronze Age settlement form, further fieldwork led to the recognition and excavation of the unenclosed settlements at Houseedge/Black Law (Burgess 1980) and Standrop Rigg (Jobey 1983) both in Northumberland. Alongside this, Gates' 1983 survey of unenclosed settlements, helped to create a recognisable Bronze Age settlement type for the Cheviots.

The unenclosed settlements recorded by SECP have a vertical distribution ranging between 230m OD at Chesters Burn to 400m OD at Scaud Knowe. Some unenclosed roundhouses are also found scattered amongst field systems linked to enclosed settlements, and these have a vertical distribution ranging from 250m OD on Hartside Hill to 300m OD on Ritto Hill. However, it is not clear whether these unexcavated unenclosed roundhouses lying amongst such field systems have a different chronological

context to the purely unenclosed sites, or might be residual features enclosed by later fields.

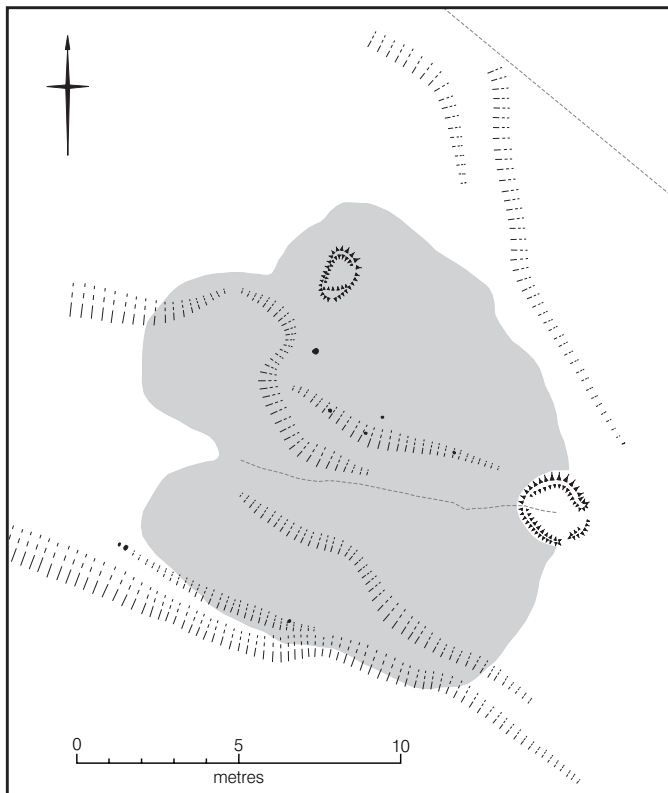


Figure 17: The unenclosed roundhouses, putative smoothed area and terraced plots on Het Hill (NT968 145).

The single roundhouse at Dry Dean (NT9863 1397) is located at 270m OD adjacent to a large sub-circular enclosure, a scattering of cairns, and roughly 100m to the W of a ring cairn (see also Gates 1983, 136). The roundhouse is constructed of tumbled stone walls up to 1.7m wide and 0.4m high, enclosing an area of some 6.0m in diameter, but with no obvious entrance. Another site on the NE-facing slopes of Het Hill (NT9697 1456) at 300m OD is a similar stone-built roundhouse 6.6m in diameter internally with walls 1.8m wide and 0.2m high and with a possible entrance gap in the E. This second site lies on the E edge of an area that appears to have been artificially 'smoothed'

as if it had been prepared for cultivation (see Figure 17). Other single roundhouse sites occur on Ewe Hill at 310m OD (NT9960 1340) where a slightly smaller site is associated with a single cultivation terrace and several clearance cairns; and on Hogdon Law at 370m OD (NT9574 1273) where a possible roundhouse of 6.2m diameter internally lies adjacent to two clearance cairns.

The majority of unenclosed roundhouses in the project area are associated with field systems or other evidence of cultivation. Perhaps the least sophisticated sites are typified by three located around the skirts of Hazeltonrig Hill. Hazeltonrig Hill 2 (see also Gates 1983, 135) consists of a roundhouse located within a large sub-rectangular enclosed field on a gentle NE facing moorland slope at 350m OD (NT9640 1132). The well-preserved roundhouse has a maximum internal diameter of 9.9m within a tumbled stone wall indicating a width of 1.2m. An entrance 1.7m wide is in the ENE. The enclosure has an area of 0.63ha enclosed by a stoney bank 2.0m wide and still standing to 0.3m high. Four large clearance cairns occur in the N side of the field.

The second site has a similar plan and is located upon the S facing slopes of Hazeltonrig Hill at 340m OD (NT9632 1069), and consists of an irregular enclosure defined by a scarp up to 3.5m wide and 1.0m high on all but the W side, where an earthen bank up to 5.0m wide and 0.3m high completes the circuit. A possible entrance some 4.0m wide is located in the E. A roundhouse with an internal diameter of 4.8m within walls up to 2.7m wide and 0.2m high is to be found on the N side of the enclosure. A group of seven clearance cairns is scattered within the enclosure.

The final site in this group is Hazeltonrig Hill 1 (see also Gates 1983, 134) and is more elaborate with a single roundhouse attached to the NW corner of one of a series of three sub-rectangular fields on E-facing slopes at 365m OD (NT9619 1173). The roundhouse has an internal diameter of 5.5m enclosed by a stoney bank 1.5m wide, 0.3m high, and with an entrance 1.0m wide in the E-S-E. The three fields are enclosed by stoney banks up to 2.0m wide and 0.3m high, and have areas of 0.77 ha, 0.41 ha, and 0.28 ha. Interestingly, a group of clearance cairns occur immediately to the N of the site, one in the southernmost field, and a small group further to the S. Taken together these sites may reflect a local mixed agricultural tradition centred around Hazeltonrig Hill.

A similar type of site is situated on the N side of Spartley Burn (NT9601 1206) at 390m OD, and roughly 0.5km N of Hazeltonrig Hill. Here a roundhouse of 6.6m in diameter with walls 1.4m wide and 0.3m high, an entrance 1.1m wide on the E side, is located within the largest of two almost concentric irregular enclosures. Only two areas of clearance appear to be juxtaposed, a cairn within the smallest enclosure and a linear mound within the largest.

These sites typify some of the simplest enclosures or fields associated with unenclosed roundhouses, although it can be debated whether a roundhouse sitting within an enclosure is ever truly 'unenclosed'. A further morphological variation consists of those unenclosed sites of multiple roundhouses, which occur juxtaposed with groups of cairns or unenclosed forms of field systems. One of the few excavated examples is the group of small cairns at High Knowes, Alnham (NT967 121; cf. Figure 15), lying at

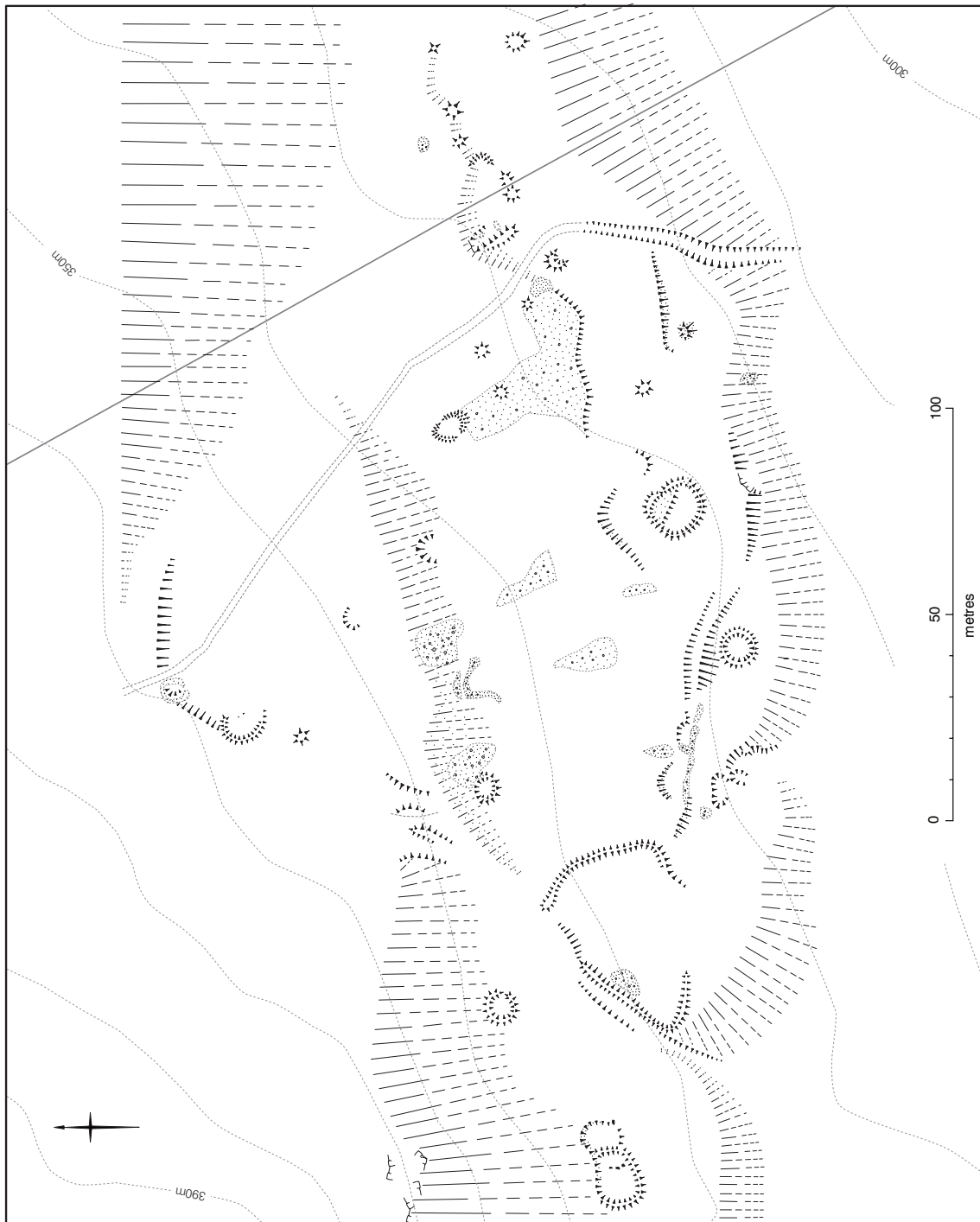


Figure 18: The unenclosed settlement and field system on Long Crag (NT972 171). Note: the stippled areas depict field clearance or tumbled stone walls.

340m OD, which produced artefacts ranging from the Bronze Age through to the Iron Age, and the presence of a 'hengiform' enclosure suggested a broad chronology (Jobey 1966, 37-42). Several small structures are located on the S perimeter of the group of cairns; one being the excavated 'hengiform' site, but the others are more reminiscent of house platforms or ring-ditch houses (cf. Jobey 1966, 24, Fig 8 and inset) which could be associated with an Iron Age phase. A plot of cord rig cultivation lies on the N edge of

the cairns (Topping 1989a, 176, No 29). The largest of the ring-ditch house sites at High Knowes has an overall diameter of 12.5m with a ditch 2.5m wide and 0.25m deep and an entrance 2.0m wide in the E. The simple house platforms are up to 11.8m in overall diameter.

A more complex unenclosed settlement can be found sheltered below Long Crag (NT972 171; Figure 18) on the relatively level areas of a S-facing hillside at 330m OD. Here as many as five stone-built roundhouses may be represented with four small enclosures and one intrusive rectilinear structure. All but one of the roundhouses are levelled into the hillslope, and have tumbled walls 1.5m wide and 0.5m high, and range from 4.0m to 6.0m in diameter internally, with entrances up to 1.3m wide aligned in the E to SE arc. The glacial terracing of the hillside has been incorporated into the field system and includes a group of large irregular clearance cairns.

Near the summit of Knock Hill at 300m OD (NT9978 1777) a single stone-built roundhouse lies on the periphery of a large group of clearance cairns (listed by Gates 1983, 124). It has an internal diameter of 6.2m, with walls 1.5m wide and 0.2m high, and there are slight traces of a possible internal groove in the N part of the hut. This site occurs at a slightly higher altitude than a group of enclosed settlements roughly 200m to the NE. A similar group of cairns exists to the N of the Grieve's Ash field system at 340m OD, where a well-preserved roundhouse abuts the base of a small crag (NT9685 1685). The roundhouse is constructed of roughly coursed boulders with an internal diameter of 4.8m, and walls spread to 2.0m wide and 0.4m high. An entrance 1.5m wide is located in the S wall. An extensive cairnfield spreads NW onto the more level ground upslope from the roundhouse.

The most extensive group of unenclosed roundhouses is associated with the field system scattered along the summit ridge S from Brough Law to the Middledean Burn (see above & Figure 7). This ridge ranges from 280m to 315m OD, and has panoramic views along its length. On the summit of Ewe Hill to the S of the area (NU000 150) a large cairn which originally must have dominated the skyline, was removed in the early nineteenth-century to provide raw materials to build an enclosure wall around a nearby plantation - which has an area of over 2ha - on the N side of the Middledean Burn (Tate 1862, 304). Scattered along the summit of the ridge is a well-preserved but uncoordinated field system of discontinuous, irregular walls and cairns, which to the S transform into a series of pronounced terraces occupying a hanging valley overlooking the Chesters Burn. On the ridge the roundhouses tend to be small, only up to 3.8m wide internally within walls 1.0m wide; however, amongst the terraces the roundhouses or house platforms are generally larger, ranging from 4.5m to 10.5m in diameter internally. This variation in size may reflect different chronological contexts, settlement shift, or if contemporary, divergent functional or cultural requirements.

Immediately to the S of the field system described above, and located between the terraced fields and the Ramshaw Burn and overlooking the Chesters Burn (NT991 146), lies a further field system of a slightly different form ranged between 250 - 300m OD on W-facing slopes (Figure 19; cf. also Gates 1983, 134). Here the field system is spread over a series of natural terraces descending the hillside; each has a scattering of





Figure 19: The Chesters Burn unenclosed settlement, enclosures and groups of cairns (NT 991 146).

clearance cairns and discontinuous walls. There are two enclosures, some unenclosed roundhouses, and what may be a group of robbed burial cairns on the S - six of which have intrusive trenches, probably excavated by the Berwickshire Naturalists Club in 1861 (cf. Tate 1862, 304). The largest enclosure, curvilinear in shape and 63m NW to SE by 46m transversely, has a centrally located house platform 6.0m in diameter adjacent to a large clearance cairn. The unenclosed stone-built roundhouses have an internal diameter up to 4.5m within walls spread to 1.5m and 0.6m high.

A more regularly planned field system can be seen in the NW at Standrop Rigg, lying at roughly 350m OD on the SE facing slopes of Great Standrop (NT950 173). Although the fields range in shape from sub-rectangular to more amorphous forms, there is a cohesion to the layout of this aggregate field system. Several unenclosed stone-built houses or house platforms are randomly scattered throughout the fields, two of which were excavated, suggesting from a single  $^{14}\text{C}$  date a context in the second half of the second millennium (sample from Pit A in House 4 gave a date of  $4020 \pm 80$  uncal bp (HAR-3983); Jobey 1983,9-10). However, caution is needed as this is a single radiocarbon

assay, and the house could potentially be residual, or even later than the fields, as there was no direct relationship between these features.

Some 0.5km to the E of Standrop Rigg lies another field system associated with an unenclosed settlement on the N side of the Linhope Burn (NT957 172; see also Gates 1983,133). This field system consists of two roundhouses, the smaller of which was found by excavation to have been abandoned and overlain by a cairn with a central oval setting. The larger stone-built roundhouse lying downslope below a lynchet was discovered to have an internal diameter of 8.0m within walls up to 0.8m wide and still standing to a height of 0.7m in the S. An original entrance 0.7m wide was located in the S on the downslope side and had been subsequently blocked, and a secondary entrance 0.65m wide cut through the wall in the SW. These two roundhouses were associated with a series of irregular lynchets and discontinuous field walls, all of which were subsequently overlain by an extensive system of cord rig cultivation, but at present are strictly undated (cf. Topping 1993a).

Another unenclosed settlement juxtaposed with a large, regularly-planned field system occurs on the E-facing slopes of Scaud Knowe between 320m and 370m OD (NT954 147;NT960 144). The largest of these roundhouses has an internal diameter of 12.5m with walls spread to 4.0m and surviving to a height of 0.3m. A gap in the E 2.4m wide may be an entrance.

A different form of field system and unenclosed settlement is located near the Spartley Burn at 275m OD (NT969I 1165). This unusual site has two roundhouses no more than 5.0m in diameter internally, lying immediately to the N of a series of three curvilinear or sub-rectangular enclosures. A small number of clearance cairns are scattered around (and one within) these enclosures, and a larger group of small cairns lie some 60m to the east, suggesting again the possibility of a mixed farming regime.

An unenclosed settlement which illustrates mixed construction techniques can be found near the summit of Reaveley Hill at 270m OD (NU007 178). This consists of a stone-built roundhouse with an internal diameter of 9.2m, rubble walls of 2.3m wide and 0.5m high; and a ring-ditch house which has a platform 9.3m in diameter surrounded by a ditch 3.0m wide and no more than 0.3m deep; an entrance gap through the ditch some 4.0m wide is found in the E. An extensive group of cairns stretches to the W of these houses with a ring-cairn on its periphery.

Unenclosed settlements span a long chronology, possibly beginning in the Early Bronze Age at Houseledge/Black Law (Burgess 1980; 1995), although this has to be contrasted with a paucity of pollen evidence for agricultural impacts upon the landscape (Bradley 2002, 38; Young 2004,165-6). The settlement at Bracken Rigg in County Durham (Coggins & Fairless 1983), also appears to have chronological similarities with Houseledge/Black Law from the comparability of the pottery assemblages (Burgess 1995, 150). However, by the Middle or later Bronze Age, colonisation and settlement is suggested at Standrop Rigg (Jobey 1983), and confirmed at Green Knowe (Jobey 1980) and Murton High Craggs I (Jobey & Jobey 1987). Such a context corresponds well with the Deverel-Rimbury horizon documented in Southern England. As Bradley (2002, 39)

has suggested, it may be this phase of upland settlement that saw the construction of many of the groups of small cairns at a time when a more stable settlement pattern was emerging.

As a settlement form, unenclosed sites continue in use through the middle of the first millennium at Chester House I (Holbrook 1988) on the Fell Sandstones, and into the later part of the millennium in the S at South Shields (Hodgson et al 2001). Unfortunately, such a broad timespan limits the precision with which this site typology can be used as a yardstick to determine the chronology of a settlement.

## 7.2 Enclosed stone-built settlements

The enclosed stone-built settlements generally survive in locations above the valley floors in elevated situations on hillsides or occasionally hill summits. The vertical distribution ranges between 190m OD at the confluence of the Greensidehill Burn and the Knock Burn, to 310m OD on Ritto Hill and Coppath Burn. Valley floor locations do not normally survive unscathed from the effects of Medieval and later cultivation (Figure 4), and there is a suspicion that some valley fills might even mask early settlement evidence, as demonstrated at Powburn at the mouth of the Breamish Valley where substantial gravel deposits had buried the Neolithic and Bronze Age land surfaces (cf. Tipping 1992).

One of the largest enclosed settlements in the project area is located upon a prominent ridge of Meggrim's Knowe at 275m OD, commanding a view over the confluence of the Linhope Burn and the River Breamish (NT964 159; cf. Hope-Dodds 1935, 64; Hogg 1947, 161). This sprawling settlement appears to be a disorderly agglomeration of enclosures and yards, some sub-divided, with a random scattering of roundhouses throughout, in total covering an area of some 134m E-W by 68m transversely. The roundhouses, seventeen in number, vary in size between 4.1m to 6.5m in diameter internally, within walls now spread up to 1.7m, and 0.4m high.

A similar irregularly planned settlement is located on the W summit of Hartside Hill at 265m OD (NT9758 1563) which consists of a curvilinear enclosure 52m NW to SE by 33m transversely, which is partly overlain by a smaller scooped enclosure impinging upon the N scarp of the larger site, and is then extended E by the addition of a further annexe. At least eight roundhouses or house stances are spread throughout the complex ranging up to 8.0m in diameter internally with walls up to 1.4m wide and 0.4m high.

A smaller enclosed settlement with some similarities to those above is situated near the Coppath Burn on gentle SE-facing slopes at 310m OD (NT9771 1230). It is of curvilinear form sub-divided into two courtyards and enclosing an overall area of some 60m NE to SW by 40m transversely (cf. Jobey 1966, 7, figure 3). Two, or possibly three, entrances cut the enclosure walls leading into the courtyards which contain six roundhouses with a further two abutting the outer face of the enclosure wall. These roundhouses range between 3.6m and 6.8m in diameter internally.

A classic example of a scooped settlement - where hut platforms and courtyards are levelled into the hillside - is situated on the steep S-facing slopes of Grieve's Ash at



280m OD (NT9674 1654; Figures 10 & 11), on the W bank of a tributary which feeds the Breamish (see also Jobey 1964, 51, Fig 6). The settlement has an amorphous plan suggesting periodic organic growth over at least three phases. The site covers an area of some 60m E-W by 62m transversely, and is composed of four courtyards, one of which is sub-divided into two compartments; each courtyard has a separate entrance and is associated with one or more roundhouses. The enclosure walls achieve maximum dimensions of 4.5m in width and 1.8m in height with entrances up to 2.5m wide. The courtyards range in size up to 14m NE to SW by 14m transversely. The SECP recorded seven stone-built roundhouses and four scooped hut stances; however, in 1861 during excavations at this site by the Berwickshire Naturalists Club it was claimed that fifteen



Figure 20: The multi-period landscape of Haystack Hill and Middledeanburn (NU005 150), showing the encroachment of broad ridge-and-furrow from Ingram village upon the prehistoric landscape. The D-shaped fort of Middledeanburn is top left. (Photo copyright Tim Gates; NMR TMG 1756/197A).

roundhouses existed - seven of which were partly cleared (Tate 1862, 301). These excavations revealed that the roundhouses were constructed of crude walling standing to a height of 0.7m to 0.9m above stone flagged floors. One hut had a sandstone quern incorporated into the paving, while a second had a series of steps descending 1.5m from the platform it was built upon down into a lower courtyard. The surviving roundhouses have internal diameters ranging from 3.0m to 5.0m within walls up to 3.0m wide and 0.5m high. The scooped stances are roughly 6.0m to 7.0m in diameter with back scarps excavated up to 0.7m into the hillslope.

Scooped settlements also occur in more level locations, and occasionally clustered in groups. Whether these groupings ever formed village-like agglomerations is difficult to assess from survey evidence alone because no relationships have been observed in the data collected by the SECP; in this case their contemporaneity or otherwise can only be proven by excavation. A typical example of a site cluster lies on the saddle of Hartside Hill (NT983 157) at 250m OD (Figure 9), where a series of five scooped settlements (one of which is of the 'unenclosed forecourt' type [a second was discovered to the NW on Ritto Hill] - for definition see Charlton and Day 1978, 77-78), an unenclosed scooped courtyard, and two unenclosed houses, form a compact group now surrounded by medieval and post-Medieval ridge-and-furrow cultivation (see also Jobey 1964, 44). These settlements are generally smaller than those discussed above, although the dimensions of the roundhouses and the basic site morphology are the same.

A similar grouping of scooped settlements can be seen on the E-facing slopes of Haystack Hill at 250m OD (NU0057 1505; Figure 20), where three curvilinear settlements are ranged along the same contour with a possible fourth some 100m to the N. Immediately upslope from the three settlements lie a fourth sub-rectangular settlement which on morphological grounds could originate from a different chronological context to the curvilinear sites (see also Jobey 1964, 60). Alternatively, the fact that this rectilinear site has been constructed upon a more level area, topographically, may have allowed a different ground plan to evolve to maximise the use of the flat ground. In addition, drivers such as changing cultural values or functional needs, or even 'fashion', may also have played a part in the choices of form and structure at many sites in the Borders.

A more dispersed group of sites is located near the summit of Knock Hill overlooking the Breamish Gorge, ranged around the 255m OD contour, and dispersed over a distance of some 540m (Figure 8). These sites may have formed a discrete group, suggested by the fact that they are all integrated within - and respect - a sprawling, irregular field system. The two N sites which are immediately adjacent to one another are typical curvilinear scooped settlements with sunken and levelled courtyards situated below a platform holding a group of roundhouses (see also Jobey 1964, 46). The larger of the two (NT9989 1728) has a sub-divided courtyard and a series of five roundhouses ranged along the upper platform, each with an internal diameter no more than 5.3m; the smaller site to the SW of the above (NT9985 1726) is identical except that it has a small annexe built on to its downslope side. Roughly in the centre of the field system is a small scooped settlement, its courtyard only some 17.0m NE to SW by 12.0m transversely, and with two house stances no more than 5.0m in diameter. On the SW edge of the field system (NT9949 1694) lies a further curvilinear scooped settlement roughly 58.0m



NE to SW by 50.0m transversely, which has a sunken courtyard and an upper platform holding evidence of several house stances, the largest of which is 10.0m in diameter internally. The field system has evidence of restructuring, with the re-alignment of some terracing, and the superimposition of some later field walls which sub-divide some terraces, while others are effectively blocked to form discrete field plots. Whether this reworking of the field system was all contemporary with the prehistoric settlements is unclear from field evidence alone, although the juxtaposition of some walls adjacent to the N sites do appear to restructure both the settlements and the fields system so may be contemporary.

One of the most interesting settlement aggregations is located on the E summit of Hartside Hill at roughly 265m OD (Figures 2 & 16). Here three scooped and enclosed settlements are located at the hub of a radial field system arranged around the slopes of the summit, and intermingled with smaller sub-enclosures and unenclosed roundhouses. The E settlement contains six roundhouses (NT9887 1578) and appears to have evolved from a typical curvilinear scooped settlement into a more irregular form by the addition of a rectilinear annexe on its uphill (W) side; the N site (NT9881 1582), again with six roundhouses, is irregular in plan; and the W site (NT9875 1575) is a regular curvilinear type with at least four roundhouses. The roundhouses in all three sites are uniform in size, with a maximum internal diameter of 6.4m, the majority ranging between 5.0m to 6.0m. In terms of the relative stratigraphy of these sites, it would appear that the field walls about the enclosed settlements suggesting either contemporaneity or that the fields were constructed at a later date than the enclosed settlements. However, the homogeneity of the settlement and field pattern implies that these settlements were inhabited when the fields were in use.

A further group of sites can be found on the E-facing slopes of Ritto Hill between 310m and 320m OD, where two settlements are associated with several enclosures and what may be two unenclosed hut stances, all juxtaposed with a series of cultivation terraces and sunken trackways (Figure 21). Morphologically, one of these settlements (NT9587 1652) is of the unenclosed forecourt type with a house stance built into the upslope face of the enclosure wall, and which itself has then cut into the scarp of a cultivation terrace, implying that this terrace may have gone out of use before the construction of the site. A second settlement of the same type (NT9591 1648) is of more than one phase of construction. The turf-covered footings of the earlier site are overlain by a slightly realigned settlement built of more crude walling with a sub-divided courtyard and a reconstructed roundhouse sited upon the stance of an earlier example. This complex as a whole, *if* contemporary, may represent an integrated mixed farming settlement with arable represented by the terraces and animal husbandry by the enclosures - or alternatively the succession of one farming regime by another.

Other clusters of settlements also existed within the project area but are now disturbed by more recent landscape developments. On the E-facing flanks of Brough Law are the truncated remains of two settlements (NU0016 1629) lying at 210m OD which have been partly overlain by a recent plantation which has also completely destroyed other prehistoric features to the S. Similarly two settlements located upon the E slopes of Ritto Hill at 280m OD (NT9611 1622; NT9612 1612) are partly obscured by a small plantation.

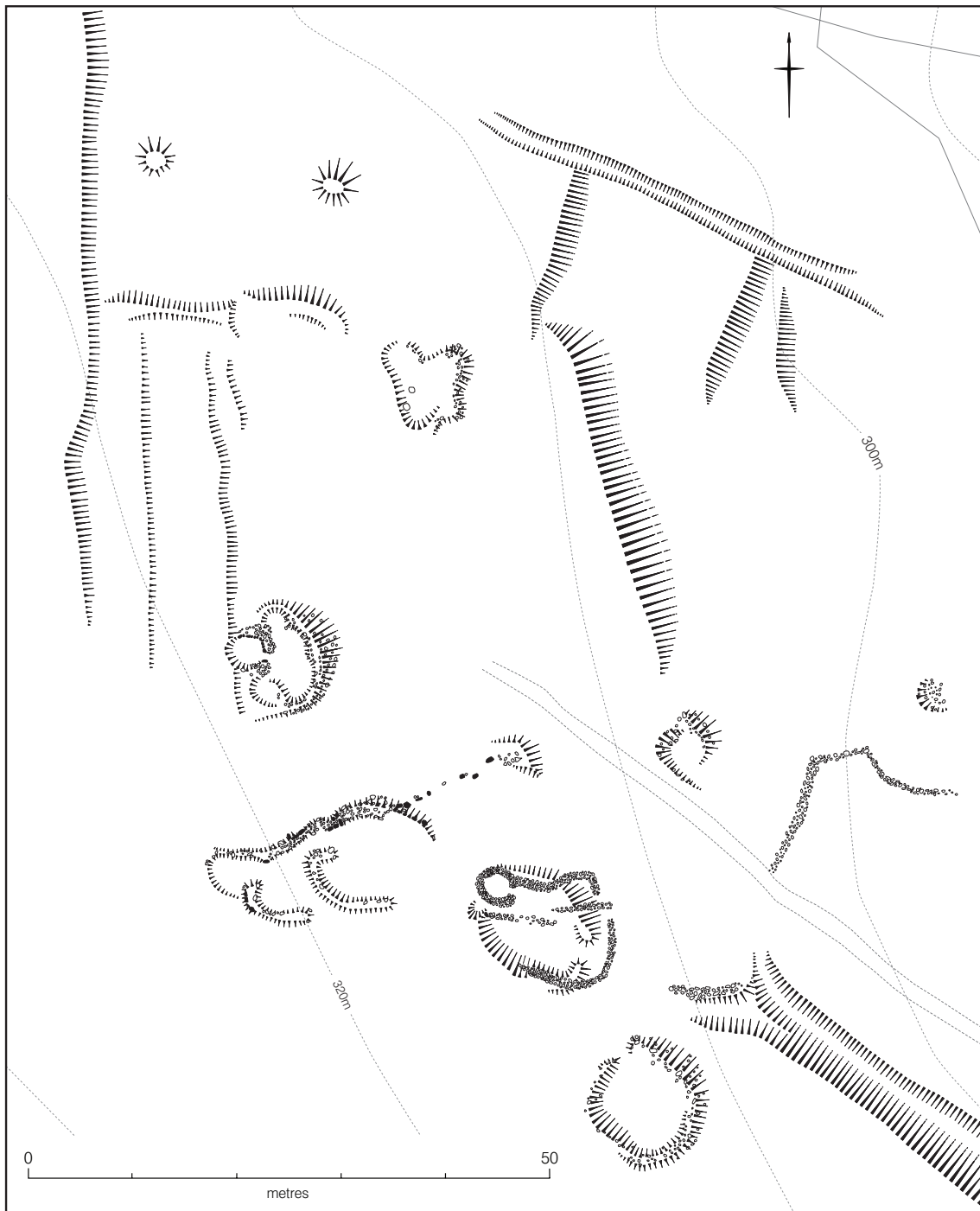


Figure 21: The enclosed settlements and terracing on Ritto Hill (NT 9516). Note the fact that the 'unenclosed forecourt settlement' in the W has been cut into the scarp of a cultivation terrace.

Rectilinear settlements are found in small numbers in the project area, although as a type their main distribution is in the S of the county in Redesdale and the North Tyne Valley (Jobey 1960, 19-24). The sites in the project area are generally poorly preserved or disturbed by later cultivation. A typical example is located on the saddle of Hartsdale Hill at 250m OD (NT9798 1574; cf. Figure 16) which has lost its W perimeter beneath medieval ridge-and-furrow cultivation, but whose rectilinear plan, grouping

of roundhouses (no more than 7.5m in diameter internally) at its narrowest end and truncated yards, are all typical features of this settlement form and reminiscent of the site at Riding Wood in S Northumberland (cf. Jobey 1960, 7, fig 3). Another sub-rectangular site can be found on the S-facing slopes of Cochrane Pike at 325m OD (NU0075 1385), which is of a somewhat different form. Here within an incomplete enclosure wall up to 10.0m wide is located the remains of at least seven house platforms ranging between 4.0m to 10.0m in diameter, and a fragment of a possible ring-bank house surviving no more than 0.2m high in the SE (see also Jobey 1965, 52, fig 17). The disturbed remains of a further regularly-planned rectilinear settlement is located on the E-facing slopes of Ewe Hill at 200m OD (NU0105 1692), enclosing traces of possibly three disturbed roundhouses.

One of the more interesting rectilinear settlements can be found on the NE facing slopes of Castle Hill, Alnham, which is topped by a multivallate fort (cf. Jobey 1965, 24, fig 1; Pearson et al 2001). This settlement is located some 30m downslope from the fort at 280m OD (NT9805 1105) and consists of a levelled courtyard with evidence of probably three house stances. The close proximity of this site to the fort and the fact that several irregular hollows in the same field may be the robbed-out remains of other sites, illustrates how certain forts became a focal point for contemporary or later settlements. Examples of this can be seen at West Hill (Jobey 1964, 56, fig 8; Oswald et al 2000) and Lordenshaws in Northumberland (Topping 1993b), or Hownam Rings (Piggott CM, 1948), Kirkton Hill (RCAHMS 1956, 106, fig 141) and Whitcastle Hill (RCAHMS 1956, 394, fig 501) in Roxburghshire, where rectilinear stone-built settlements are juxtaposed with a fort.

A group of small 'homesteads' of various types survive, none larger than the example surviving on the S-facing slopes of Little Dod at 320m OD (NT9525 1388), which covers an overall area of some 36m E-W by 20m transversely. This is an unenclosed forecourt type with two roundhouses no more than 3.6m in diameter internally projecting from the outer face of the enclosure wall; the courtyard itself is sub-divided into two parts. Smaller sites occur on the S-facing slopes of Reaveley Hill at 240m OD (NU0020 1733) where a single roundhouse on the W of a levelled courtyard abuts the inner face of the enclosure wall; a further example lies on the N side of Ewe Hill at 225m OD (NU0049 1702) which features a single detached roundhouse within the enclosure. A pair of small homesteads is situated within 25m of one another upon the NE slopes of Scaud Knowe at 300m OD, both of the unenclosed forecourt type. The first has two roundhouses abutting the outer face of the enclosure wall with a third detached to the W (NT9602 1493); the second settlement has a single roundhouse opening on to the courtyard (NT9607 1494).

Structurally, enclosed settlements in the Cheviots contrast markedly with those in adjacent lowland areas such as West Brandon, which are generally smaller in size and feature a single roundhouse (Jobey 1962). The fact that West Brandon produced no Roman artefacts, but did include saddle querns amongst the assemblage, might suggest a pre-Roman context, if not an Early to Middle Iron Age date. In addition, the stone-built roundhouses at Broxmouth hillfort were discovered to have a pre-Roman origin, although some activity dating to the early Roman period is also present following the

abandonment of the defences (Hill 1982a; 1982b). A similar scenario was recorded at The Dunion hillfort in Roxburgh (Rideout 1992, 116-118). The final phase stone-built roundhouses at Wether Hill fort, two of which partly overlie the abandoned defences, also fit a terminal first millennium context (Topping & McOmish forthcoming).

The chronology of 'scooped settlements' is more problematic: most feature stone-built roundhouses but conversely some have produced Roman artefacts (e.g. Hetha Burn I; Burgess 1970). Others, such as Lordenshaws (Topping 1993b) and West Hill (Oswald et al 2000), overlie abandoned hillfort defences, implying some form of radical settlement reorientation in the later first millennium. The available evidence suggests a broad chronological range for this settlement form stretching from the mid-first millennium into the Roman Iron Age. The presence of stone-built roundhouses thus cannot be considered a precise indicator of age, particularly as the tradition of building in stone appears to have its genesis in the Bronze Age in Northern England and the Borders at sites such as Houseledge/Black Law (Burgess 1980; 1984), Greenknowe (Jobey 1980) and Bracken Rigg (Coggins & Fairless 1983).

### 7.3 Timber-built sites

The acid soils in many marginal areas of upland Northumberland have created unusually static conditions whereby surface indications of timber-built settlements have been preserved as earthwork features. The shallow construction trenches of ring-groove houses, the broader, shallow penannular ditches of ring-ditch houses and the trenches defining the perimeters of palisaded enclosures still score the turf. In the project area such survival is best seen at High Knowes A, Alnham, one of two palisaded settlements located near the summit of High Knowes, and is one of the minority of sites to have been excavated in the survey area (Figure 15). The settlement is circular in plan, enclosed by double palisade trenches which have a maximum width of 1.2m and a depth of 0.3m. An entrance in the E is now 4.2m wide, but when excavated was found to be roughly 2.0m wide (Jobey 1966, 15). The interior contains the remains of four timber-built houses, two of ring-groove type and two of ring-ditch type, suggesting both broad contemporaneity for these two construction types at this site, and perhaps different functional uses. Upon excavation house 1 (located in the NE) was found to be enclosed by a ring-groove construction trench 0.35m wide and 0.3m to 0.45m deep, with an internal diameter of 14.6m. An entrance 2.5m wide was located in the SE. Internally a series of shallow scoops gave the house the appearance of a ring-ditch type. Roof supports and a possible 'pit hearth' were also discovered (Jobey 1966, 10-15). The partial excavation of house 2 in the NW revealed a ring-groove trench 0.3m wide and 0.15m deep enclosing an area of 7.9m in diameter with an entrance in the SE. A single concentric ring of roof supports was also discovered (Jobey 1966, 15). The small trench cut across the perimeter of house 3 in the S recorded a ring-groove trench on the outer lip of a penannular ring-ditch. No other features were recorded, and no artefacts were recovered from this site. The form and dimensions of High Knowes A has similarities to that at Gray Coat in Roxburgh (RCAHMS 1956, 441-2, No 994; see also Hill 1982a, 38), although the latter has only a single large ring-ditch house of almost identical size to house 1 at High Knowes A.

The second settlement, High Knowes B, is a curvilinear settlement which is larger than

site A. This site is now enclosed by a bank of verdant vegetation up to 8.0m wide and 0.5m high, representing the upcast from the palisade trenches. Excavations revealed a double palisade lying beneath this bank, the trenches were 0.45m wide and 0.45m deep, all underlying a later roundhouse (Jobey 1966, 16-18). Internally the settlement contains the remains of thirteen complete or near complete house stances, two of which are ring-ditch houses and the remainder of ring-groove type. Six fragmentary ring-groove trenches are scattered about the interior, illustrating the truncated remains of earlier phases of building.

The partly excavated palisaded settlement at Ingram Hill provided one of the four pre-1983 <sup>14</sup>C dates from the project area, and is situated near the foot of the eponymous hill at 160m OD (NU 0114 1577). The settlement is almost circular in plan and enclosed by a low bank up to 4.5m wide and 1.1m high, with slight traces of an outer ditch. Excavations through this bank revealed an entrance in the SE. Little evidence of occupation contemporary with the underlying palisaded settlement survives as surface remains; only a group of medieval shielings now fill part of the interior, ranged around the perimeter. The first season of excavations in 1939 examined the enclosure bank and discovered a palisade which was replaced by a stone rampart and an outer ditch. Little of the interior was explored, and only a post-hole and gutter recorded (Hogg 1942). A second season in 1948 (Hogg 1956) explored further parts of the perimeter and examined some of the shielings. A final programme of excavations some 20 years later were designed to retrieve material for a scientific date (Jobey 1971, 85-93). A single trench was located across the enclosure bank in the SE and discovered two palisade trenches, with another joining the inner at an oblique angle. This suggested an original double palisaded enclosure which may have been internally sub-divided or restructured to reduce the size of the settlement, a phenomenon which may also have occurred with the first palisaded site at Fenton Hill, Northumberland, dated by <sup>14</sup>C to 690 ± 100 uncal bc (HAR-825) (Burgess 1984, 156-159). Fragments of charcoal from the base of the secondary enclosure bank at Ingram Hill produced a date of 220 ± 90 uncal bc (I 5316), providing a *terminus post quem* for the construction of the bank and the later occupation of this site (Jobey 1971, 89).

The remaining palisaded and timber-built settlements in the project area have not been examined by excavation. One example is the sub-circular site near the summit of Northfieldhead Hill lying at 320m OD (NT 9838 1198; Figure 22). The enclosure is 58.0m N to S internally by 50.0m transversely, within a bank now spread up to 8.0m wide and 0.4m high. An entrance in the E is 2.5m wide. The interior of the site, although heavily disturbed, has evidence of multi-phase occupation with at least nineteen ring-groove houses present - some bisecting others - which have maximum internal diameters of 7.8m, the ring-groove trenches being no more than 0.9m wide and 0.3m deep. Four of these houses are of the double ring-groove type, suggesting the possibility of chronological, cultural or functional differences with the single groove type.

A more poorly preserved, sub-circular palisaded settlement lies on the summit of Hart Law at 341m OD (NT 9885 1282), and contains the remains of at least 20 house stances, both platforms and ring-groove type. However, what is by far the largest timber-built site in the survey area is located around the conical summit of Old Fawdon Hill at 315m OD



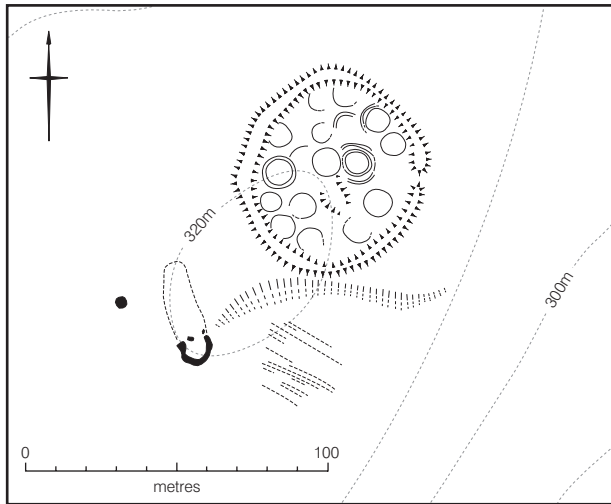


Figure 22: Northfieldhead Hill palisaded enclosure with adjacent cairns and cord rig cultivation (NT9838 1198).

(NU 0225 1415). This large curvilinear settlement covers an area of some 200m NE to SW by 150m transversely, and is enclosed by an intermittent and slight rampart no higher than 0.4m internally and 0.7m externally, and cut by an entrance 2.5m wide in the S. A double palisade trench exists, ranging from 0.3m to 0.6m wide and up to 0.5m deep, surviving particularly in all but the NW quadrant where it is apparently absent, or alternatively this enclosure was incomplete and unfinished. It is possible that the rough grass masks further palisade circuits. The settlement contains the surface remains of up to sixty-one roundhouses of which three are ring-

bank houses, two are ring-groove types, and the remainder are house platforms levelled into the hillside. The internal diameter of the ring-bank and ring-groove houses varies from 7.8m to 12.0m, and the platforms range from 4.0m to 8.0m in diameter.

An unenclosed timber-built settlement containing two large diameter double ring-groove houses can be found on the summit of North Pike at 360m OD (NT 9691 1371; NT 9693 1368). Both houses are poorly preserved, but it is possible to determine that the largest site has an internal diameter of 20.0m, within construction trenches no more than 0.5m wide and 0.1m deep. A further unenclosed settlement occurs on the SE-facing slopes of Cochrane Pike at 295m OD (NU 0115 1399), where there is the juxtaposition of two ring-groove houses, a double ring-groove house, and a ring-ditch house (cf. Gates 1983, 109 & 129). The variety of construction techniques may imply some chronological depth, a factor lent weight by the fact that the ring-ditch house (which has an internal diameter of 6.6m surrounded by a ditch 1.2m wide and 0.2m deep) partly overlies one of the ring-groove houses. These ring-groove houses are no larger than 11.6m in diameter internally, within construction trenches up to 1.0m wide and 0.2m deep.

Some 250m N of the Rowhope Burn at 295m OD (NT9572 1551) is a group of two ring-ditch houses and a possible house platform. The ring-ditch houses have an internal platform up to 8.2m in diameter, with surrounding ditches no more than 1.0m wide and 0.2m deep. Another single ring-ditch house is located near the summit ridge of Turf Knowe at 270m OD (NU0052 1565), and has an internal diameter of 6.9m within an eroded ditch ranging from 0.5m to 1.4m wide and 0.3m deep. Another single site is represented by an unenclosed ring-ditch house on the gentle N-W facing slopes of the summit ridge of Ewe Hill at 270m OD (NU 0052 1565). This has a maximum internal diameter of 6.8m within a ditch up to 1.9m wide and 0.2m deep. An abraded entrance may be located in the W. Another fragmentary ring-ditch house is located 40m to the N.

Other timber-built settlements have been previously described at High Knowes Cairnfield and Reaveley Hill, and the timber-built houses in the fort at Wether Hill (NU 0130 1444) - and their implications for the development of the fort - should be noted and will be discussed below. The remains of two further timber-built sites were surveyed during the drought conditions prevalent in July 1989, which produced prominent, verdant green vegetation marks scoring the parched, light-brown pasture. The first, Ingram South, is a rectilinear double-palisaded site (NU 0215 1596) located at 145m OD, the construction trenches showing as bands roughly 2.0m wide and with a gap 7.0m between them, enclosing an area of 55.0m E-W by 50.0m transversely. The second site, Fawdon Dene, is located at 205m OD (NU 0175 1520) is a palimpsest of at least two separate enclosures, one overlying the other. The first was a fragmentary curvilinear enclosure some 50.0m N-S by 35.0m transversely, defined by a parchmark up to 2.0m wide, but which has lost its NE and E sides and is similar in form and dimensions to the palisaded enclosure at Henfield, Oxnam, Roxburgh (RCAHMS 1956, 380, No 801). The later enclosure is D-shaped and encloses an area of 62m N-S by 53m transversely within a parchmark up to 2.5m wide. This second enclosure overlies roughly the N third of the earlier site, and from the evidence of the aerial photographs would appear to have had an entrance in the E corresponding roughly with the location of the modern track. Some vegetation marks suggested internal features. Parts of these settlements were subsequently excavated by Durham University (Frodsham & Waddington 2004, 184-7).

The chronological currency of palisaded settlements is almost as lengthy as the unenclosed settlements. At Fenton Hill, lying to the E of the Cheviots on the Fell Sandstones, a multi-period settlement developed from a palisaded enclosure during the early first millennium (Burgess 1984), followed by Huckhoe (Jobey 1959; 1968), Burnswark (Jobey 1978) and Broxmouth (Hill 1982a, 40) during the middle of the millennium. In the later part of the millennium, the palisades at Ingram Hill (Jobey 1971) and Wether Hill (Topping & McOmish forthcoming), are broadly contemporary. That palisaded settlements were a long-lived phenomenon is dramatically illustrated by the example of Gibb's Hill in Eastern Dumfriesshire (RCAHMS 1997, 122-5), where reworked palisades are superimposed over one another, demonstrating possibly six separate episodes of enclosure; an equally complex sequence of timber-built roundhouses is evident in the interior. Taken together, the evidence from Gibb's Hill might suggest a lengthy occupation of several centuries if each episode of reconstruction spanned a generation, whether sequentially or intermittently. In the SECP area, only Wether Hill provided evidence for several discrete episodes of palisaded enclosure within a later hillfort.

#### **7.4 Defended settlements**

Defended sites in the project area, in common with those over much of the Anglo-Scottish Borders, are generally small in scale, often giving the impression of defensive settlements rather than major forts. Exceptions do occur, such as the monumental Yeavinger Bell overlooking the Milfield Plain in Northumberland, where stone ramparts enclose an area of 5.6ha (13.8 acres) containing at least 125 roundhouses (cf. Pearson 1998). In the Tyne-Forth area, other major forts are located at Traprain Law and Eildon Hill North, but overall such massive fortifications are in the minority, most defended

settlements are 0.4ha (1 acre) or less in area throughout much of the Borders (cf Jobey 1965, 60-64).

The location of defended settlements in the SECP area favour hill-top situations, although exceptions do occur at Grieve's Ash which is sited on a glacial terrace midway up the eponymous hill; Low Chubden is overlooked on all sides; and the fort on Middledean Burn is commanded by rising ground to the S.

The vertical distribution of these sites ranges between 198m OD at East Reaveley to 280m OD at Prendwick Chesters, and the large palisaded settlement on Old Fawdon Hill, sits astride a conical hill at 315m OD. The upper limit of the vertical distribution of forts in Northumberland as a whole is represented by Blackhaggs Rigg (NT 8837 2505) overlooking the College Valley at 373m OD (Topping 1991), and a putative fort on the SW slopes of Ward Law in Upper Coquetdale (NT 8634 1313) at 380m OD. This compares with the forts of Roxburghshire where few occur below 150m OD, and in the E of the county in the valleys of the Bowmont and Kale Waters, many forts are located above 300m OD, along the watershed of the Border Line (RCAHMS 1956; 27, Fig 20). Similarly in Selkirkshire the majority of forts can be found between 150m and 300m OD with only one outlier above and one below this range (RCAHMS 1957, 18). In Peeblesshire forts are primarily located below 300m OD, although a small number can be found above this height (RCAHMS 1967, Fig opp 34). In terms of scale the forts of the project area are no larger than 0.4ha (1 acre) (Jobey 1965, 60-64), which corresponds closely with the evidence in Scotland (e.g. Peeblesshire; RCAHMS 1967, 27). Most hillforts in Northumberland are ranged around the periphery of the Cheviot massif, located overlooking the lower-lying Fell Sandstones. A second series of forts are ranged along the major river valleys such as the College, Breamish and Coquet, demonstrating that landscape presence and elements of display clearly underpinned their locational choices (Topping 1999). No minor valley locations are utilised, and when open moorland has been used the choice of location has always ensured a viewpoint overlooking the major valleys or the Fell Sandstones.

The SECP recorded the remains of thirteen forts or defended settlements: three of univallate form, seven bivallate, two of multivallate type and one possibly unfinished example (Figure 24). Additionally, one hill-top enclosure is located on Gibb's Hill. The most complex of the forts is that on Grieve's Ash located at 270m OD (NT 9652 1631; Figures 10 & 11), which is linked to adjacent enclosures by a system of trackways and a coaxial field system (see also Jobey 1964, 51). Originally considered to be a 'Celtic town' (Tate 1862), the site can be characterised as a bivallate fort with later settlement overlying the NE defences and extending to the E alongside a trackway (Jobey 1964, 52). It is possible that one element of settlement in the NNE may actually underlie both the perimeter of the fort and the other later settlements, thus predating the whole complex, and suggesting the presence of an early – but now partly concealed - enclosed settlement. If this reading is correct, then it would imply a sequence which led from a group of small, enclosed settlements which gradually increased in scale, followed by the creation of a coaxial field system with integral trackways, all then eclipsed structurally by the imposition of the bivallate fort. It should be noted that the trackways, and thus the field system, could also arguably be linked to the later settlement phase, perhaps the Roman Iron Age, and this scenario would find parallels elsewhere in the Borders (Halliday pers comm.).

Excavations and survey at Grieve's Ash by the Berwickshire Naturalists Club in 1861 recorded eighteen roundhouses within the fort, ranging from 3.3m to 8.2m in diameter internally within crudely faced walls up to 2.0m wide and still standing up to 0.9m (Tate 1862, 295-299). Roundhouse B, which was the largest example excavated, produced a fragment of Roman glass bangle dating to the 2nd to 4th centuries AD (Hope-Dodds 1935, 31). The outer ramparts were found to be up to 3.65m wide, and the less massive inner rampart up to 2.10m wide; they now stand to a height of 1.10m and 1.70m respectively. Rampart construction comprised wall faces of large roughly-coursed boulders with an infill of rubble. Within the wall core were transverse courses of stone - a feature unique in this region - presumably designed to provide greater structural stability to the rubble core of the rampart (Tate 1862, 295-6); this may also have parallels at Ingleborough, North Yorkshire (Bowden et al 1989, 267-9). The area between the ramparts is not ditched and up to 14.0m wide in places, and has been sub-divided by radial walls, a feature the site has in common with others in the Breamish Valley (e.g. Ewe Hill, Brough Law and Middledean Burn). In addition, Grieve's Ash is linked by a sinuous trackway to a field system, the lower-lying parts of which were reused in the Medieval period.

The slightly smaller fort of Brough Law (NT 9985 1635) is situated upon a dramatic summit overlooking the Breamish Gorge at 290m OD (cf. Figure 7). Bivallate defences lie to the S, facing the easiest approach to the fort, and a cross-ridge dyke some 30m S of the defences lends additional protection. The inner rampart has a maximum width of 5.5m, its partly exposed outer face surviving up to six courses high (1.5m), with the maximum overall height of the rampart being 2.5m. Excavations across the inner rampart discovered the existence of a second outer face buried within the wall core, and charcoal samples recovered beneath this rampart provided a <sup>14</sup>C date of 245 ± 90 uncal bc (1-5315) (Jobey 1971, 74-5). The outer rampart, up to 5.0m wide and 2.0m high, was found to have faced walls and parallel lines of 'stabilising stones' internally - although of only a single course (Jobey 1971, 76-7). As at Grieve's Ash (see above), the area between the ramparts was subdivided by small radial walls. Although disturbed, the gateways between the two ramparts were examined, the inner being more structurally sophisticated, utilising eight post-holes whereas the outer relied on only two (Jobey 1971, Figs 2 & 3). Earlier excavations by the Berwickshire Naturalists Club in 1861 examined three roundhouses, all of which produced charred wood, one some coarse pottery, and the third an iron knife (Tate 1862, 305).

A third largely bivallate site, Ewe Hill I, also featuring inter-mural radial walls lies immediately to the S of the summit of Ewe Hill at 225m OD (NU 0042 1682). This fort may have developed from a univallate plan by the addition of both a second rampart facing N - and its easiest line of approach - and an extra internal rampart on the S. Only part of the W perimeter remains univallate. A short third wall on the S side of the entrance gives an enhanced, multivallate appearance to the gateway. The ramparts range up to 6.5m wide and 1.6m high, and an entrance in the E is 4.0m wide. The inter-mural radial walls occur between the bivallate stretch of ramparts on the N side of the fort. Only one stone-built roundhouse is visible in the interior with faced walls 1.8m wide and 0.6m high; it has an E-facing entrance 1.3m wide. Small internal walls may have originally sub-divided the interior of the fort, and two cairns of uncertain age are also found in the interior.

A final site with inter-mural radial walls is the promontory fort of Middledean Burn (NU 0041 1463), located overlooking the craggy slopes of a dry ravine at 255m OD (Figure 20). This fort is roughly D-shaped in plan with two concentric ramparts around the N perimeter; roughly 7.0m apart and up to 6.0m wide and 2.0m high. The S perimeter is formed by the ravine. Two small radial walls subdivide the intra-mural area. A staggered entrance through the ramparts is located in the NE, while a second putative entrance through the outer rampart can be found in the NW. Within the fort are the remains of at least five roundhouses ranging from 6.0m to 10.0m in diameter internally, and one intrusive longhouse in the SW.

The bivallate fort on the summit of Wether Hill (NU 0130 1444) at 290m OD (misleadingly known in the literature as Corbie Cleugh; Jobey 1965, 49) lies adjacent to a field system comprising irregular plots of cord rig cultivation; it is protected from rising ground to the SW by a cross-ridge dyke. The ramparts, of which the inner is the most substantial, are up to 7.4m wide and 1.8m high. There are a series of shallow surface quarries within the inner rampart which have truncated two of the twenty-one ring-groove houses in the fort. These houses range up to 8.5m in diameter internally within trenches up to 1.8m wide and 0.3m deep. The fact that the surface quarries - undoubtedly used to extract material for the rampart - disturb two of the timber-phase buildings, suggests that some ring-grooves pre-date the defences. There is further stratigraphic depth within the timber phase illustrated by overlapping construction trenches of various houses. Similarly, the fragmentary remains of a series of palisaded enclosures within the fort defences are also truncated by the rampart quarries, or cut by later ring-groove houses; the most extensive features a well-defined entrance in the NE. Three later stone-built roundhouses occur in the S of the site, two of which partly overlie the inner rampart. Overall, Wether Hill exhibits surface evidence for at least 4-5 distinct structural phases, a fact confirmed by recent excavations which discovered that these were completed over a fairly short timespan within the late first millennium, beginning in the Middle to Late Iron Age and terminating around the turn of the millenium (Topping & McOmish forthcoming).

The heavily-disturbed remains of the fort of Prendwick Chesters (NT 9848 1488; Figures 12 & 14) lies at the summit of a S-facing slope at 280m OD. This bivallate fort has been much reduced by stone robbing for nearby farm buildings and field walls. However, within the interior lie the fragmentary remains of at least seven roundhouses and several later shielings ranged along the S rampart of the fort. Excavations by the Berwickshire Naturalist Club in 1861 recovered '*broken pottery, charred wood, and a flint weapon*' from the N side of the E gateway; the root of a stag's horn near the S rampart; bones of a horse '*in another part of the camp*'; and from the interior of a roundhouse a translucent light green glass bead, a quern, and from the centre of the hut burnt wood was recorded (Tate 1862, 305-6). A putative miniature quern was also recovered from one of the roundhouses (Tate 1862, 309). This fort is notable in that it is approached by several embanked trackways which ultimately enclose the fort itself. A series of co-axial fields spring from these trackways, thus structurally producing a field pattern reminiscent of 'Celtic' fields. Surface investigation alone, however, cannot determine whether the fort, trackways and fields are all contemporary as no demonstrable relationships exists between these features. Nevertheless, it is possible to suggest that if the fort and tracks were not contemporary, then the trackways and fields must be later than the fort, perhaps linked to a later settlement.



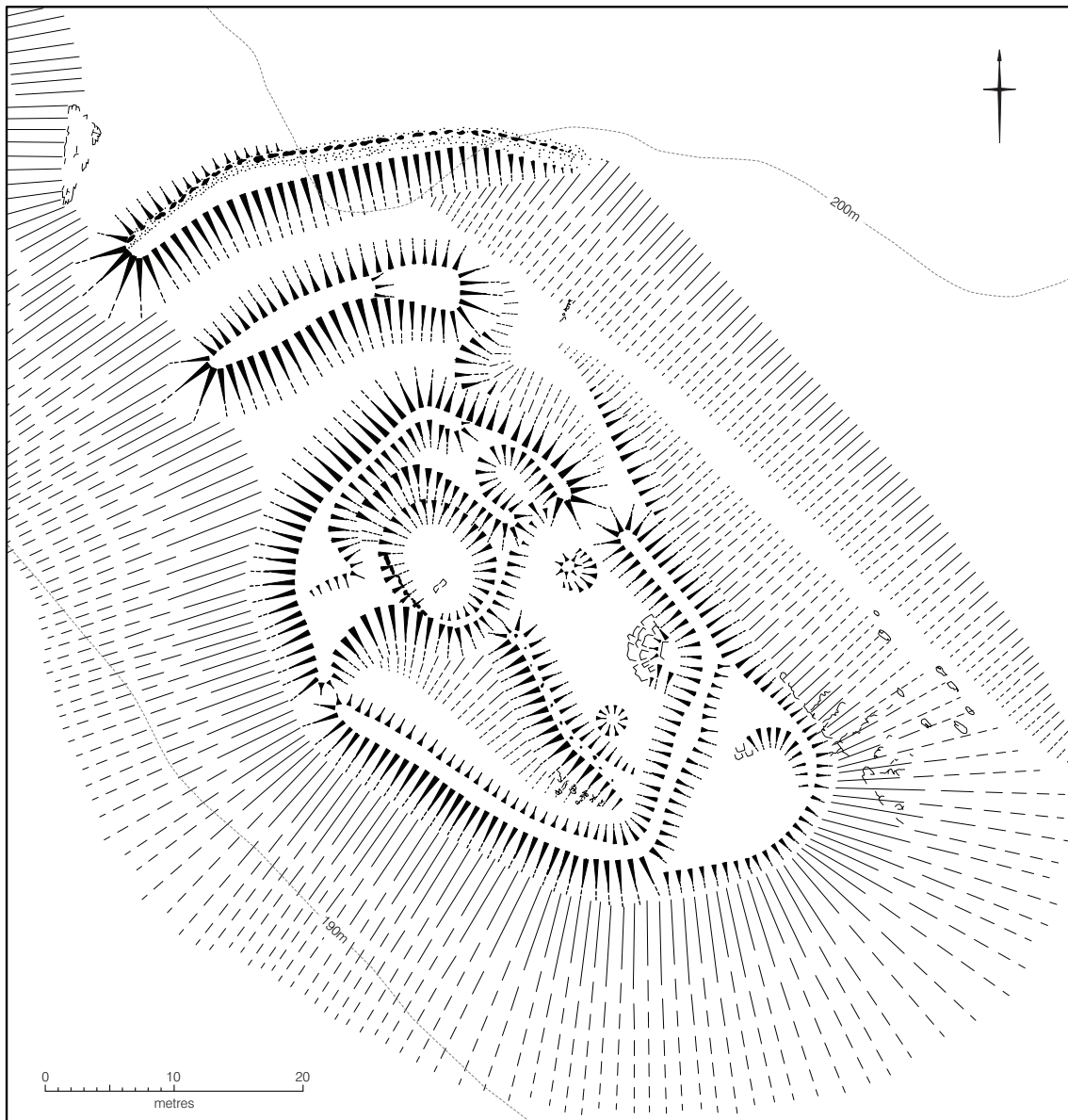


Figure 23 Knock Hill promontory fort lying on the lower slopes of the Breamish Gorge (NY9920 1649).

Of the multivallate forts in the project area, Castle Hill, Alnham (NT 9800 1095), located on the crest of a prominent hill with panoramic views at 290m OD, is probably the best preserved. The fort has three lines of defences on all but the SW where the outer and middle ramparts merge due to the steepness of the natural slope. The inner rampart consists primarily of an outer-facing scarp up to 3.0m high, with traces of a backscarp in the SW. The middle rampart is up to 8.0m wide and 2.2m high, whereas the outer rampart - the most substantial - has an outer face up to 4.0m high on a rampart spread to 18.0m wide. Traces of an outer ditch survive on the E, S and W sides, nowhere more than 2.0m deep. There are three entrances through the outer rampart, two in the E and one in the W; and one entrance through the middle rampart in the NE. Internally there is a group of five roundhouses in the E of the fort up to 6.2m in diameter within walls 1.2m wide and 0.4m high. Adjacent to the E side of the fort and between the

two entranceways, lie three contiguous rectilinear enclosures which appear to be late additions to the fort, forming part of a group of rectilinear enclosures ranged along the E and NE sides of the fort (cf. Pearson et al 2001, 13 & 23).

Other multivallate forts can be found at Low Chubdon (NU 025 135) at 225m OD overlooked on all sides but the E, with two entrances in the E, and three possible houses in the S part of the interior. Clinch Castle (NU 031 146), situated on a steep-sided knoll at 212m OD, is poorly preserved with some surface quarrying; nevertheless, evidence survives of at least seven possible roundhouses. The fort of Ewe Hill 2 (NU 0090 1668) is located upon the SE spur of Ewe Hill at 198m OD, and is much abraded by recent stone robbing. However, a curvilinear plan survives illustrating a site sub-divided into three progressively smaller, almost concentric sub-enclosures with what may be a roundhouse in the smallest.

A small promontory fort – little more than a defended domestic settlement in scale – is located on the lower slopes of Knock Hill (NY9920 1649), overlooking the confluence of the Greensidehill Burn and the River Breamish, with a view NE along the Breamish Gorge. This small fort is the most unusually located in the SECP area, avoiding hilltop locations (Figure 23).

The final site is not strictly a fort; it is located defensively on the isolated conical summit of Gibb's Hill at 250m OD (NU 0320 1430), but is only enclosed by two incomplete scarps no more than 0.5m high. Five possible roundhouses were recorded at this site. This site is defensively situated, but from the incomplete nature of the field evidence may be an unfinished hillfort.

Within the SECP area fort locations show a preference for either massif-edge positions and consequently high levels of visibility to the E (e.g. Old Fawdon Hill, Low Chubden) or are located in prominent locations overlooking valley routes and river courses (e.g. Brough Law, Ewe Hill 1 & 2, Wether Hill, Grieve's Ash, Prendwick Chesters). It is clear from both locational preferences that elements of display played an important role in the positioning of these forts (cf. Bowden & McOmish 1987), even to the extent that some were placed to be deliberately overlooked from adjacent high ground (e.g. Middledeanburn, Low Chubden; cf. McOmish 1999).

In the Borders hillfort construction began as early as the seventh century BC at Burnswark (Jobey 1978), although precursors may be represented by the Late Bronze Age hilltop settlements such as Eildon Hill North (Owen 1992, 57-67), which appears comparable to the undated hilltop palisaded settlement on Old Fawdon Hill. From the middle of the millennium forts were constructed at Fenton Hill III and IV (Burgess 1984), Dod Law III (Smith 1990), Gillies Hill, near Stirling (Rideout 1992b), The Dunion, Roxburgh (Rideout 1992a) and Broxmouth, Dunbar (Hill 1982a; 1982b), all demonstrating construction during this period traditionally spanning the Middle to Late Iron Age. It was during the last four centuries of the first millennium that the settlements, palisades and hillfort defences were built and reconfigured at Wether Hill on what would appear to be a generational timescale, each phase spanning no more than fifty to sixty years (Topping & McOmish forthcoming). At both Wether Hill and

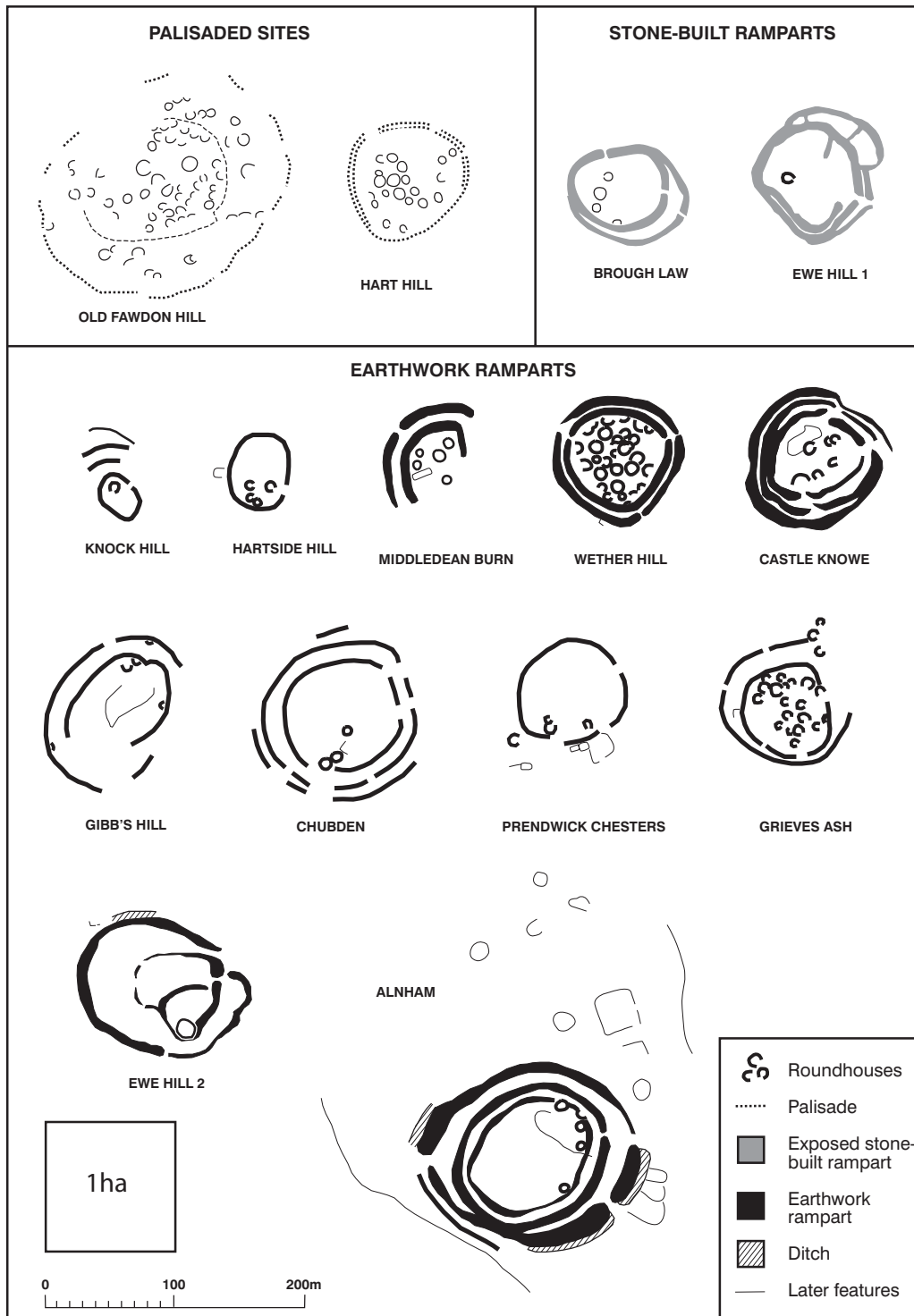


Figure 24 Comparative plans of the hillforts recorded by the South East Cheviots Project shown at the same scale and orientation (north to the top).

Broxmouth it is clear that the forts had lost their defensive function before the end of the millennium, and at Wether Hill the final phase of occupation is represented by three unenclosed roundhouses partly constructed over the abandoned defences, until they themselves had been abandoned before the appearance of the Romans in the north.

## 8 BURIAL MONUMENTS

The SECP recorded a number of burial monuments which survive mostly in hilltop locations, although subsequent land-use may have influenced this distribution. In addition, biases in field identification may also have hampered recognition. For example, traditionally there has been a perception that few formal burial monuments existed in the survey area, which may be true if casual disposal was the norm. However, Jobey's excavations at High Knowes (1966) and Chatton Sandyford (1968) to the E on the Fell Sandstones have demonstrated that some superficially structureless cairns do contain burials; in the case of High Knowes, one burial in Cairn I was associated with a bronze ring-headed pin of an Irish type current during the Iron Age (Jobey 1966, 25-33). Many settlements in the project area lie adjacent to cairn groups, which do not appear to be *recognisably* burial monuments, but may still have contained casual or formal interments. If this were the case, then such a body disposal process could be seen as centering an ancestral presence amongst areas closely associated with subsistence strategies, focusing the past in the present and embedding the ancestors in the whole sphere of food production.

Alternatively, burial may have been selective – at Broxmouth hillfort the cemetery only contained nine burials alongside a few in the fort interior, from a period spanning roughly half a millennium. Conversely, human skeletal fragments were recovered from the midden (Hill 1982b). Such data demonstrates that casual disposal must have been the norm, and considering the timescales involved, must also have been practiced widely to account for the limited numbers of formal burials recorded by excavation. Clearly monumentalized or formal burials were rare during this period.

Some important burial monuments do, or did, exist. On one of the several Ewe Hills in the area, that overlooking the Chesters Burn, Antiquarian records recount the demolition of a large round cairn from which was plundered forty wagonloads of stone subsequently used to build a nearby plantation wall (Tate 1862, 304). Similarly, on another Ewe Hill opposite Brough Law, the Berwickshire Naturalists Club excavated what appears to have been a long cairn which produced substantial quantities of charcoal, perhaps suggesting the presence of some form of mortuary structure or major fire episode (Tate 1862, 304). Such examples suggest the strong possibility that other sites may have been lost through unrecorded antiquarian fieldwork or agricultural activity.

Recent excavations by Durham University uncovered a Bronze Age burial monument on Turf Knowe which contained several interments in small cists with attendant urns and Food Vessels; the surface appearance of the overlying cairn had been substantially modified by later agricultural impacts (Frodsham & Waddington 2004, 173-7). Excavations by the Northumberland Archaeological Group discovered a round cairn surrounded by a low stone wall which was located on the E perimeter of the Iron Age field system on Wether Hill. This cairn had similarities to a small group of cairns on Knock Hill on the N side of the Breamish, lying adjacent to a series of scooped settlements and a field system, thus raising the possibility that this form of cairn might have been a local Iron Age type. Sadly, excavations at the Wether Hill cairn discovered that it had been completely robbed during the Medieval and post-Medieval periods (Topping 2004, 195).



A second burial site was accidentally discovered during excavations on Wether Hill some 40m to the N of the previously described cairn on the E side of the field system. Here a primary pit contained two Beakers in an oaken 'coffin', which was later disturbed and reworked during the Bronze Age when a cist was inserted, compressing the earlier 'coffin' and containing three Food Vessels. A final phase of disturbance occurred in the Middle to Late Iron Age when the area was levelled for the construction of a palisaded enclosure complex, leaving behind a small pottery assemblage to record the damage (cf. Topping 2001). The depositional history of this burial monument removed any surface traces, which has implications for the recognition and understanding of burial monuments in landscapes which appear superficially devoid of monuments.

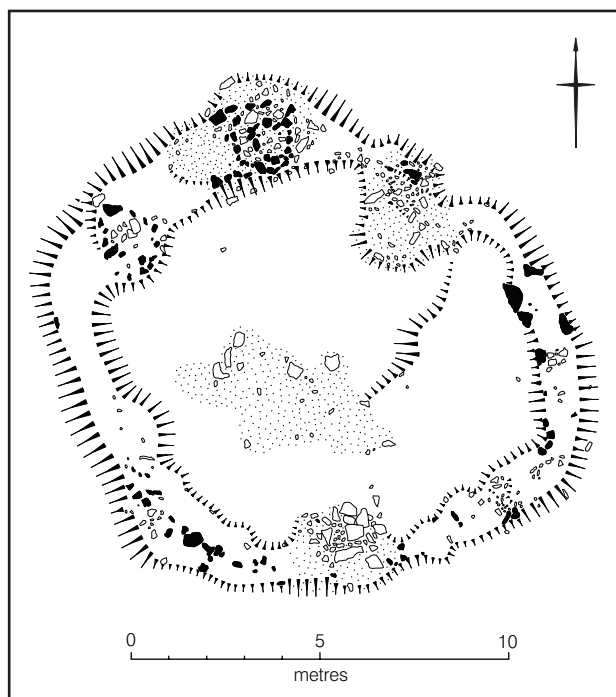


Figure 25 The putative enclosed cremation cemetery on Ewe Hill (NU 0006 1577).

A low enclosure located just below the summit of Ewe Hill and lying to the S of Brough Law at 280m OD (NU 0006 1577; Figure 25) comprises a curvilinear irregular rubble bank, spread up to 1.5m wide and 0.3m high, with small heaps of stones and rubble scattered along its line, and enclosing an area of 11.7m E-W by 10.1m transversely. No entrance gap was recorded but an irregular turf-covered mound 0.2m high lies at the centre. Jobey (1968, plan facing 42) suggested that this site may be an enclosed cremation cemetery from its similarities with the excavated example at Weird Law in Peeblesshire (Maclaren 1967). Enclosed cremation cemeteries are a relatively common field monument in Scotland and to a lesser extent in Northern England (Ritchie & Maclaren 1973), where they generally take the form of a circular embanked or ditched enclosure with a low mound or internal depressions which often indicate the location of burials.

A small ring cairn lies on the W edge of a large group of small cairns on Reaveley Hill, on the N side of the Breamish. On the S edge of this complex are located a ring-ditch house and a stone-built roundhouse; thus taken as a whole this example probably illustrates an integrated settlement, field system and burial area.

## 9 THE GIS ANALYSIS OF THE PROJECT DATA

The South East Cheviots Project (SECP) produced a detailed record of the multi-period archaeological landscapes visible in an area of 66 square kilometres focused on the Ingram and Breamish valleys in the south-east Cheviots (Topping 2008).

As part of recent work to produce an analysis and synthesis of the results of the SECP, the data from the 1980s fieldwork was revisited and combined with other map and height data for display and analysis in Geographical Information Software (GIS). The software used is ESRI's ArcView 9.1 with the 3D Analyst and Spatial Analyst extensions. GIS provides a powerful set of tools for gathering, storing, analysing and displaying geographical information and is becoming increasingly important in the work of the English Heritage Archaeological Survey and Investigation team. GIS offers new ways of presenting the SECP data as well as helping to refine the interpretations contained in the archive report and to point to areas for further investigation.

While this exercise shows the great potential of GIS for extracting new information and interpretations from old survey data, it is also important to point out some of the limitations.

- 1 The position and extent of each archaeological feature used in the analysis has been added to the GIS by digitising from paper maps copied from composite survey plans created in the 1980s. Though much care has been taken with the digitising, inevitably the resulting data will be less accurate compared to data gathered nowadays using global positioning equipment (GPS).
- 2 The height of the archaeological features has been interpolated from a mathematical model of the 3D ground surface based on contours at 5m intervals obtained from the Next Perspectives Geostore under the PGA2 agreement. This means that the results of analyses where height is a determining factor (such as viewsheds) will be less accurate than if the values had been obtained in the field using GPS.
- 3 No attempt has been made to digitise the 1:2500 or 1:1000 survey plans therefore observations and interpretations concerning the morphology of individual sites raised in the archive report have not been investigated using GIS.
- 4 Details on the construction and morphology of individual sites have not been added from the fieldwork archive to the GIS database due to time constraints. This means that the GIS is not capable of answering complex queries based upon characteristics such as for example, entrance orientation, methods of construction and level of survival.

## 9.1 Sources of data

The SECP GIS used three sources of data.

### Height data

Height data is based on contour data at 5m interval supplied under the PGA2 agreement from the Next Perspectives Geostore and downloaded in ESRI Shape file format. This data set was used to create a Digital Elevation Model (DEM) of the project area in the form of a triangular irregular network (TIN). The TIN was then used to create different map backgrounds as raster surfaces showing elevation, degree of slope and direction of slope (aspect). These raster surfaces were used to investigate factors such as settlement preferences and the location of cultivation evidence.

### Map data

A map background was created from four adjoining 1:10,000 scale Ordnance Survey quarter sheets downloaded from the corporate GIS and supplied as a geo-referenced raster image in \*.tif format. The map data was used to check the location of some of the sites digitised from the SECP field survey plans and for digitising the main watercourses for use in GIS analysis.

### Archaeological data

The archaeological data was added to the GIS by digitising from scanned copies of the SECP field survey plans loaded in to the GIS and geo-referenced to Ordnance Survey National Grid. The digitised features were grouped into categories (eg enclosures, defended settlements, cairn groups) to form separate layers for use in the GIS analysis.

## 9.2 Results from the SECP GIS

The main aims of creating a GIS for the SECP were to advance and refine the analysis and interpretation contained in the report and to give new insights into the archaeological data which would have been impossible or very laborious to derive without the use of GIS. No work was undertaken to use the GIS to create distribution maps of the various classes of archaeological monuments as these are already available as part of the SECP publication (Topping 2008). To facilitate cross-referencing, the results of the GIS analysis are presented under the same headings as the current report presented above. For some sections of the report, no GIS analysis has been undertaken. In these instances there is nothing new that the data held in the GIS can add to the observations and interpretations contained in the report.

### 9.2.1 The geology, soils and vegetation of the Project Area

No geology, soil or vegetation data sets were available and so the analysis was restricted to examining the natural topography. The project area ranges in height from a low of between 85m and 100 m OD to the east in the Breamish Valley or the River Aln to a maximum ranging between 500m and 550m OD in the south-west on Hogdon Law.

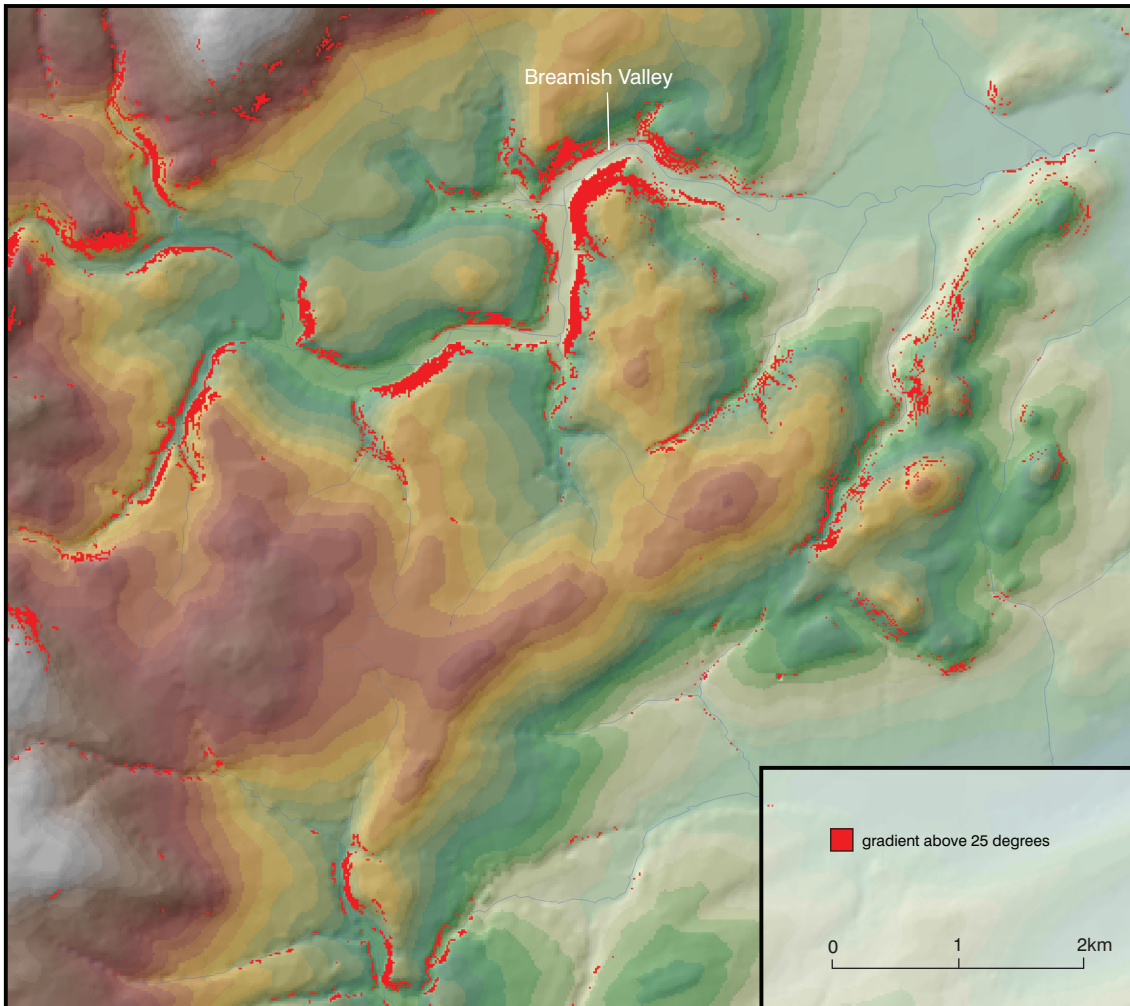


Figure 26 Map showing the natural topography of the SECP project area with the steepest slopes highlighted..

The report above highlights the Breamish Valley as being the most distinctive in the study area, making note in particular of the steep-sided Breamish Gorge. This is borne out by analysis of the natural gradient across the study area where the Breamish Valley clearly stands out bordered by the greatest lengths of steep slope. These attain their maximum extent along the Breamish Gorge (Figure 26).

### 9.2.2 Prehistoric land use

The report considers the height range of medieval field systems in the SECP area and the impact this has had on the survival of field evidence for prehistoric cultivation. The GIS analysis establishes that by area, the majority of medieval field systems (1117ha) recorded occur below 300m OD though some 43.6ha occurs above 300m extending to a maximum height of 413m (Figures 27 & 28). This confirms that medieval cultivation has been most destructive of prehistoric remains below 300m OD and that limited destruction will have continued to much higher levels. The survival of prehistoric cultivation remains is described in the report as a *'tideline of prehistoric evidence on the upper hill slopes, or surviving as a patchwork of parcels at lower levels'*. This is borne out by the GIS analysis



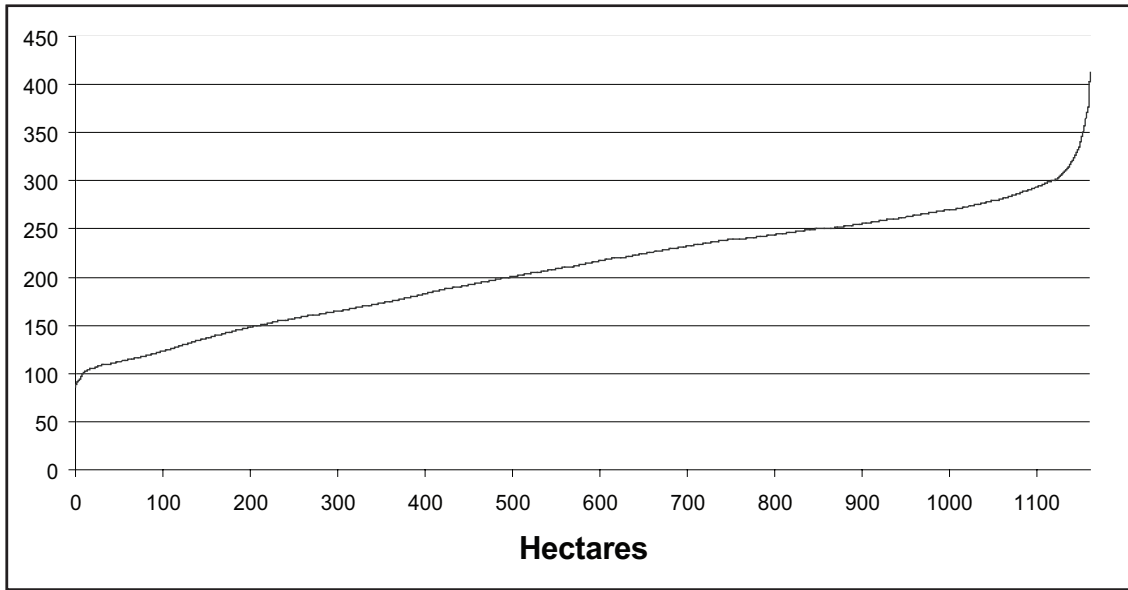


Figure 27 Graph showing the height range of medieval fields recorded in the SECP study area.

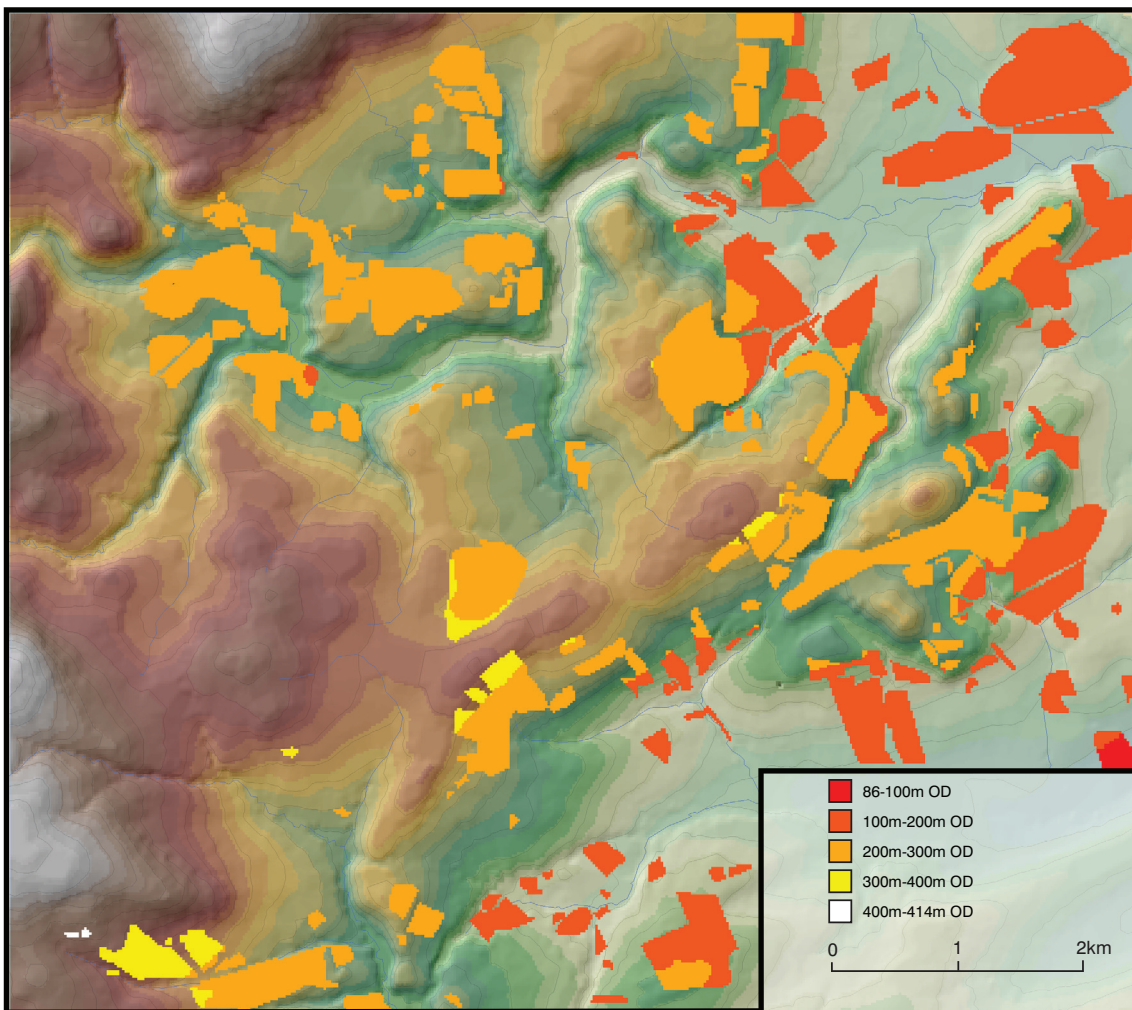


Figure 28: Map showing the height range of medieval fields recorded in the SECP study area..



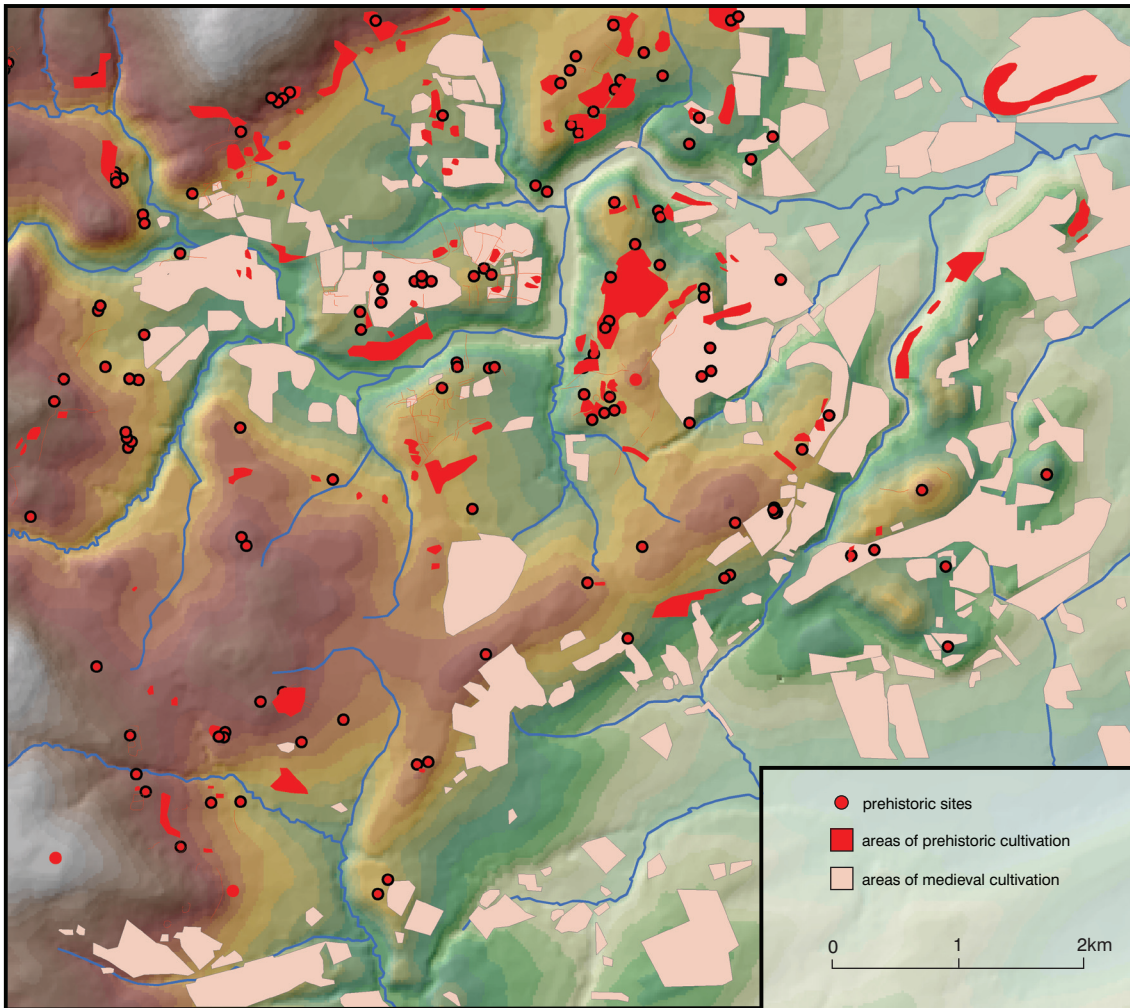


Figure 29: Map showing the relationship between medieval field systems and all prehistoric remains..

which clearly shows this description can be applied to the relationship between medieval field systems and all prehistoric features recorded in the SECP area (Figure 29).

### 9.2.3 Cross-ridge dykes and linear boundaries

The report considers the setting of the defended settlements or hillforts within the SECP area on the eastern edge of the Cheviot massif. It points out how the hillfort at Brough Law and its juxtaposed boundary system and the palisaded enclosure at Old Fawdon dominate their surroundings, particularly the lowland to the east which includes the entrance to the Breamish Valley. This is clearly demonstrated by the GIS where a viewshed analysis of these two sites shows how they dominate the low-lying ground to the east (Figure 30). Most notably the two viewsheds overlap around the confluence of the Middledean Burn and the River Breamish, indicating that both sites visibly dominated the start of these two important routes leading west into the hills. It is also noticeable that both hillforts, though on the eastern edge of the massif, have extensive views across the high ground to the west including most of the other hillforts in the study area

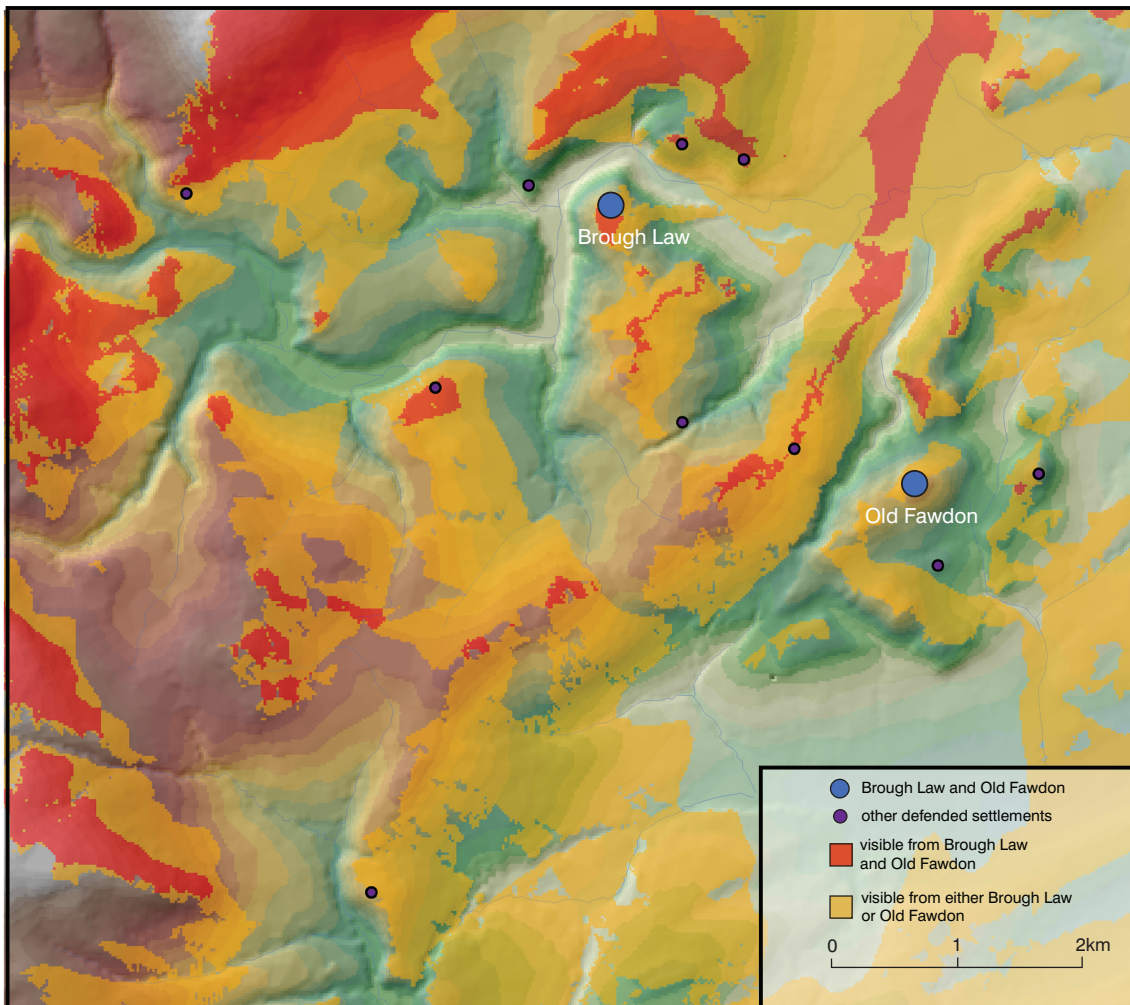


Figure 30: Map showing the area overlooked by the sites at Brough Law and Old Fawdon with the locations of other defended settlements.

#### 9.2.4 Field systems

Although not specifically addressed in the report, the slope gradient on which cultivation terraces were recorded in the SECP area can be analysed in the GIS. This shows that in terms of area, the majority of cultivation terraces fall on slopes that have a gradient of between 10 and 20 degrees and extend to a maximum gradient of 39 degrees (Figures 31 & 32). One theory about the origin of such terraces is that they result from the downward build up of soil through ploughing on steeper slopes and this analysis gives some indication of the kind of angle of slope when this is most likely to occur (Oswald et al 2006, 90). That some cultivation terraces are found on level or minimally sloping ground (amounting to a total area of around 1.5ha) could point to a different origin for these terraces, with some overlap with ridge-and-furrow systems in places such as Ingram Hill. Perhaps these areas lend support to the suggestion in the report that some terraces or ridging may result from spade-digging. The report observes that cairn groups within the SECP study area mostly occur between 250m and 350m OD. The GIS analysis shows that the range is slightly greater though this does not significantly alter the observations contained in the archive report (Figure 33). The overall height range of the cairn groups is between 211m and 405m OD while in terms of area, most cairn groups are found at heights ranging between 244m



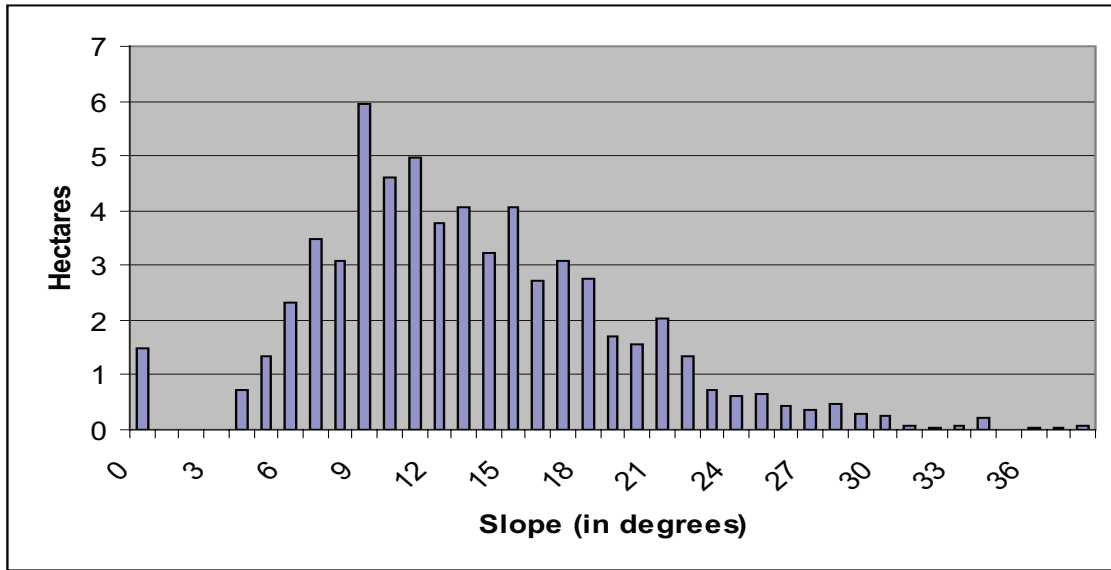


Figure 31 Graph showing the gradient of slope (in degrees) where evidence of cultivation terraces occurs.

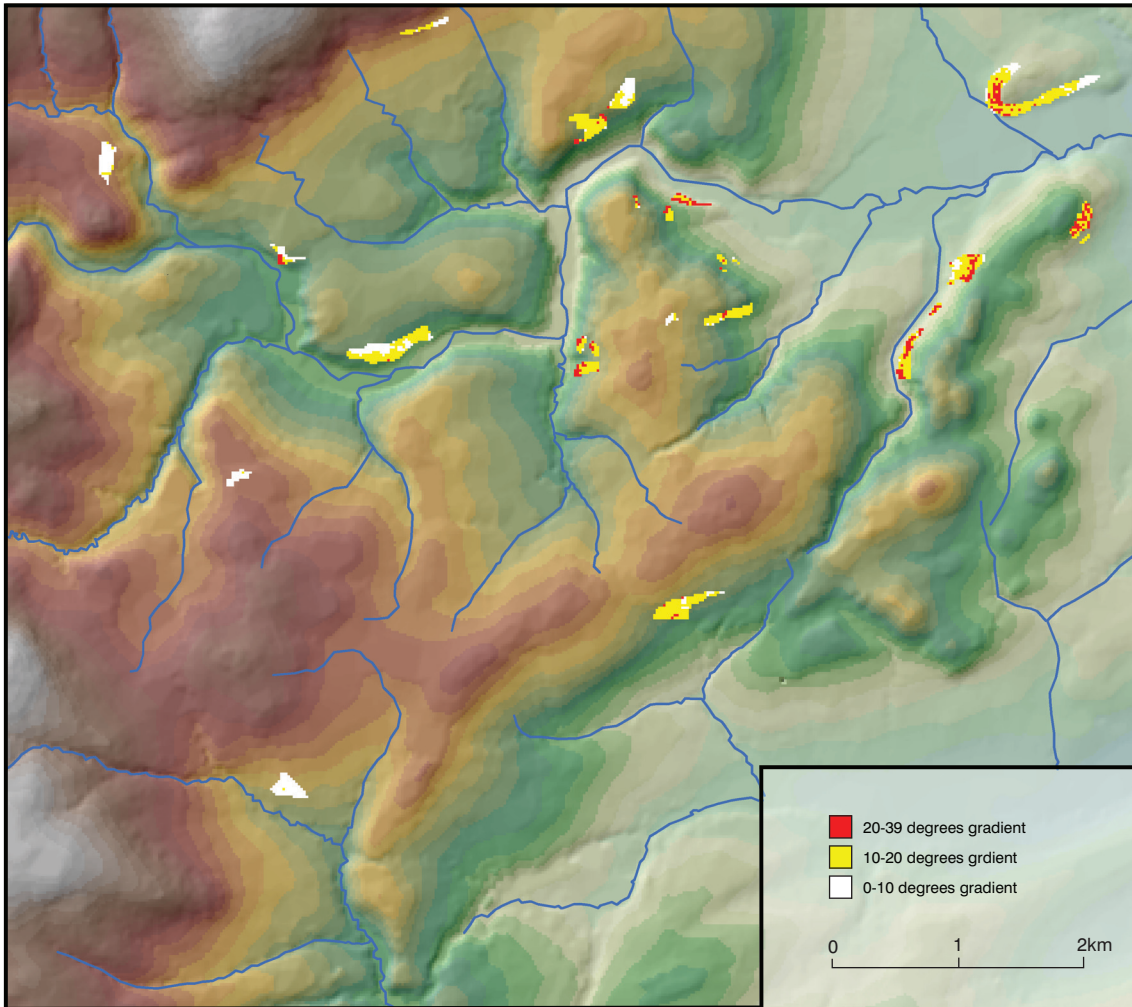


Figure 32: Map showing gradient of slope (in degrees) where evidence of cultivation terraces occurs..

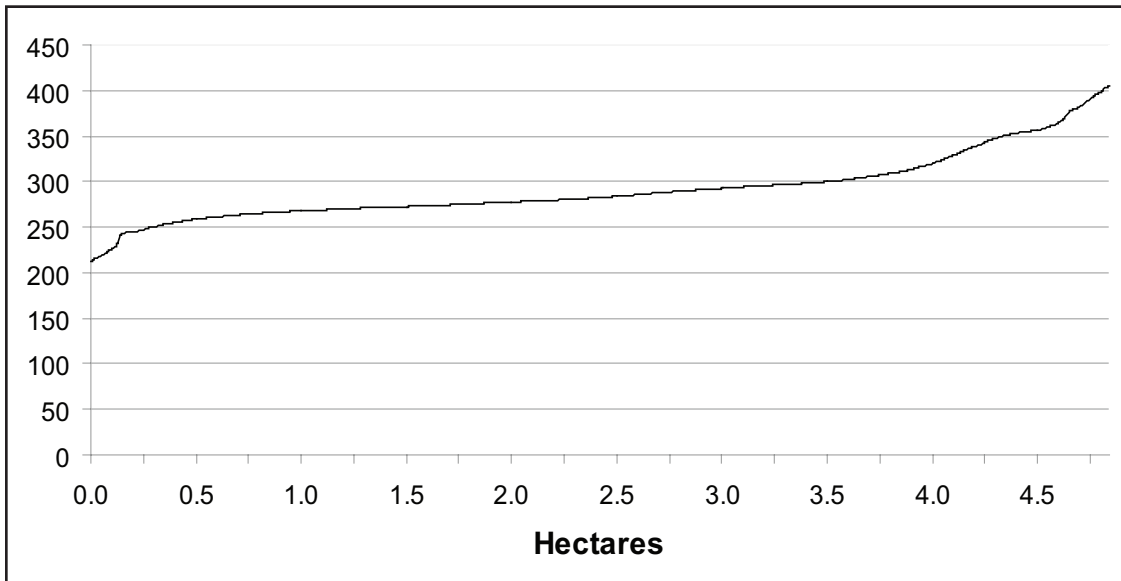


Figure 33: Graph showing the height range (in metres) of cairn groups recorded in the SECP project area..

to 311m OD

### 9.2.5 Cultivation remains

The report considers the location of the three main categories of cultivation remains recorded in the SECP area: (1) cultivation terraces (2) groups of small clearance cairns and (3) cord rig. The report observes the preference for south and east facing slopes

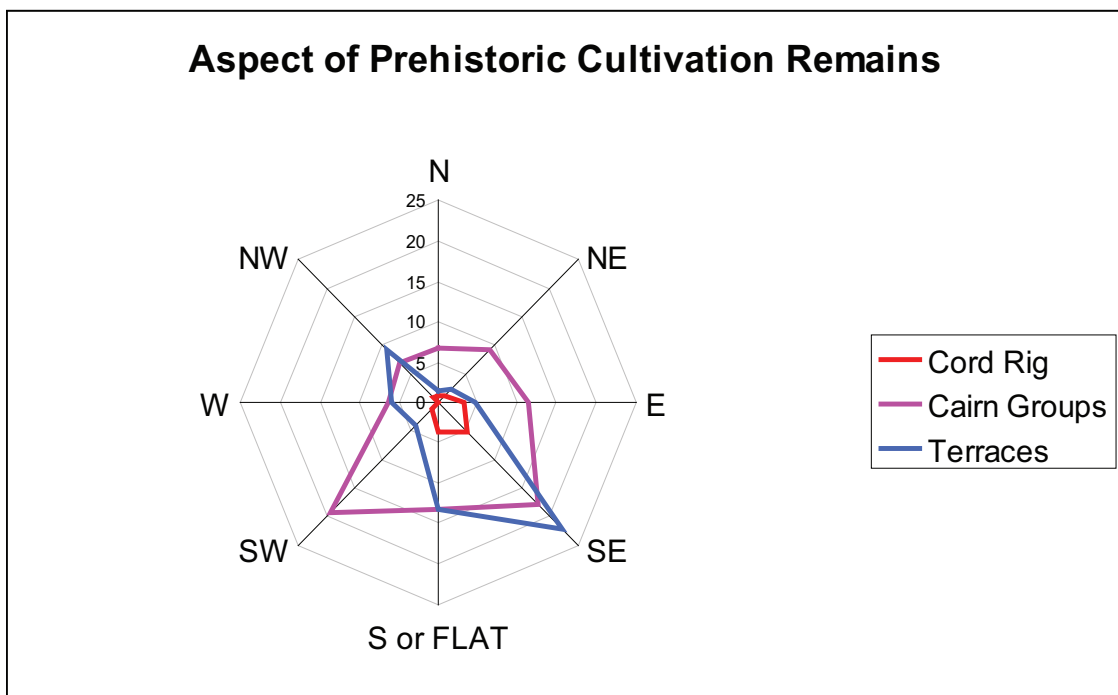


Figure 34: Diagram showing the slope aspect of the three categories of cultivation remains recorded in the SECP project area. The values shown are in hectares..

and this is borne out by GIS analysis comparing the distribution of the three categories of cultivation remains against aspect of slope (Figure 34). The series of terraces along the Fawdon Burn that face north-west stand out as a clear anomaly in the distribution diagram derived from the GIS and it is significant that the archive report highlights the fact that these are undated

The diagram also clearly shows that the distribution of cairn groups spreads across north-east facing slopes in contrast to the other two categories of remains which are very infrequent on slopes with this aspect. This may indicate possible areas where cairns have a funerary rather than agricultural origin as discussed in the archive report.

### 9.2.6 Settlement record

The GIS analysis makes it possible to compare the height ranges of the four main categories of settlements recorded in the SECP area – palisaded sites, unenclosed settlements, enclosed settlements and defended settlements or hillforts (Figure 35).

There are clear differences in the results between the four types of settlement. It is noticeable that the height ranges for defended settlements and palisaded settlements are mutually exclusive. The highest interpolated height for a defended settlement (320m OD) matches the lowest interpolated height for a palisaded settlement. One explanation as to why there is no overlap between the height ranges of the two settlement types is that several of the defended settlements may have evolved from palisaded settlements. This is certainly demonstrated at Wether Hill, where at least three separate phases of palisaded settlement are subsumed beneath the later embanked defences (cf. Topping & McOmish forthcoming), and because of its size and location may have been expected to

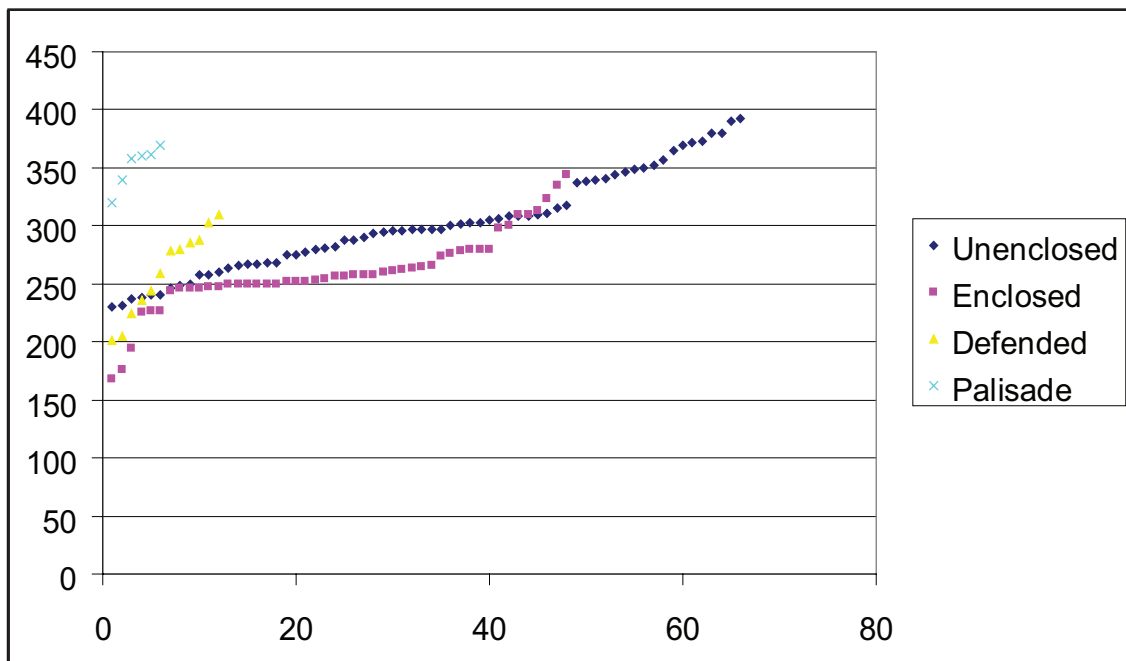


Figure 35: Graph showing the height range of the four main types of prehistoric settlement recorded in the SECP project area.



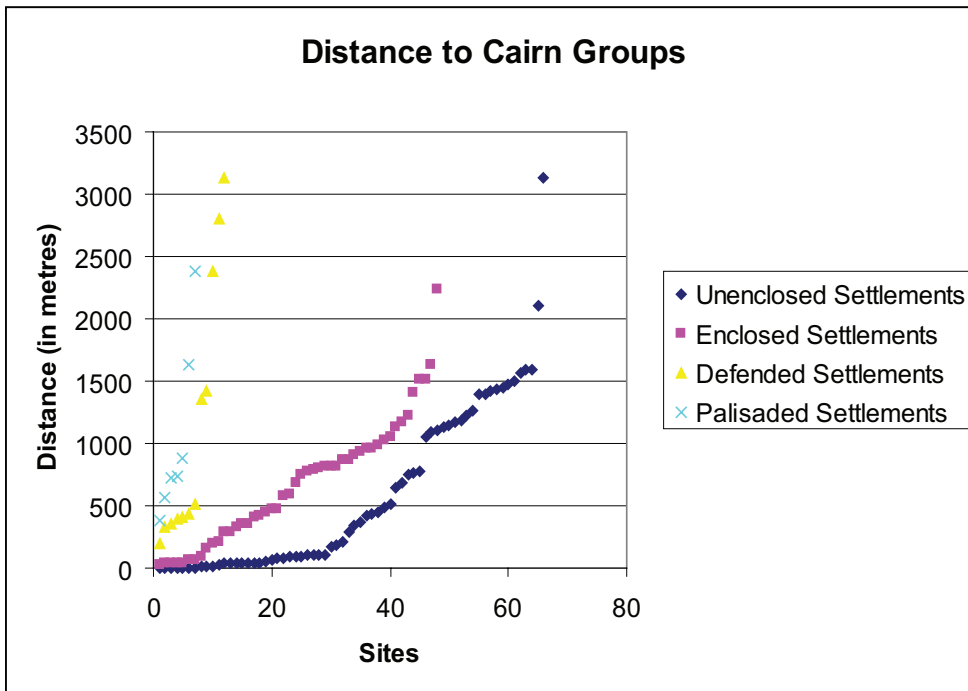


Figure 36: Graph showing the proximity of the four categories of prehistoric settlement to cairn groups.

have happened at Old Fawdon Hill if the palisaded site had not been abandoned before this could occur.

Another potentially significant observation is that unenclosed settlements extend to a much higher altitude than any of the other settlement types within the SECP area. This observation may be explained by population pressure and land hunger along the eastern flank of the Cheviots, or by favourable climatic factors which allowed settlement to succeed at higher altitudes. Alternatively, occupation of the highest sites in the range may have been on a seasonal basis as part of a transhumance economy.

The report notes the often close relationship between unenclosed settlements and cultivation

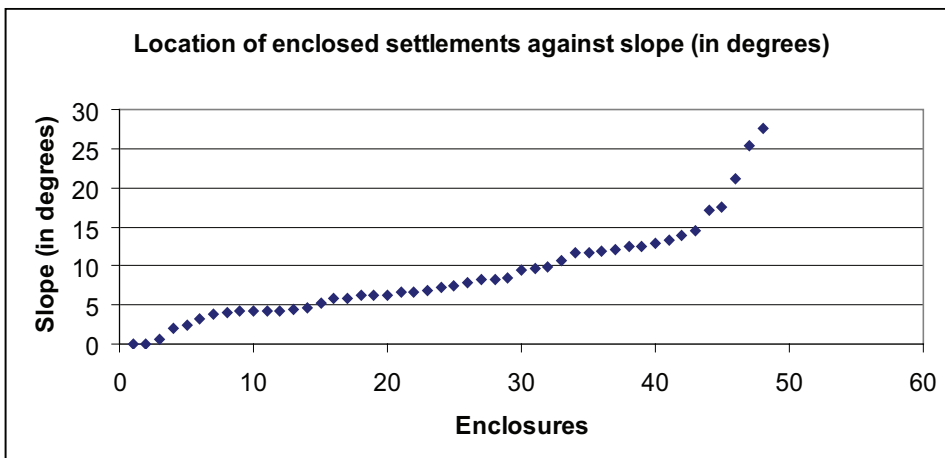


Figure 37: Graph showing the setting of enclosed settlements against the natural slope.

remains. The GIS analysis confirms a close relationship between cairn groups and unenclosed settlements (Figure 36). The majority of the unenclosed settlements lie within 500m of a cairn group and the majority are within 100m. This provides strong evidence of a link between cairn groups and unenclosed settlements compared to the other three categories of prehistoric settlement. It raises the possibility that some of the cairn groups may be associated with these settlements because they also have a funerary rather than purely agricultural origin.

The report considers the situation of enclosed settlement against the natural topography. The height range indicated by the GIS analysis is slightly greater than that indicated in the report above (170m to 350 m OD as opposed to 190m to 310m OD - see Figure 37). The report also notes that enclosed settlements frequently occur on hillsides and occasionally on hill summits. This is borne out by the GIS analysis which shows that the majority of enclosed settlements lie on slopes with a gradient of between 5 and 15 degrees, extending to a maximum gradient of nearly 30 degrees

The report notes that defended sites within the SECP area tend to favour hilltop locations with a marked preference *'for either massif-edge positions. ....or in prominent locations overlooking valley routes'*. The GIS analysis shows that this is markedly true of the defended settlements that lie along, or close to the Breamish Valley (Figure 38). They are all sited adjacent to slopes with a gradient above 15 degrees, presumably in order to gain visual prominence locally, oversee the direction of the slope, and gain a defensive advantage.

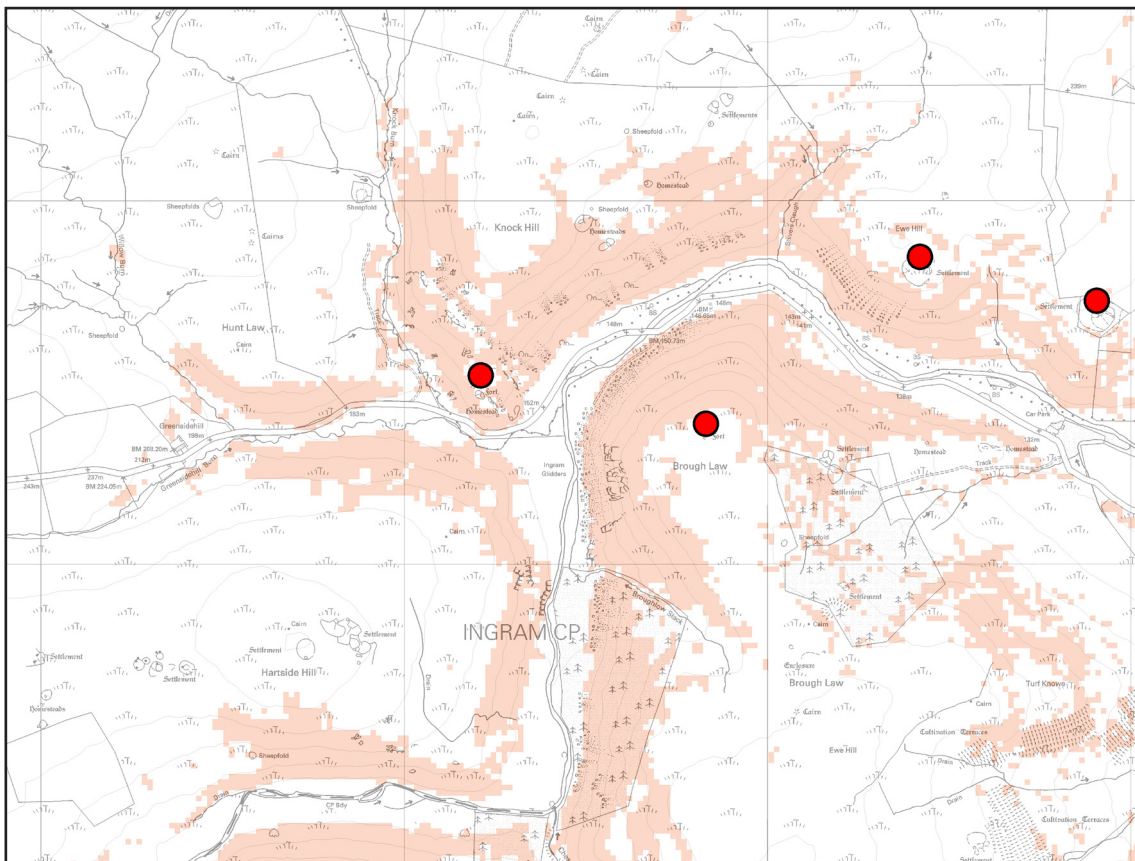


Figure 38: Map showing the relationship between defended settlements along the Breamish valley (red dots) and natural topography with a gradient of 15 degrees and above (coloured red).

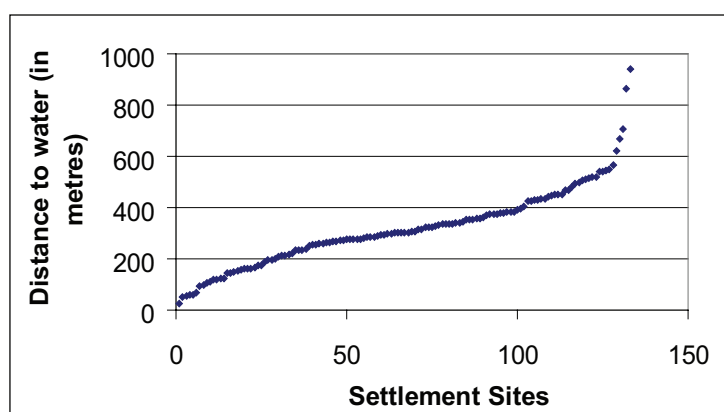


Figure 39: Graph showing the distance to water of all categories of prehistoric settlement..

The report did not consider settlement preferences in relation to proximity of water supply because of the difficulty in calculating the values using data held solely on paper maps. The GIS allows this relationship to be explored in some detail by analysing the digitised settlement locations against the watercourses as portrayed on the 1:10,000 scale Ordnance Survey map. However, as was mentioned above, the modern drainage pattern is unlikely to match exactly the drainage pattern of the area in prehistory. Natural processes such as changing water tables, erosion and deposition have altered the drainage pattern to a degree that cannot currently be accurately assessed, while other changes will have occurred through human intervention, particularly stream management. There is also no way at present of factoring in to the analyses data on the volume or reliability of water supply. Consequently the resulting GIS analysis of the spatial relationship of prehistoric settlements to water supply should be regarded as broadly accurate for the overall SECP area, but should be treated with more caution when it comes to comparing individual sites.

The results of the GIS analysis shows that as a euclidean (straight line) distance the overwhelming majority of settlements in the SECP area lie within 600m of a source of water and half are within about 300m (Figure 39). However as has already been noted, the SECP area encompasses a series of steep-sided valleys with many sites focused on or near to the Breamish Gorge. The data was therefore re-worked to introduce an additional cost factor variable weighted towards the gradient of natural slope between each settlement and the nearest water. The result quite clearly demonstrates how some sites, though close to water in terms of distance, are actually more remote when the difficulty of accessing the supply is taken into account (Figure 40). Without careful assessment of possible changes to the drainage pattern too much should not be read into this data, but it could point to potential differences between sites and the population levels they were able to support or the economy they practiced. As a group the defended settlements are not particularly well-sited for access to water, suggesting other factors had a greater influence on the choice of location such as ability to command the landscape and the need for security. Several of the unenclosed settlements to the west of the SECP area stand out as being the most remote from water supply. They are also amongst the highest settlements recorded, suggesting these particular sites are located in what are now marginal locations. Several possible explanations for the location of these sites were raised above. In terms of their present distance to a water supply

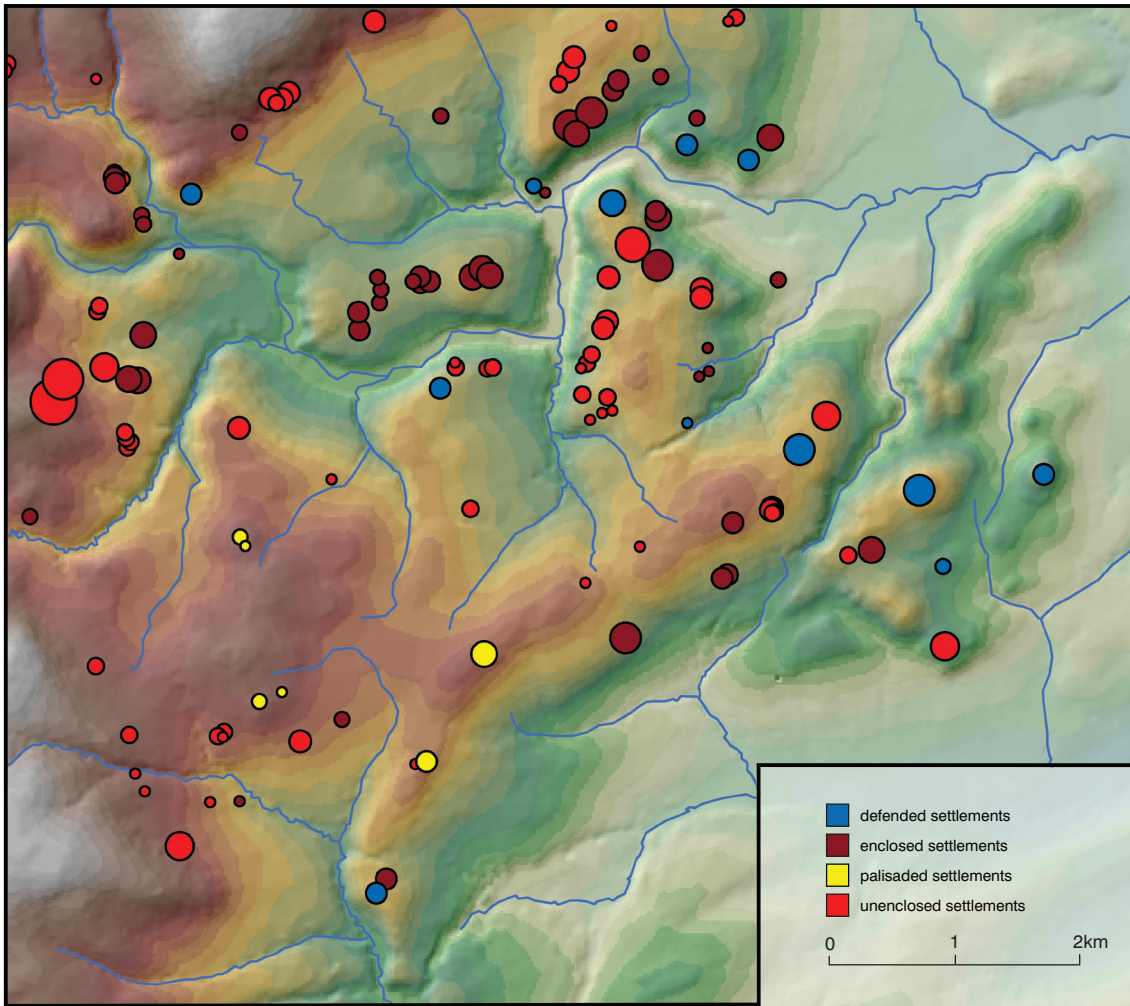


Figure 40: Map showing the costed-distance to water of individual prehistoric settlements grouped by category. The larger the circle the greater the cost-distance to water of that settlement.

they may belong to a period when increased rainfall led to a more abundant water supply when compared to today.

### 9.3 Discussion of the GIS results

The discussion in the report (see below, section 10) centres upon the chronology of settlement within the SECP study area through the analysis of the inter-relationship of the various types of sites and cultivation remains, the morphology of field systems and excavation and environmental evidence.

The discussion contains the observation that many of the sites around Brough Law and to the west of Chesters Burn are in locations that are hidden from the floor of the Breamish Valley, which may be evidence of a conscious decision by these communities to conceal their presence. The GIS analysis demonstrates that large areas of prehistoric settlement and field systems adjacent to the Breamish Valley are hidden from a route along the valley floor (Figure 41). The GIS analysis shows that the large cairn field to the south of Brough Law is almost entirely hidden from view as are the majority of the defended settlements



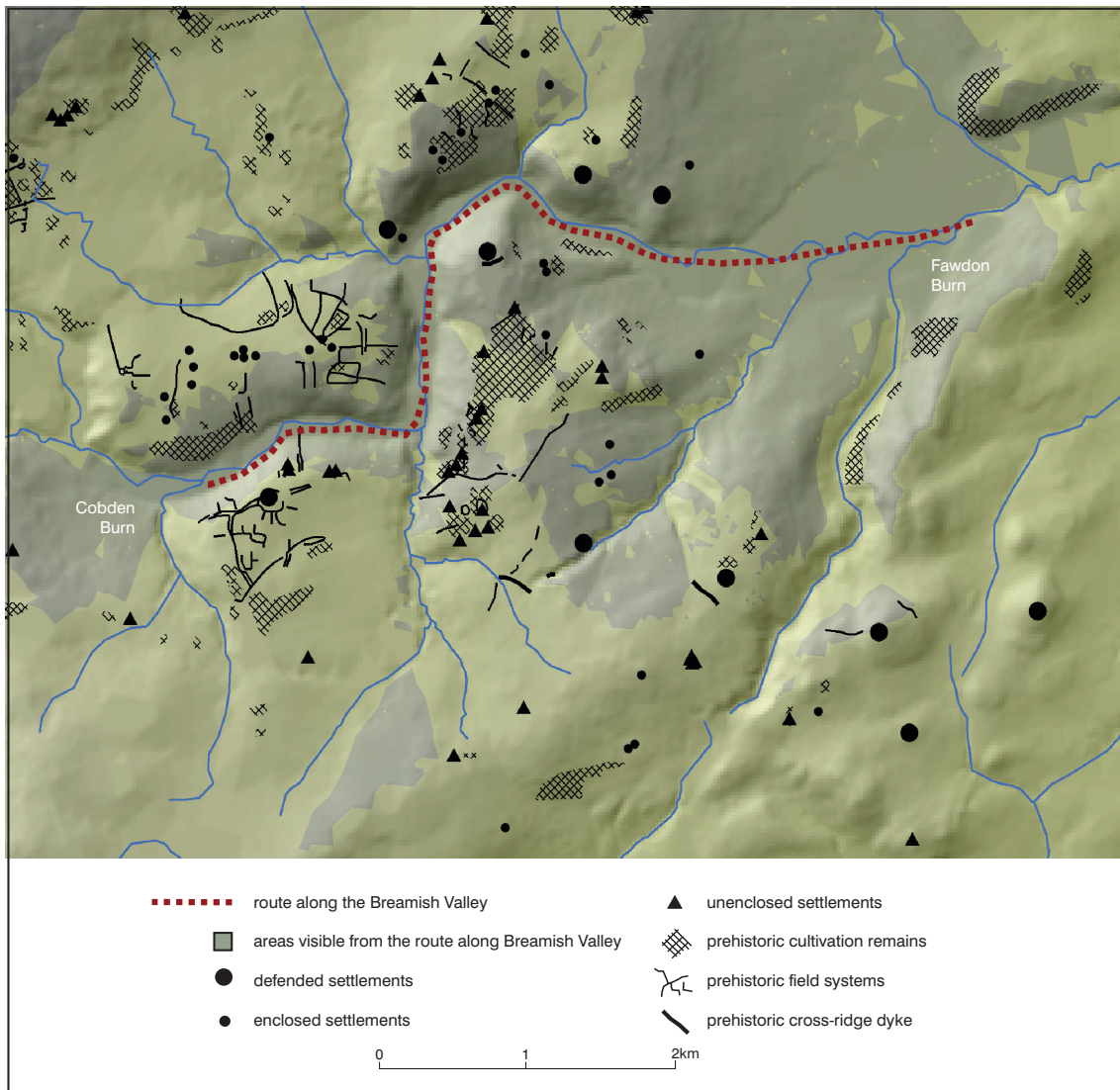


Figure 41: Map showing the ground visible from a c. 6.5km route along the Breamish Valley from the confluence of the River Breamish with the Fawdon Burn in the east to the confluence with the Cobden Burn in the west..

bordering the valley. With the defended settlements though, the GIS does not take into account the actual line of the defences or their original height, both factors which could change the results of the GIS visibility analysis for some of these sites.

As was mentioned in the introduction, the plan detail and attribute data in the GIS is not at a scale to allow detailed analysis of the relationship between individual features recorded by the SECP. However the GIS can be used to produce a picture of the changing focus of settlement by using a point-density algorithm to reveal 'hot spots' in the clustering of settlement across the SECP study area. The result is shown by settlement type and as an agglomeration of all prehistoric settlement evidence (Figures 42 & 43).

The distribution of palisaded settlements is clustered towards the western side of the SECP study area with the exception of the settlement at Old Fawdon, and the settlements buried beneath the fort on Wether Hill. Enclosed settlements show a marked distribution



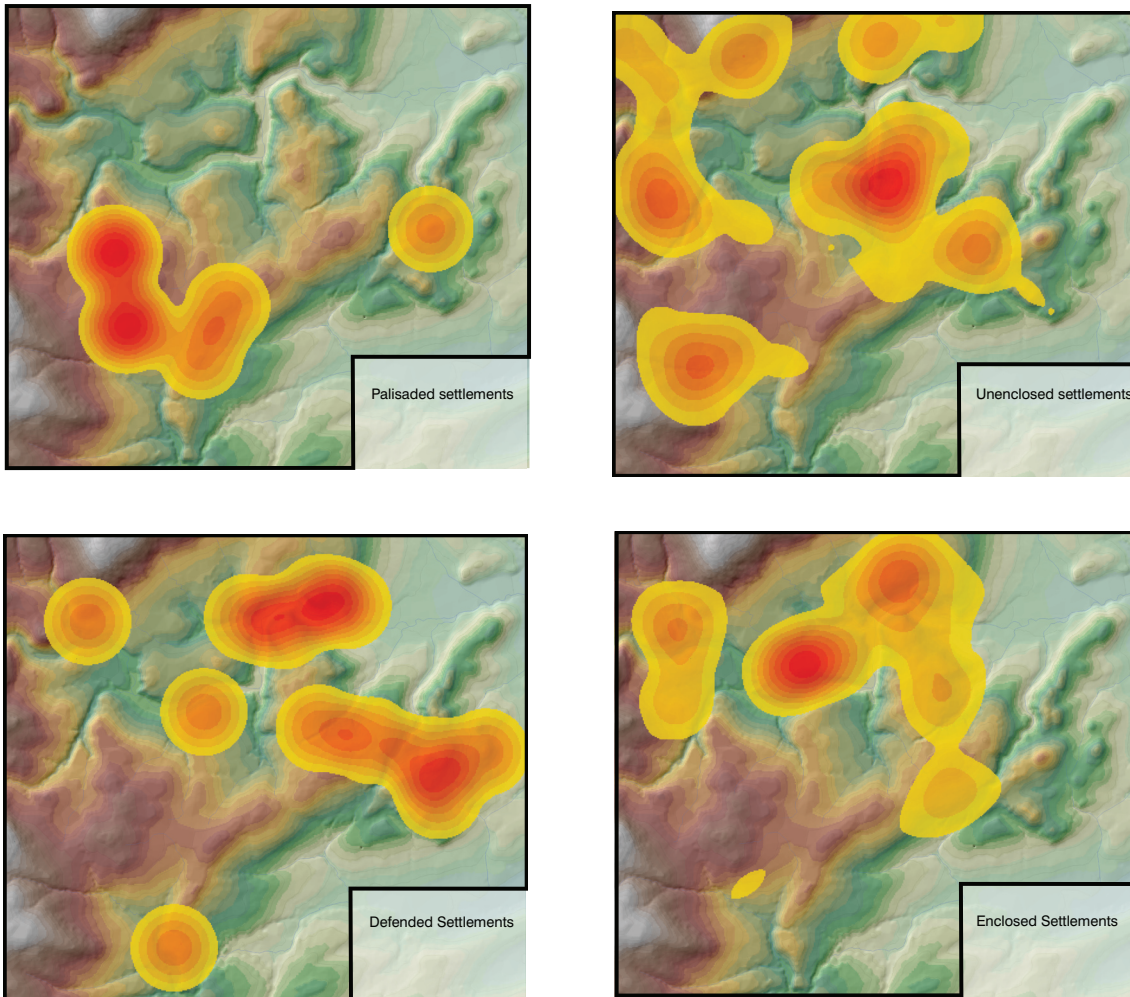


Figure 42: Map showing the cluster analysis model for palisaded settlements (top left), unenclosed settlements (top right), defended settlements (bottom left) and enclosed settlements (bottom right).

towards the north of the SECP study area, while unenclosed settlements have the widest distribution including encompassing the high ground to the west of the project area. The pattern of defended settlements is the most fragmented, hinting perhaps at the existence of mutually exclusive territories as discussed in the report.

Equally revealing is the point-density model for all prehistoric settlement sites within the SECP study area. Areas immediately adjacent to the Breamish Gorge emerge from this analytical model as being the most intensively settled parts of the SECP study area during the prehistoric period, emphasising possibly the importance of the gorge as a route to the west and into the interior of the Cheviot massif. The model can also be read as evidence of a spread of activity south-west to encompass the lesser routes provided by the valleys of the Middledean and Fawdon Burns. The model also clearly displays a distinct separation between the intensity of settlement around the Breamish Gorge and that to the west where the palisade and unenclosed settlements predominate. Adding the evidence for prehistoric cultivation and field systems to the point-cluster model does not remove the gap, suggesting it is a genuine void within the recorded distribution of prehistoric remains.

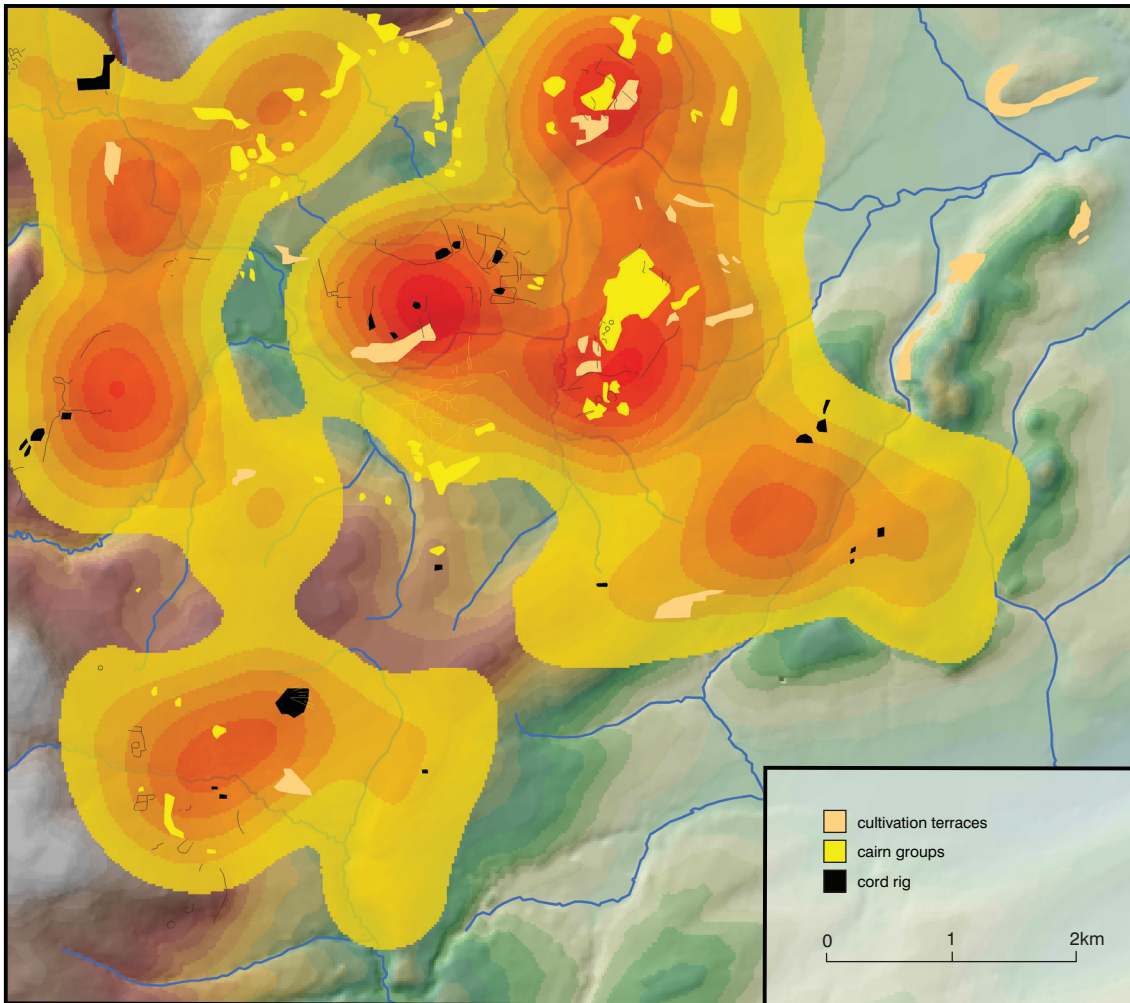


Figure 43: Map showing the cluster analysis model for all prehistoric settlements with the addition of evidence for prehistoric cultivation and field systems.

One possibility may be that it is due to the destruction of prehistoric evidence by medieval agriculture, and although some evidence for medieval field systems was recorded in the area, it is not intensive enough to explain the lack of prehistoric evidence (Figure 44). Other possibilities that are impossible to test at present might include natural vegetation, such as the presence of woodland creating a barrier to settlement in this area during prehistory, or that the division is the physical manifestation of political or territorial boundaries.

The reduction in the intensity of prehistoric evidence towards the lowlands to the east of the SECP study area can be explained by the effects of medieval and later agricultural practices causing the destruction of prehistoric surface remains, coupled with the deposition of colluvial materials in the valley bottoms obscuring earlier land surfaces. Both these points are raised in the main report.

#### 9.4 Conclusions from the GIS analysis

The main outcome of the GIS analysis has been to verify and further illustrate many of the

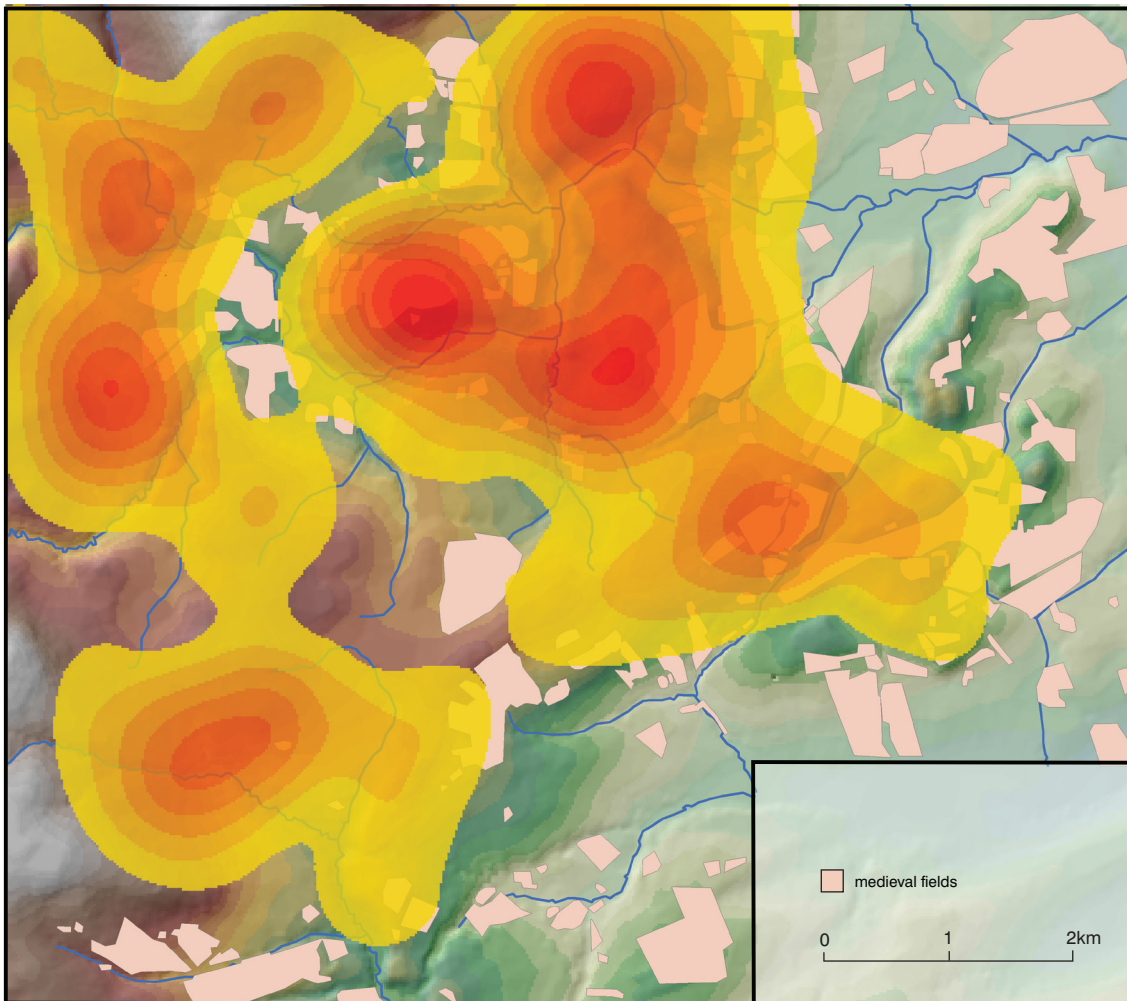


Figure 44: Map showing the cluster analysis model for all prehistoric settlement sites with the addition of evidence for medieval field systems.

observations and interpretations contained in the project archive report. One clear advantage to the archive report is that the GIS gives more precision in assessing values, (such as the height range of settlements) beyond what can be easily determined from the traditional archive and provides a statistical assessment which can validate field observations.

The GIS lacks the detailed information on individual sites derived from the fieldwork archive, but it has interpolated new information for each site such as the cost-distance to water and the distance to cairn groups. This provides fresh insights into the observed patterns of prehistoric field remains, showing distinct variations between the main categories of settlement and between settlements of the same category.

The investment of further time in information gathering from the fieldwork archive could make the GIS analysis more objective, but there is a limit to what can be done with the quality and content of the existing data sets. For example, to achieve the greatest objectivity in the location and elevation of sites would need data from survey grade GPS, but this would also need to be matched by a greater precision in the modelling of the landscape which would need another commissioned airborne survey.



Perhaps the most interesting results from the GIS analysis are the questions it poses for future research. Do defended sites contain evidence for earlier palisaded settlements as the GIS analysis suggests – and is demonstrated at Wether Hill? Do the higher altitude unenclosed settlements contain any evidence that might point to a transhumance economy? Is there any correlation between access to water and settlement size? What are the explanations for the apparent gaps in the distribution of evidence for prehistoric activity?

This exercise has shown that GIS is capable of providing fresh insights in to 'old' field survey data with the caveat that the level of analysis possible is commensurate with the scale and quality of the original record. It provides a case study for the AS&I team in the use of some of the many analytical tools contained in ArcView GIS. Hopefully, above all, it shows the potential of GIS for future projects of a similar character to SECP in the creation of new data and the framing of research questions to take back out in to the field for investigation.

## 10 DISCUSSION

When SECP was initiated in 1984, settlement chronology was limited to 6 <sup>14</sup>C dates from the project area, and these from three different sites: a hillfort (1 date from Brough Law; Jobey 1971), a palisaded enclosure (1 date from Ingram Hill; Jobey 1971) and an unenclosed settlement (4 dates from Standrop Rigg; Jobey 1983). Alongside this, the major interpretative tool used to contextualise settlement development was the 'Hownam Sequence', developed from excavation data recovered from the eponymous site by Mrs Piggott in the 1940s (Piggott, CM 1948). However, more recent fieldwork has challenged this traditional sequence as too simplistic and not taking into account the long chronologies of certain site types such as palisaded enclosures. In addition, examples of variation to the Hownam sequence have been recorded at Wether Hill (Topping & McOmish forthcoming) and Hayhope Knowe amongst others (Piggott 1949), where an unenclosed group of roundhouses were placed over the abandoned defences at the former site, and a series of plots of cord rig was imposed across the palisaded enclosure at the latter, with a larger field downslope. Clearly settlement development was defined by localised events and drivers, and although there are some common features to the process, settlement change as a cultural phenomenon was not uniform in the Tyne-Forth region.

The Breamish - Alnham landscape provides a number of examples where field remains can be used to sketch their social context. Firstly, certain groups of small cairns suggest an organic development as on the Brough Law ridge above Chesters Burn. The scattered nature of the unenclosed settlements at these sites suggests the temporal and spatial movement of extended family groups through settlement shift and/or the *ad hoc* intakes of new plots being added to existing landholdings, thus gradually increasing the overall area of land-use. Such strategies may have been developed to counter soil depletion in similar ways to those recorded in the ethnography of non-industrialised communities during the 19<sup>th</sup> and 20<sup>th</sup> centuries (e.g. Gailey & Fenton 1970). The fact that the groups of cairns gradually spread over an increasingly large area implies either that a stable population was moving across the landscape and farming a similar sized field system, or that there was an incremental increase in the size of the agriscap and thus the carrying capacity of the land. If this is correct, then this scenario implies a potential population growth amongst the farming communities over time. The integration of burial monuments – if contemporary - amongst these farming zones at Brough Law and Reaveley Hill implies that the veneration of the dead was built into the cultural landscape, thus embedding an ancestral presence firmly amongst the fields and pasture, and sedimenting the past into the present. Interestingly, many of the sites on the Brough Law ridge and the W-facing slopes of Chesters Burn would have been hidden from view by the topography from anyone approaching the Breamish Valley from the low-lying Fell Sandstones to the E. If this was a conscious locational choice, it has implications for the nature and self-confidence of the groups inhabiting the ridge and suggests a desire to remain inconspicuous if not secluded. Such a preference might imply that local social interaction was difficult, or that communities had to be cautious about identifying their presence in the landscape.

In contrast to the model suggested above, small clustered groups of cairns also exist at



High Knowes and elsewhere, which may depict the more episodic use of the land over a shorter timescale. In addition, excavations at High Knowes again discovered that some cairns contained burials, suggesting similar ideological frameworks to the examples at Brough Law Ridge and Chesters Burn. The cairn groups are generally juxtaposed with unenclosed settlements, and thus by analogy with sites such as Houseledge/Black Law and Standrop Rigg, implying a later Bronze Age phase of land-use. However, at High Knowes the assemblages recovered from the excavations also raise the possibility that some cairn groups might be associated with Iron Age colonisation.

The examples of irregular field systems also suggest organic growth, as at Chesters Burn 1 (cf. also Gates 1983, 134), Standrop Rigg (cf. also Jobey 1983), Linhope Burn (Topping 1993a) and Knock Hill. These sites appear to illustrate the *ad hoc* development of land-use strategies as enclosures are built, cairn groups extended (Chesters Burn 1), or terraces re-aligned then overlain by field boundaries (e.g. Knock Hill, Chesters Burn 2), or terraces overlain by settlements (Ritto Hill). Such intakes gradually increased the area of land-use and allowed the development of settlement clusters, creating village-like agglomerations as can be seen at Knock Hill, suggesting again a gradual increase in population over time, including the possibility of settlement shift as settlements were abandoned. Burial monuments are also located amongst the field systems, for example at Knock Hill and Chesters Burn 1. However, unlike the cairn groupings on the Brough Law Ridge, the irregular field systems associated with Cheviot-type or scooped settlements (Knock Hill, Haystack Hill, Hartside Hill) are located in highly visible locations at mid or upper valley slopes, and would have been readily in view to anyone travelling up the Breamish Valley. Chronologically, this phase of land-use probably relates to a later Bronze Age to Iron Age continuum, allowing for the current poor understanding of the date range of stone-built enclosed settlements in the Cheviots.

The regularly-planned, structured field systems, including co-axial types, imply a more coordinated land-use strategy (e.g. Grieve's Ash, Hartside Hill), which underpins the development of village-like settlement agglomerations (Hartside Hill, Wether Hill, High Knowes). Such a scenario implies both population growth and a greater degree of social cohesion and articulation. Clearly these field systems arose from a pre-determined concept which then led to systematic land intake and a regularised field pattern, some of which will have been undertaken as a single enterprise but other examples will have grown incrementally, but to a fixed plan.

Several of these field systems focus upon, or spring from, hillforts. This implies the presence of settlement or community hierarchies which were underpinned by an agricultural surplus and that communal wealth was then invested in elements of structural display at the forts (e.g. Grieve's Ash, Prendwick Chesters, Middledean Burn). Interestingly, this phase of systematic land-use provides less evidence of burial integrated monuments amongst the landscapes (e.g. Grieve's Ash, Wether Hill). If the excavations at Wether Hill can be extrapolated, then some of the evidence for agricultural activity juxtaposed with hillforts will date from the later first millennium, or Middle to Late Iron Age (Topping & McOmish forthcoming). The difficulty with this evidence is that it only provides a 'snapshot' of the chronology at Wether Hill, with some echoes at Brough Law, thus may not necessarily be a widely applicable model – particularly as little evidence

currently exists to support the presence of earlier forts in this area. This phase of land-use was typified by intensified forest clearance as documented in the pollen record, with evidence for increased settlement and expansion into the uplands (Tipping 1994, 33).

Following abandonment, a number of forts were eventually 're-colonised' by new 'intrusive' settlements, either groups of demonstrably later roundhouses, or enclosed settlements which overlap the defences (e.g. Oswald et al 2000; RCAHMS 1997, 160). This observation accords well with the evidence from Wether Hill, where the <sup>14</sup>C chronology suggests that the fort had been abandoned for some 60 years before the construction of the group of unenclosed Late Pre-Roman Iron Age stone-built roundhouses which partly overlapped the defences (Topping & McOmish forthcoming).

As to when this phase came to an end, it is difficult to be precise. Some small assemblages of Roman artefacts have been recovered from settlements such as Hetha Burn I (cf. Burgess 1970; perhaps best regarded as trade goods or 'gee-gaws' of the type dispensed by many colonial powers), which combined with the current palaeoenvironmental evidence suggests that the impact of Rome upon these upland landscapes was slight (cf. Young 2004). Unlike southern England, there was a demonstrable indifference to Roman lifeways. Certainly in the northernmost counties of England (Cumbria, Durham & Northumberland) there is not the scatter of villa sites or Romanesque buildings, nor the rich burials with imported artefacts so readily found in the south. The suggestion that certain rural settlements were deliberately spaced by Roman planning for the purposes of agricultural production cannot be easily sustained because of the lack of chronological precision for such settlements in the Cheviots – and could just as easily be explained by settlement shift. This imprecision is highlighted by a lack of diagnostic change in the settlement record, so much so that it is possible to suggest continuity beyond the Roman period at settlements such as Crock Cleugh (Steer & Keeney 1948) and Hownam Rings (Piggott 1948), where occupation appears to have continued into a sub-Roman phase without stimulating any form of structural change to the settlements. If the cultural shift from Roman to sub-Roman settlement is thus clouded in uncertainty and imprecision, then it is even more so during the transition to the Anglo-Saxon settlement pattern. It may be that it is not until the full impact of Anglo-Saxon material culture began to influence the settlement record at Yeavinger and elsewhere, that a cultural metamorphosis developed which led to a change in settlement form at a time when the new kingdoms were being forged to fill the political void left by Roman influence.

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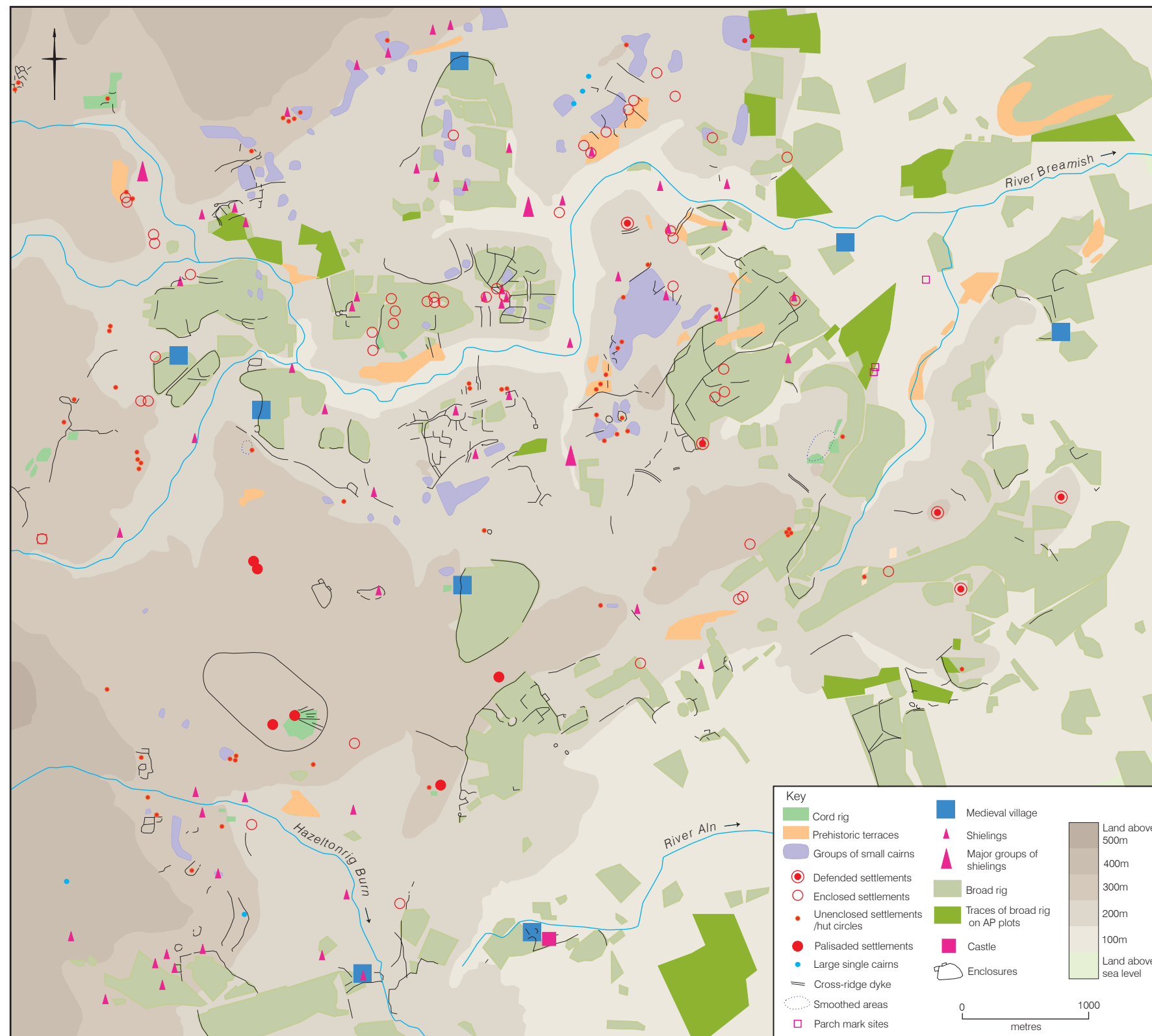


Figure 3: The multi-period landscape recorded by the South East Cheviots Project



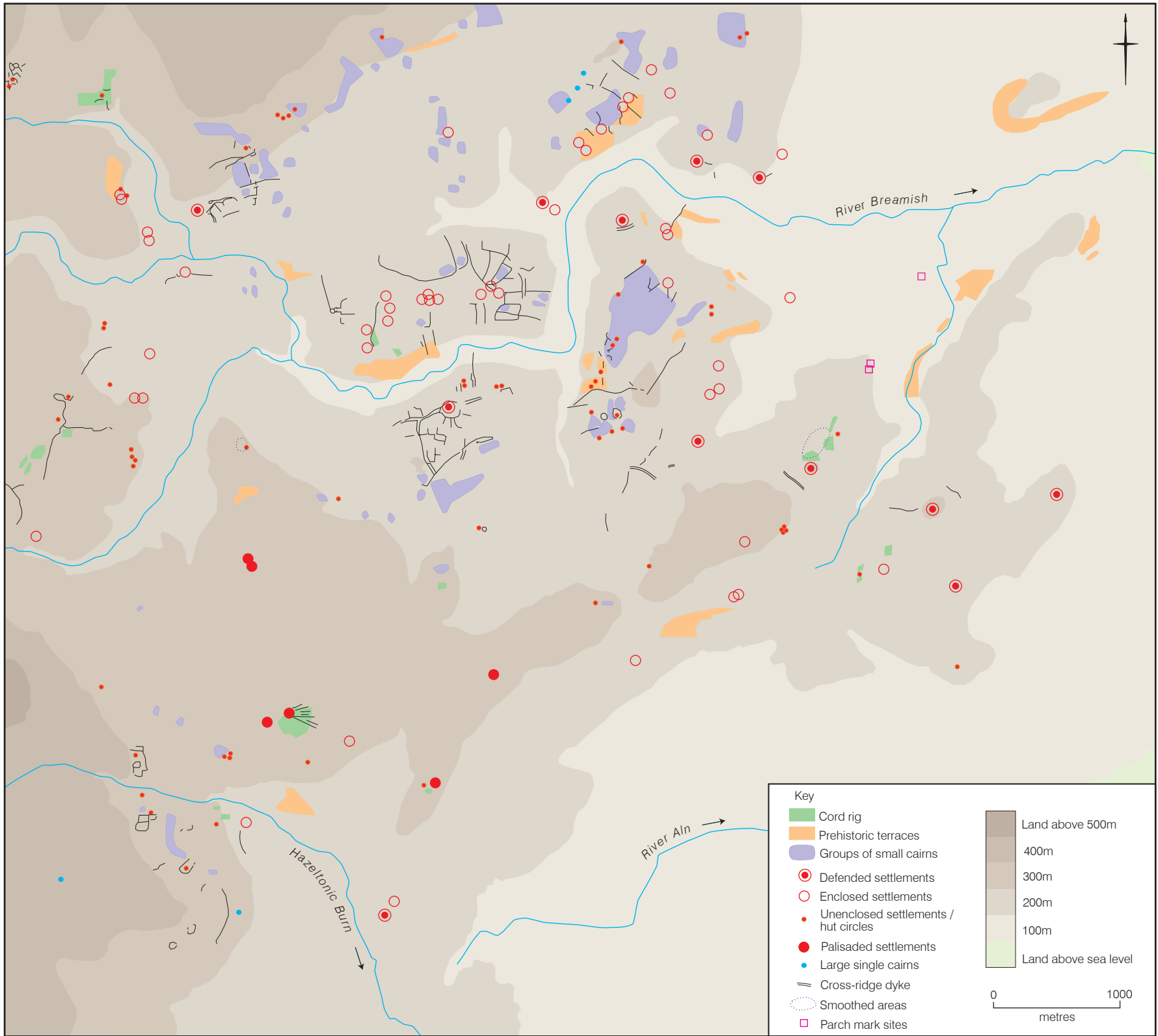


Figure 4: The prehistoric landscape abstracted from the South East Cheviots Project.



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