ArcHeritage

CARL WARK HILLFORT, HATHERSAGE, DERBYSHIRE: CONSERVATION MANAGEMENT PLAN

CONSERVATION MANAGEMENT PLAN

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Carl Wark

once, hands tended
this place: cleared rock,
stacked and propped.

made walls, and a way
through; pitched
family and flock

on thin turf; drank
peat-water the colour
of bronze.

here they bedded
down on bracken, under
rafters of birch.

this hollow, a fire
where they warmed
and nursed

wept at life's losses,
as pots broke
and the barley spilled.

and here, on this ledge
of stone, thrown together
by uplift and ice scour,

they danced and sang; gave gifts.
here, fist flew, fury fell,
and their line was cleft.

By Melanie Giles

SUMMARY

This document is a Conservation Management Plan for Carl Wark hillfort, commissioned by the National Trust. The hillfort is a Scheduled Ancient Monument located on Hathersage Moor in the Burbage Valley, part of the Sheffield Moors. The Plan is divided into clear sections for ease of use, and is intended to guide and inform the ongoing management and approach to Carl Wark. Surveys were undertaken to establish the ecological and archaeological baseline and to identify conservation issues. Known archaeological sites within 1km of the hillfort are also discussed, to consider the site in its local context, as well as a summary of previous accounts and archaeological fieldwork at the site.

Carl Wark is an enigmatic site, being a natural gritstone promontory accentuated by stone walling on the south and east sides and a massive turf-built rampart with drystone facing on the easier western approach. The site is generally considered to be a slight univallate hillfort, likely to date to the 1st millennium BC, but its unusual form and an absence of secure dating evidence means that this has always been open to interpretation. Excavations at the fort in 1950 were never fully published, and no clear evidence for the date of the site was produced. Theories for a Neolithic or early medieval origin for the monument have been postulated, and it is likely that the site's dramatic appearance and setting would have made it a significant location throughout the history of human activity in the valley.

The Plan discusses the range of current uses of the site, such as walking and climbing, along with their potential to impact on the ecological and archaeological resource. A series of management policies are proposed, as well as recommendations for further work to enhance the understanding of the site and opportunities to engage the public in the conservation of the monument.

1 INTRODUCTION

1.1 Introduction

This document is a conservation Management Plan for Carl Wark, in the Burbage Valley. Carl Wark is a Scheduled Ancient Monument (SM). The Plan was commissioned by the National Trust, with funding from Natural England as part of the Higher Level Stewardship Scheme (Ref AG00540911), and was produced by ArcHeritage. The Plan is divided into clear sections for ease of use, and is intended to guide and inform the ongoing management and approach to Carl Wark. The Plan has been made with reference to existing wider strategies and managements agreements for Burbage Moors, which are detailed in Section 1.

1.2 Methodology

A Specification for the Plan was produced by ArcHeritage and was approved by the National Trust and Natural England, in consultation with the Peak District National Park Authority's Archaeology Service. The plan has been produced with reference to relevant guidance, including *Conservation Plan Guidance* (HLF 2012), *Conservation Principles: Policies and Guidance* (English Heritage 2008), and *Conservation Plans for Historic Places* (HLF 1998). The collection of baseline data undertaken to inform the Plan included desk-based assessment, consultations, aerial photography, archaeological survey and a Phase 1 habitat survey.

1.2.1 Desk-based assessment

The desk-based research was undertaken to gather all available evidence about the site, including recorded archaeological sites and findspots, historic data, aerial photographs, previous research and surveys. It was undertaken in line with the standards and guidance produced by the Institute for Archaeologists (IfA 2012).

Information on recorded archaeological sites within 1km of the site was obtained from the South Yorkshire Sites and Monuments Record (SMR) and the National Trust SMR, as well as online sources such as Heritage Gateway and PastScape. The Peak District National Park Authority and English Heritage were also consulted, as were the Hunter Archaeological Society. Relevant documents, databases and secondary sources, published and unpublished, were consulted, along with previous archaeological surveys covering the site. Historic aerial photographs of the site were collected from SYAS.

Data were collected from the following sources:

- South Yorkshire SMR;
- National Trust SMR;
- Peak District National Park Authority (PDNPA);
- PastScape;
- Heritage Gateway;
- Multi-Agency Geographic Information for the Countryside (MAGIC);
- Derbyshire Record Office;
- Sheffield Archives;
- English Heritage;
- Matlock Local Studies Library;
- Sheffield Local Studies Library;

- University of Sheffield Library;
- Sheffield Museum;
- Institute of Archaeology, University of Oxford;
- Current and former staff of the Department of Archaeology, University of Sheffield;
- Hunter Archaeological Society;
- British Geological Survey online;
- ArcHeritage library.

Buxton Museum were consulted during the project, but no response was received.

1.2.2 Consultation

A large number of individuals, organisations and groups have either a direct involvement or an interest in the site. A very thorough consultation process was undertaken as part of the Sheffield Moors Masterplan (2013) which covers the Burbage Valley and Carl Wark. Key individuals representing the National Trust, the Peak District National Park Authority, the RSPB, The British Mountaineering Council, Sheffield City Council, the Universities of Sheffield and Manchester and English Heritage were additionally consulted during the production of this Conservation Management Plan, specifically concentrating upon Carl Wark itself.

Plate 1: Remote-operated helicopter ready for take-off

1.2.3 Archaeological survey

The site has been examined by a number of archaeologists in the past (see section 2 below) but has never been subject to a detailed measured survey. It was decided that the most appropriate method for recording the archaeological and natural features that form the monument, and the current condition of the site, would be to take high resolution aerial photographs. The site was flown on 28th April 2014 by Greg Colley of Suave Aerial Photographers using an unmanned helicopter drone with a digital camera. Assistance was provided by ArcHeritage staff and the National Trust Ranger for Burbage Valley. Permission for

flying was gained from the National Trust and Natural England; the flight heights and duration were designed to minimise impact upon any nesting birds which may be present in the area.

The resulting aerial photographs were used to generate a single vertical image of Carl Wark and its immediate surroundings. Images were taken back into the field and used as the basis for a detailed walkover survey; the purpose was to examine and record previously known features and to identify any new archaeological features. Erosion, other damage, major and minor footpaths and key views were also recorded. In addition, the aerial images were processed using leading photogrammetry software to create a digital terrain model; scale was determined using fixed points measured on the ground. The model was used to generate a cross section through the monument to give a better understanding of the landform. The entire photographic record will be deposited with the project archive supplied to the National Trust.

1.2.4 Habitat survey

The Extended Phase 1 habitat survey was undertaken by PBA Applied Ecology. The full survey report is included in Appendix 4. The extended Phase 1 survey is part of a widely employed hierarchical system of ecological assessment of planned development projects (IEEM 2012). The standard Phase 1 habitat mapping practice is 'extended' to highlight features of apparent or potential ecological significance. The habitat survey comprised the mapping of vegetative communities present on the site, with a brief visual inspection of the wider local area to identify the suitability of the surrounding area for protected species. The land within and surrounding the site was examined for signs of the likely presence of protected species, such as badgers, bats, breeding birds, amphibians and reptiles. The extended Phase 1 survey was undertaken in line with standard practice (JNCC 2010). It is noted that the mid-March date of the survey was not at the optimum time for vegetation survey, though spring vegetation had begun to emerge.

2 UNDERSTANDING THE SITE

2.1 Site location, geology and topography

Carl Wark is located on Hathersage Moor, within the Peak District National Park, at NGR SK 2594 8145. It is 2.5km east of Hathersage, 1.3km northwest of Fox House and 11km southwest of Sheffield City Centre (Figure 1). The land is owned by Sheffield City Council and is currently managed by the National Trust, and forms part of the 21 square miles of upland landscape covered by the Sheffield Moors Partnership sometimes referred to as Sheffield's 'golden frame'. The Sheffield Moors are an area of sparsely settled gritstone uplands to the southeast of the Dark Peak plateau. The moors are defined as Open Access Land within the Countryside and Rights of Way (CROW) Act of 2000, and the proximity to Sheffield means that they receive high numbers of visitors, being popular with walkers, climbers and mountain bikers.

The hillfort is located on a natural promontory of Chatsworth Grit sandstone, one of several in the area which stand above the surrounding land where the bedrock comprises more easily eroded Marsden formation mudstone and siltstone. The Chatsworth Grit and Marsden formation deposits were formed approximately 314-315 million years ago in the Carboniferous Period. The superficial deposits comprise Head with boulders, formed up to 3 million years ago during the Quaternary Period (BGS online).

The Carl Wark promontory is located 380m above Ordnance Datum (aOD), and is 230m long and 60m wide, with a relatively level surface. There are cliffs or steep slopes on the north, east and south sides, with a more gradual slope on the west side (Plate 2). It is overlooked by Higger Tor, 400m to the northwest, which stands at a height of 434m aOD. The area is characterised as open moors and the habitats within the site comprises upland heath and dry acidic grassland dominated by grass, heather and bracken. Surrounding habitats include upland heathland, dry acidic grassland, fens and plantations.

Plate 2: Aerial view of Carl Wark showing the northern and eastern cliff edges

2.2 Designations

Statutory and non-statutory designations are discussed in more detail in the relevant sections below, but to summarise, the site falls within the following designations:

- Scheduled Ancient Monument (SM)
- Eastern Peak District Moors Site of Special Scientific Interest (SSSI)
- Environmentally Sensitive Area (ESA)
- South Pennine Moors Special Area of Conservation (SAC)
- The Peak District Moors – South Pennine Moors Phase 1 Special Protection Area (SPA)
- The SAC and SPA form part of the Europe-wide Natura 2000 network of internationally important sites for habitats and birds.

2.3 Ownership, management & stakeholders

The history and current ownership and management of the site and its environs is complex. Carl Wark lies in Burbage Valley, within Burbage Moors, and this land is owned by Sheffield City Council (SCC) as part of Sheffield Moors. It lies within the boundaries of the Peak District National Park (PDNPA).

2.3.1 Sheffield Moors

The 'Sheffield Moors' is a name for several areas of gritstone upland and moorland which are in public or charitable ownership. Each of these moors are currently already managed by a variety of organisations, and each has (or will soon have) its own management plan. The Sheffield Moors as a whole now has a Masterplan (2013-18) which has been drawn up by the Sheffield Moors Partnership. The Partnership is formed of the PDNPA, National Trust, RSPB, SCC, Sheffield Wildlife Trust and Natural England. A large consultation exercise was conducted as part of the masterplanning, and a full list of the 51 stakeholders involved in production of the Masterplan is contained within its Appendix 1. The Sheffield Moors Masterplan was designed to provide an overarching strategy at a wider landscape scale and to improve the connections (for people and wildlife) between each moorland site. Detailed management schemes for each moorland will be provided by their respective management plans.

2.3.2 Peak District National Park

The site falls within the Peak District National Park, which has a published Management Plan (2012-17). This clearly sets out the PDNPA's vision, delivery outcomes and performance measures. The PDNPA has also produced a detailed Peak District National Park Landscape Strategy and Action Plan 2009-19 (the Eastern Moors are covered by pages 148-165 of the Action Plan).

2.3.3 National Trust and Natural England

The National Trust currently manages Burbage, Houndkirk and Hathersage Moors on a temporary arrangement with Sheffield City Council; NT and SCC are currently negotiating the terms for a long-term lease on the site. A moorland Management Plan for Burbage Moors is currently being drawn up by the National Trust and Natural England. This Carl Wark Conservation Management Plan provides specific detail on Carl Wark itself and should be referenced in the forthcoming Burbage Moors Management Plan.

A High Level Stewardship Agreement is in place for the area (Ref AG 00540911). The production of the Carl Wark Conservation Management Plan is part of the programme for the protection of historic and archaeological features (HAP), listed as item HAP1 in the HLS agreement.

2.4 Access to the moors

The Sheffield Moors, and the local people, have played a crucial role in the campaign for public access to the open countryside. The Sheffield Moors Masterplan celebrates the passion and the strong sense of ownership that people have of the area, and the impact that this had has on the access to land across the whole of Britain.

The enclosing of upland commons and wastes by Acts of Parliament and the creation of grouse moors had meant the loss of public rights (such as grazing and the collection of fuel) and access to many upland areas (Hey 2014). David Hey notes that the Duke of Rutland employed 'watchers' and hostile gamekeepers on his land to prevent people using some former rights of way (Hey 2014:19). Hey also includes a quote from Chas Chandler (1913) who wrote that Carl Wark

> '..is more effectively protected now than ever it was in the days of the Ancient Britons. Every path leading to it displays a 'Trespassers will be prosecuted' notice....The fort and the Tor are

> now preserved for grouse and rabbits, which are very plentiful in that valley of desolation where men rarely walk.' [from 'Sheffield Telegraph' Rambles 1913]

Following enclosure, the moors and uplands around Sheffield and Manchester played an important role in the history of protest about access to land, perhaps the most famous (and much-debated) actions of which relate to the mass trespass held between Hayfield and Kinder in 1932 (Hey 2014). This mass trespass has perhaps come to represent a much wider lobbying access movement that was already well established; at the time many of the rambling associations did not support the more negative connotations of the Kinder trespass, although there was subsequently strong opposition to the overly harsh prison sentences that were handed down to five of the men who were arrested (Hey 2014).

In the 1920s and 30s Sheffield people had continued to play a pivotal role in the movement to access campaigning, and the Sheffield Clarion Ramblers and other interest groups were prominent, being involved with national organisations such as the (then) Council for the Preservation of Rural England and what became the Ramblers Association. The National Parks and countryside Act of 1949 led to the formation of the Peak District as the first National Park in Britain (Hey 2014). Through the later 1950s, public rights to roam were gradually granted by landowners over parts of the upland areas (such as Kinder Scout and Bleaklow) and following continued pressure and lobbying, in 2000 the Countryside and Rights of Way Act finally granted people the right to roam over all unenclosed land in Britain (e.g. Hey 2014).

2.5 Heritage

2.5.1. Heritage designations

Carl Wark, a slight univallate hillfort of unknown date, is designated as a Scheduled Ancient Monument (SM 1017504; see Appendix 3 for details). There are six further SMs within a 1km radius of the site, including two prehistoric field systems (Winyards Nick, SM 1017588, and Toad's Mouth, SM 1017507); a ring cairn (SM 1017589), and at least three probable burial cairns (SMs 1016754, 1018069 and 1017590). All six of these SMs are considered likely to be of Bronze Age date and relate to agricultural settlement and ritual practice.

There are two listed buildings within a 1km radius of the site, both grade II listed bridges. A packhorse bridge crossing Burbage Brook 300m to the east of the site (LB 1255107) is thought to be 18th century in date and is associated with packhorse routes linking Sheffield, Hathersage and Grindleford. Lower Burbage Bridge (LB 1255074) is located 700m to the south of Carl Wark and was constructed *c*.1758 as part of a turnpike road from Sheffield to Buxton, via Hathersage. The locations of the designated heritage assets are shown on Figure 2.

2.5.2 Archaeological and historical background of the area

A gazetteer of recorded archaeological sites and findspots has been compiled from a number of sources, including the South Yorkshire SMR, Derbyshire HER, the National Trust SMR, previous archaeological surveys and the survey undertaken during the compilation of this Plan. This is presented in Appendix 1, with the locations of the sites shown on Figure 3. The gazetteer includes the designated heritage sites described in Section 2.5.1. There are nine recorded heritage assets within a 500m radius of Carl Wark and a further 49 within a radius of 500m to 1km. Sites are referred to in the text by their gazetteer numbers (e.g. site 12). This section presents a summary of the archaeological and historical background of the area

surrounding Carl Wark by period. A detailed summary of the site itself is contained in Section 2.6.

Mesolithic (8300-4000 BC)

The presence of human activity in the area in the Mesolithic period is indicated by finds of flint and chert tools and manufacturing debris. Within the 1km search area, these have been recorded as surface finds, sometimes as chance finds and also as the result of organised field walking following major moorland fires. Mesolithic flint artefacts have been found to the north and west of Carl Wark, including from the slopes below Higger Tor (site 54) and in the vicinity of Winyards Nick (sites 41, 43 and 46). Waste flakes from chert working were included in the material from below Higger Tor, possibly indicating a site of tool manufacture.

Palaeoenvironmental studies indicate that the area would have largely been covered by deciduous woodland in the Mesolithic period, with naturally clear areas at the gritstone edges and blanket peat forming in water-collecting areas (Kitchen 2000, 80-81). The edges would have formed routeways through the forested areas for groups of hunter-gatherers, as well as viewpoints for looking over the landscape. Prominent landscape features would have provided valuable way-markers for navigation, and may also have been ascribed spiritual significance.

Neolithic (4000-2300 BC)

Palaeoenvironmental evidence suggests that the clearance of woodland may have been more extensive during the Neolithic period, both through the expansion of bogs and valley mires with grassland on their margins, and through human activity, with the adoption of arable and pastoral farming. It is likely that Neolithic communities would have remained relatively mobile, with seasonal movement around a defined landscape. This may have included the summer pasturing of animals on uplands as well as the gathering of extended groups for communal activities (Barnatt and Bannister 2009, 20). The only definitive recorded Neolithic find within the 1km search area is a leaf-shaped arrowhead from surface collection near Winyards Nick (site 41), though it is possible that the prehistoric field systems within the area may have originated in the later Neolithic period.

Bronze Age to Iron Age (2300-700 BC; 700 BC-AD 43)

Sixteen known archaeological sites and findspots within the 1km radius search area are thought to date to the Bronze Age to Iron Age. Most of the sites have been dated by comparison with excavated examples elsewhere in the Peak District rather than through archaeological fieldwork. The largest sites are the cairnfields at Winyards Nick and Toad's Mouth, both SMs. Both these sites represent areas of land cleared of stone for agriculture, with the stones piled into mounds known as cairns, or into linear clearance banks that may mark the lines of hedges defining the edges of fields or enclosures. Similar fields have been recorded at a number of sites across the Eastern Moors, such as at Big Moor and Gardom's Edge, and they generally occupy slightly sloping land with soils that would have been light and easily tilled during prehistory (Barnatt 2008, 45). Excavation at similar sites in the Peak District suggests that the small, dispersed settlements with field systems originate in the early Bronze Age, with at least some being established in the late Neolithic, and occupation may have continued through to the end of the Iron Age (Barnatt 2008, 43; Wilson and Barnatt 2004; Long *et al*. 1998, 516). Many of the field systems are likely to represent the collective result of many generations of agriculture (Barnatt 2008, 50).

Excavations of clearance cairns in the Peak District has indicated that a few contain fragments of burnt bone, though these represent a minority, with the excavations at Gardom's Edge revealing bone in around 5% of the excavated cairns (John Barnatt, pers. comm.). Cremated bone has also been found in association with linear clearance banks, as at Eaglestone Flat (Barnatt 2008, 43). Deposits of burnt bones were recorded from the opening of several 'small tumuli' in the vicinity of Carl Wark in 1826 by Samuel Mitchell (Bateman 1848, 27); however, there is no information to allow the accurate location of these cairns or the relative proportion of the cairns containing bone.

The deposition of human remains within cairns may have helped to anchor a group of people to a particular place, establishing an 'ancestral' claim to the land. This is also thought to be a factor in the construction of burial mounds and ring cairns, monuments associated with activities revolving around death and burial. These are generally located on the edges of the fields, suggesting the fields pre-date the construction of the monuments, and that these monuments are likely to have been associated with particular farming 'families' (Barnatt 2000, 4; 2008, 58).

Winyards Nick field system is a small area of cleared land located on a dipslope at approximately 345-375m aOD (site 44), 400m to the southwest of Carl Wark. The southern and western edges are partially delineated by a fragmentary stone bank, in places splitting into two parallel lines that could define a trackway. There are 14 cairns near the edge of the cleared zone, as well as three just 80m to the west of the Scheduled Area (site 42). Two or three conjoined cairns lie 80m to the north of the Scheduled Area (site 47, SM 1018069) and another 100m to the southwest (site 40). An isolated cairn is located 300m to the north (site 48, SM 1017590). These outlying cairns may be burial mounds rather than associated with clearance (Barnatt 1986, 32). The cairnfield is crossed by packhorse routes running through the notch of Winyards Nick.

Toad's Mouth field system (site 30) is located 480m to the south of Carl Wark, on a gentle south-facing slope of a low tor. The site comprises a compact cluster of at least 70 cairns, varying between two to ten metres in diameter. In the northwest corner there are some lynchet-like features, with short stretches of clearance banks further down the slope (Barnatt 1986, 32). These boundaries suggest the site relates to agriculture rather than a purely funerary site, though the size of some of the cairns is suggestive of burial mounds. A further cairn or barrow is located 250m southwest of the cairnfield (site 33, SM 1016754).

Only one potential hut site has so far been identified at either Winyards Nick or Toad's Mouth, though these features are often ephemeral and may be hidden by vegetation coverage. Buildings recorded at Gardom's Edge were of timber construction with no stone footings, and some had no visible surface indications (Barnatt 2008, 52). The Hunter Archaeological Society Index records a hut floor, hearth and flint working site a short distance to the south of Winyards Nick (site 103). These features were recorded in the early 20th-century and the record states that they were at least partly destroyed during work to prevent moorland fires in 1959. A possible hut site was recorded during the Burbage Moors survey in 2006, between the two field systems and close to a small brook (site 8). A ring cairn is also located between the two groups of fields (site 35, SM 1017589), as is a probable burial mound (site 36).

Other Bronze Age sites within the search area comprise flint artefacts recovered through field walking or as chance finds. A flint blade of probable early Bronze Age date was found in the immediate vicinity of Carl Wark (site 2), and Bronze Age flints were among the assemblages recovered to the north, west and south of Winyards Nick (sites 41, 46, 103).

Whilst the date of construction of Carl Wark is currently unknown, the majority of sources consider the site to be a promontory fort of late Bronze Age to early Iron Age date. This would probably make it contemporary with the activities at Winyards Nick and Toad's Mouth field systems, which, as noted above, may have been occupied between the late Neolithic and the later Iron Age.

Romano-British (43-450 AD)

No sites or findspots of definitively Roman date have been found within the 1km search area. As mentioned above, the field systems may have continued to be used during the Iron Age, with changes in climate resulting in the land becoming unsuitable for agriculture in the Roman period. There is a general lack of evidence for occupation on the gritstone uplands of the Peak District in the Romano-British period (Barnatt and Smith 2004, 41). The postulated route of a Roman military road between forts at Brough and Templeborough crosses the search area, but no clear evidence for this has been found on the ground. Bevan (2006, 9) states that the route has been postulated on the basis that it 'should be there', rather than from any material evidence. A length of raised causeway identified within the search area (site 5) is on the approximate route of the postulated road but has no features commonly associated with Roman roads and appears instead to be associated with post-medieval packhorse routes.

Medieval (450-1450 AD)

Hathersage Moor appears to have been wastes and commons during the medieval period. Dispersed medieval settlements have been recorded in the vicinity, such as the long houses and fields at Lawrence Field, Sheffield Plantation and Yarncliffe Quarry in the Longshaw Estate, and settlements at Hathersage and Padley were also established during this period. It is likely that some or all of these settlements were using the moorland as rough grazing for livestock, as well as for natural resources such as stone and peat and for industrial activities such as iron and lead smelting. At least two bloomery hearths and deposits of iron smelting slag are located to the northeast of Carl Wark, east of Burbage Plantation (site 13). Bloomery hearths are a type of iron-smelting furnace used from the Iron Age to early post-medieval periods. The date of these particular hearths is unknown, but the majority of bloomery hearths date to the medieval period (Bevan 2006, 10).

Ancient rights of way also crossed the moors, with packhorses used to transport goods between settlements. These continued to be used in the post-medieval period, prior to the enclosure of the land and establishment of turnpike roads. Many packhorse routes developed eroded hollows, particularly on slopes and softer ground, and these have been preserved as hollow ways across the moors. There are several such routes within the search area (sites 7, 17, 31, 37, 45, 50 and 57). These are part of a network of routes linking Sheffield, Hathersage and Grindleford, with further connections onwards to places such as Buxton and Tideswell. The heaviest use of these routes was in the 17th and 18th centuries, when traffic increased in association with the transport of industrial materials and goods (Hey 1980, 225-7). A packhorse bridge over Burbage Brook (site 4, LB 1255107) is thought to have been built around 1750.

An assemblage of medieval pottery (site 10) was reportedly recovered in 1977 from the vicinity of the packhorse bridge over the Burbage Brook. The SMR record states that this pottery was associated with industrial activity, but no further information on the types of pottery or the circumstances of its recovery is recorded.

Post-medieval (1450-1900)

The packhorse routes crossing the search area continued to be used until the early 19th century, when the Parliamentary Enclosure of the moors would have blocked access to many of the routes. They were superseded by carriage roads, some laid out at the time of the enclosure to replace the packhorse routes, others created as turnpike roads, where a toll charged for the use of the road funded the maintenance of the surface. The roads to the south and northwest of Carl Wark were turnpike roads, that on the southern side being part of the Sheffield to Buxton turnpike, and that on the north part of the Sheffield to Sparrowpit Gate turnpike. Both roads were established by Acts of Parliament in 1758 (Bevan 2006, 11). Lower Burbage Bridge (site 24, LB 1255074) appears to have been constructed at this date to carry the Sheffield to Buxton road over the brook. A row of quarries at the northern edge of the search area may have been dug to provide material for making the Sparrowpit road (site 58).

Quarrying became a significant industry on the gritstone moors in the post-medieval period, though it is likely that the gritstone boulders and outcrops were quarried on a smaller scale in earlier periods. The millstone grit was used for buildings and for field walls, as well as for the manufacture of millstones and crushing stones. Hathersage was a main centre of millstone production in the Peak District from at least the 16th century to the 18th century (Hey 2014, 96). Millstones were often manufactured from loose boulders, which were manoeuvred into place using bars and chains, and dressed using a pick, hammer and chisel (Tomlinson 1981). Many unfinished millstones are found amongst the former quarries, together with some finished examples that were abandoned. Two types of stone are found, the earlier domed millstones appearing to date from the 16th to 18th centuries, and flat stones that became more common in the 19th century. Stones from the millstone grit were most commonly used for grinding oats, barley, rape, peas, beans and animal fodder, rather than wheat, as the stones left a grey residue in milled wheat. The flat edged stones were also used for industrial processes, including crushing lead ore, pulping wood and crushing ingredients used in paint manufacture (Bevan 2006, 14). The quarries at Hathersage continued to be used for these stones into the early 20th century (Hey 2002).

The quarries on the moors around Hathersage took various forms, including the working of individual boulders or small stone-getting pits (sites 23, 25, 39) as well as larger extractive pits (sites 51, 56) and the larger vertical face quarries on the cliff faces, such as at Burbage Edge (site 21). The latter type seems to have become the dominant form of millstone quarry during the 19th century, superseding the extensive groups of small delves (Bevan 2006, 15).

The current layout of the landscape relates largely to the Parliamentary Enclosure of the Hathersage Moors, undertaken in 1830 following an Act of 1808 (Q/RI/16). The moorland itself appears to have remained largely used for rough grazing and quarrying, though the creation of the hunting lodge at Longshaw in 1827 meant that the area was also managed for grouse shooting. Sites within the search area that date to the enclosure or shortly after include the remains of field walls and sheep enclosures (sites 9, 22, 59) as well as farm buildings and barns

(sites 11, 12 and 49). The site of Higger Lodge, a former shooting lodge (site 52) is marked by a spread of stone south of the Sparrowpit road. The Green Drive (site 18) was constructed as a track for the Longshaw estate, along which the Duke of Rutland's guests could ride or be driven around the estate to enjoy the scenic views. The enclosure and establishment of the grouse shooting estate meant that many ancient rights of way across the moors were closed to the public, with gamekeepers instructed to turn away any trespassers (Hey 2014, 20).

Modern (1901-present)

In 1927, the Duke of Rutland was forced to sell the Longshaw Estate to pay death duties. Burbage and Houndkirk Moors were purchased by Sheffield Corporation, who intended to create a reservoir in the Upper Burbage Valley below Carl Wark, a plan that never came to fruition (Hey 2014, 20-22). Following the purchase, the Corporation were lobbied by the Sheffield Clarion Ramblers association to reopen the rights of way across the moors, leading to the limited opening of two footpaths across the moors, including the track that runs in an east-west alignment to the north of Carl Wark and the track leading north from Carl Wark over Higger Tor. The Green Drive (site 18) was also opened to the public in 1928. Initially, access was only granted between December and February, as the moors had been rented to a grouse-shooting tenant who did not want the birds disturbed during breeding. Year-round access to the designated footpaths was allowed from 1936, though the rest of the moors remained out of bounds (Bevan 2006, 20-21).

The Peak District National Park was created in 1951, the first to be established under the National Parks and Access to the Countryside Act of 1949, and the Burbage Moors were encompassed within its boundaries (Hey 2014, 22). Public access to the moors was available in practice from this date, though this was not confirmed until a formal agreement was made between the Peak District National Park and Sheffield City Council in 1991, pre-dating the Countryside and Rights of Way Act of 2000 (Bevan 2006, 21).

Military training was undertaken across the Burbage Moors during the Second World War, with a number of different units using the area between 1941 and 1945, both British and Canadian (Hey 2014, 180; Bevan 2006, 23-24). The main surviving evidence for the training exercises comprises bullet scars on earthfast boulders and cliff edges (sites 3 and 15), distinctive starburst scars from mortar shells, and a number of filled-in foxholes (sites 6, 15, 16). Most rocks have bullet scars on only one face indicating the line of assault, which usually appears to have been uphill.

2.6 Previous archaeological investigations/writings on Carl Wark

This section contains a summary of previous archaeological accounts of Carl Wark. For ease of description, and to tie in with historic descriptions, Carl Wark is assumed to align with the cardinal compass points east-west along its long axis, where in reality is it aligned roughly southeast-northwest. Thus the main entrance is described as being on the south side of the monument.

2.6.1 Antiquarian accounts of the 18th century

The first published account of Carl Wark was in 1783 by Major Hayman Rooke, an antiquarian based at Mansfield Woodhouse. He referred to the site as 'a British work, called *Cair's work*', and mentioned the western rampart as being 'a wall of very singular construction'. Rooke stated that the main entrance was at the [north]east end of the wall, with a lesser one on the

[south]west side, indicating that the gap in the wall for the current northwest entrance had been made by that date. Rooke's description indicates that he thought this entrance was part of the original design of the fort.

At that date, the understanding of British prehistoric archaeology was limited, and pre-Roman remains were often ascribed to druids, who had been recorded in Roman literature as the main religious and political power of the British Celts. Rooke took this view in the construction of Carl Wark, and was as interested in the large boulders on the interior, partly supported by small stones and interpreted as 'rocking stones', as in the fort itself. These stones were considered to be 'sacred erections', and the number on the top of the outcrop suggested that 'this place must have been intended for holy uses, or a court of justice'. One particular rock, with a 'basin' in the top and a nearby hollow with the appearance of a chair was known as locally as *Cair's Chair*, interpreted by Rooke as a seat of justice for the principal Druid, who would have recourse to images in the water if necessary (Rooke 1783 1-2; Plate 3). Cair's or Caer's Chair is still visible at the site, an angular boulder jutting out over the edge of the promontory on the north side forming a distinctive landmark when viewed from the east.

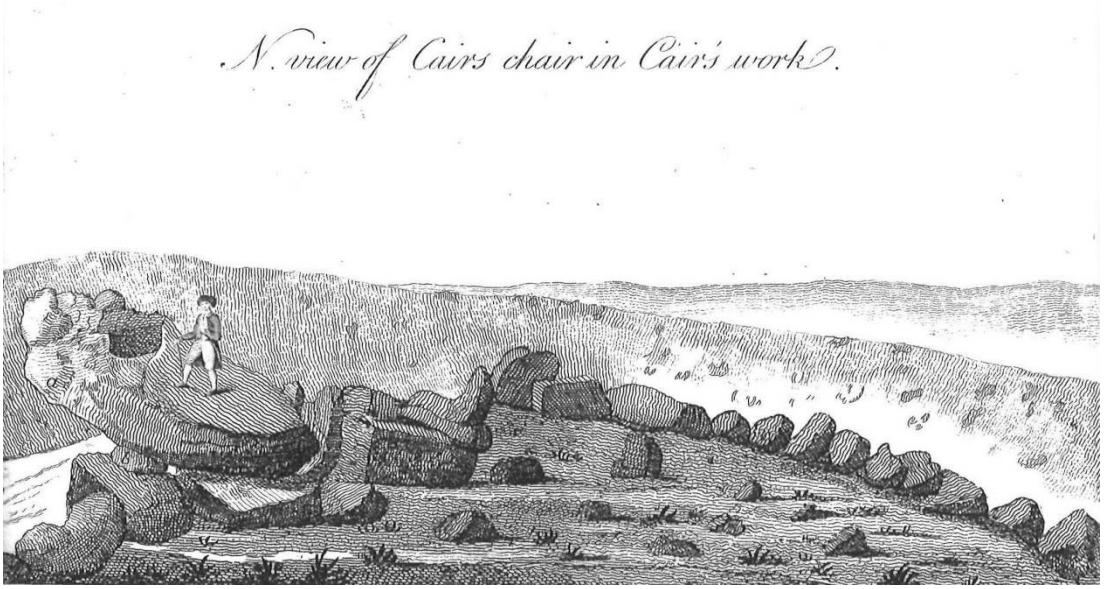

Plate 3: Hayman Rooke's 1783 illustration of Caer's Chair

Rooke drew a plan of the outcrop and a section through the wall (see Figures 5 and 6); these are sketch plans rather than measured drawings but give a good sense of the shape of the fort and the style of the wall. Neither the plan nor the article describe the stone walling along the southern edge of the outcrop or of the form of the entrance. A slightly earlier account of the fort, written at an unknown date by the antiquarian John Wilson of Penistone prior to his death in 1783, was published in the 19th century by Thomas Bateman (1961, 253). In his short account, Wilson called the site 'Carleswark' and mentioned that the south and east sides were strengthened with large stones, 'evidently laid to defend the passage up the hill'. He also attributed the boulder known as Cair's Chair to the Druids, and seems to have considered Higger Tor to be a collapsed druidical temple. He attributed the hillfort to Roman activity, suggesting it was a camp of Carausius, the short lived Emperor of Britain, with 'Carl' being a corruption of the emperor's name, though Bateman noted that he did not agree with this interpretation.

2.6.2 19th century accounts

Though not related to an archaeological study, a sketch survey of Hathersage moors for the Parliamentary Enclosure of Hathersage moors was drawn in 1809 by William and Josiah Fairbank (FC FB 121). This included a relatively detailed sketch of Carl Wark, labelled Carl Works on both the sketch and the completed plan (FC Hath 9S), the latter which has far less detail of the fort than the survey (see Figure 4). The survey sketch depicts the western rampart in some detail, including the curve at the southern end and the in-turned southern entrance, as well as small building just outside the rampart. The building is hatched, suggesting it may have been roofed at the time. Only the outline of the building is shown on the 1877 and 1899 OS maps, the former also labelling the carved gritstone trough just outside the structure. Cox (1905) states that a building in this location was constructed between 1873 and 1893, suggesting it may have been rebuilt on at least one occasion. Recent surveys have interpreted the ruins of this structure as either a sheiling, a temporary structure where herders lived during summer grazing on the uplands (Bevan 2006, 36), or as a quarryman's hut used during the quarrying and manufacture of millstones (Waddington and Brightman 2012, 36).

The Fairbanks' plan and sketch also depict the shape of the promontory outside the area of the fort, which is not shown on most of the published archaeological plans. This illustrates the flat area to the immediate west of the fort, which then slopes more gradually down to the west, and the slope to the southeast of the fort, below the scarp edge. The sketch survey notes the presence of two springs a short distance to the east and south of the fort at the base of the slope.

S.O. Addy included a description of Carl Wark in his book *The Hall of Waltheof* in 1893. He described it as a hill-fort utilising a rocky summit with precipitous sides, the weaker parts being fortified with massive walls. He noted that the steeper northern and eastern sides have little sign of artificial enhancement, whereas the southern and western sides are protected by 'rude walls built without mortar and of immense age', with an entrance in the southern wall. The size of the boulders utilised in the southern wall are commented on, with unhewn boulders from six to nine feet in length, with no small stones in the interstices but 'fitted to each other with some care'. The wall on the western side utilised smaller stones, of an average size of three and a half feet, set in a single course wall with earth thrown up against the inner side. He also mentioned that a narrow pathway leads down through the rocks on the eastern side, where a wall had also been built into a gap between rocks, and that earth had been thrown against the southern and eastern walls.

Addy compared Carl Wark to the ancient hillforts of Greece, and theorised that the name of the site may derive from that of Odin. The name 'wark' for a defensive earthwork or fortification is of Old English derivation (Smith 1962, 266), and Addy suggests that 'Carl' could derive from the Old Norse 'karl', meaning 'the old man', possibly a synonym for Odin. He further suggests that the association of the fort with Odin indicates that it was regarded as an ancient construction during the early medieval period (Addy 1893, chapter 2). A more recent work on place-names of Derbyshire does not explore the derivation of the name of Carl Wark, recording only that the name was recorded in 1789 as Carles Work (Cameron 1959).

Plate 4: Sidney Addy's 1893 illustration of Carl Wark

2.6.3 Early 20th-century studies

I. Chalkley Gould published articles on Carl Wark (referred to as Carl's Wark) in the *Journal of the Derbyshire Archaeological and Natural History Society* in 1901 and 1903. In the latter article he describes it atmospherically:

> 'Viewed from the moorland path on the eastern side, with the black rocks of Higger Tor for a background, this ancient fort seems to stand sphinx-like defiant of time and man, yielding no evidence of its story, and more like to an immense blackened altar than to a shelter which may have teemed with life when, with infinite labour, it had been made impregnable against armed foes' (Chalkey Gould 1903, 175).

The description illustrates the defensive interpretation of the site that predominated in the 19th and 20th centuries. Chalkley Gould (1903, 178) suggests that the western wall 'probably' originally had 'a parapet or breastwork of stones carried above its present level, affording protection to the besieged while they resisted the approaching enemy'. The lack of a water source within the fort is noted as a barrier to siege resistance, but Chalkley Gould mentions the narrow track at the eastern end which may have led to a relatively close natural spring, and suggests the use of stone cisterns to hold sufficient water for occasional use as a 'camp of refuge'. He supports this with the mention of an old stone trough at the western end of the fort; however, there is no reason to suspect this is prehistoric in date and the trough is on the exterior of the western wall, apparently associated with a later building in this location.

Chalkley Gould accepts Addy's interpretation of the place-name evidence and infers that the fort is prehistoric in date, though he is clear that the lack of excavated evidence means that its date of construction is unknown, as is the potential that it was reused by Iron Age groups resisting the Roman invasion (Chalkley Gould 1903, 176).

Chalkey Gould's plan (see Figure 5) is a relatively rough depiction; it shows the western wall as being totally straight where in reality in curves round at the southern end. A plan by Allcroft in 1908, though very similar in layout, shows a curve at the southern end of the wall, forming the entrance, but still depicts the wall as straighter than it is; it also shows a scarp running to the

west of the wall, which he mentions as a feature designed to enhance the defensive nature of the wall. The curve at the southern end, west of the entrance, is described as projecting from the line of the southern wall and being similar to a bastion or round tower, a vantage point from which the whole of the southern side of the fort would be visible (Allcroft 1908, 65-66).

The Reverend J.C. Cox visited Carl Wark for his description of the site in the *Victoria County History of Derbyshire* (1905). Cox referred to the site as 'the Carl's Wark', a remarkable prehistoric fortress, and was as struck as Gould by the surroundings, describing it as 'strangely overpowering from whatever point it is approached', and comparing it to 'a great derelict, whose blackened hull had grounded on some unseen sandbank' (Cox 1905, 361). Cox states that the site 'naturally suggested itself… as a fort of refuge and defence', and mentions that great stones on the slopes below the monument are likely to have fallen or been thrown down from the original walls. 'Artificially piled up and cunning fitted in stones' were noted 'in certain places' along the southern edge of the fort. The loss of stone from the south end of the western wall is alluded to, with the interesting note that much of the drystone masonry had been 'recently' pulled down, with some of the larger stones used in the construction of 'a rude kind of hut': presumably the ruined building to the immediate west of the rampart. Cox (1905, 362) states that this occurred between his first visit in 1873 and second visit in 1893. Given that a building is shown in this approximate location on Fairbank's sketch of 1809, it is possible that the building Cox noted was a reconstruction of an earlier structure that had been ruinous at the time of his first visit, but this cannot be substantiated.

The defensive nature of the fort is explored by Edward Trustram in his 1911 article on promontory forts in Derbyshire. He described three forts: Carls Wark, Castle Naze at Combs Moss, and Markland Grips in Elmton, and postulated that the forts may have had some connection to each other, possibly as a chain of defence, being in a rough line aligned east to west and separated by distances of between 13 and 15 miles (Trustram 1911, 2). However, the main similarity in the construction methods of the forts is their location on promontories, and he admits that their location may be coincidental. Trustram (1911, 15-16) considers potential methods of defending a promontory fort, as well as stating that the type of siege warfare common in medieval and later Britain is unlikely to have been practised in the same way by primitive tribes who likely lacked the necessary discipline, cohesion and organisation.

As with Chalkley Gould and Cox, Trustram comments on the distinctiveness of the outcrops at Carl Wark and Higger Tor, and the potential for their interpretation as something otherworldly. The wall forming the face of the western rampart is described as 'one of the most ancient and interesting stone walls in England… the stones may have been to some slight extent shaped, but even this is doubtful' (Trustram 1911, 10). Trustram states that despite Allcroft's claims, there is no evidence for a ditch or scarp on the exterior of the wall, and also mentions that there is no earthen rampart against the rough walling around the southern and eastern sides, which contradicts Addy's description. He states that the ravages of millstone makers and others may have impacted on the original height of the southern and eastern wall, but that it is unlikely to have been more than a few feet in height (Trustram 1911, 11).

Trustram considers the date of the fort to be early, indicating that promontory forts were considered at that time to be the earliest fortifications in England, whilst noting that Carl Wark was not classed as a promontory fort by all authorities. He notes the impressive façade of the

southwest entrance to the fort, with walls continuing into the fort for five or six yards, and also records that the northwest entrance is clearly a later feature as the foundations of the western wall continue across the footpath. Trustram (1911, 11-12) theorised that the use of stone in the defences may have been adopted by the builders due to the hardness of the millstone grit bedrock and the shallow soils, which would have made excavation of a ditch difficult, and the widespread availability of stone in the area. The main consideration of the article is the assertion of the existence alternate entrances, or 'postern gates' at all three promontory forts. He states that the steep, narrow track running between two vertical outcrops at the eastern end was a secondary entrance to Carl Wark, defined by a narrow passage around 4 feet 6 inches wide, flanked by a fragmentary flanking wall, which disguises its location by taking a right-angled turn into the fort (Trustram 1911, 12-13; Figure 5). This track had also been noted by Chalkley Gould (1903), and both writers suggest it may have been used to access a stream to the east of the 'postern gate', Trustram stating that 'when a retreat to the stronghold was decided upon, the duty of carrying skins of water would no doubt devolve upon the women and any other non-combatants' (Trustram 1911, 15).

2.6.4 Fieldwork, 1948-50

The only recorded excavation at Carl Wark took place in 1950 under the direction of Mr Frank Gerald Simpson which included a section cut through the western rampart to investigate its construction method. Simpson was a noted archaeologist who had worked on Hadrian's Wall in the early 20th century, where he helped to develop techniques of excavation, including the principle of excavation objectives, with work targeted to answer particular questions. Simpson was notoriously poor at publishing, with much of his excavation work in Cumbria written up by R.G. Collingwood (Van der Dussen 1981, 206-207). This factor, along with Simpson's death in 1955, suggests an explanation for the lack of publication of the Carl Wark investigations. The only record is a short note by C.M. Piggott, who published Simpson's section through the rampart in *Antiquity* (1951, 210). Piggott had undertaken a sketch survey of the fort in 1948, and seems to have added Simpson's trenches to the plan, indicating that the investigations extended into the fort, with several trenches east of the rampart and a number of test pits (Figure 5). The existence of these more extensive trenches are confirmed by photographs of the excavation held by Sheffield Local Studies Library (Figure 7). The photographs also indicate that the location of the trenches depicted on Piggott's plan is at least partially incorrect, as some photographs show unrecorded trenches and test pits located on the interior of the fort and outside the rampart, some of which are still visible on the ground (see Figures 10-11).

The section of Simpson's trench through the rampart indicates that bank was formed of layers of turves bonded into the vertical stone wall on the western side, with the current angle of the wall probably being due to slumping as the turf settled and became consolidated (Figure 6). There was no indication of any slighting of the wall or bank. The photographs of the trench confirm the lines of the turf layers and the incorporation of earthfast boulders into the bank (Figure 7). Piggott suggested that this use of turf had no known parallels in Iron Age ramparts, but was similar to early medieval defences at Scottish sites, such as at Traprain Law in East Lothian, which could date the Carl Wark rampart to the 5th or 6th centuries AD (Piggott 1951, 210). No dating material from the trenches was recorded by Piggott, and the few photographs showing the other trenches and test pits do not give details of their stratigraphy, though they indicate that most were shallow and probably little more than a foot in width. The postulated

early medieval date has been considered unlikely by later accounts, though this is mainly due to the morphological details of the fort and its entrance rather than from any further empirical evidence.

It has not been possible to establish whether Simpson left any archive material relating to the excavations at Carl Wark. No material is held by Sheffield or Buxton Museums, and the Piggott Archive held at Oxford University's Institute of Archaeology does not contain any material relating to Carl Wark apart from two undated photographs of the fort.

Piggott's survey (Figure 5) is the most detailed plan of the fort to have been published. It shows the curve of the western rampart and the in-turned entrance, as well as the more recent building on the outside. It does not show Trustram's proposed 'postern gate' entrance at the eastern end, but mentions probable hut sites within the fort, though these are not depicted. The southern edge is also depicted as straighter and more regular than it appears on the ground.

2.6.5 Later 20th to 21st century interpretations

F.L. Preston's short description of Carl Wark mentions Piggott's theory on the early medieval date of Carl Wark, with the construction of the rampart representing a tradition derived from the Roman revetted-turf technique; however, he notes that the double in-turn entrance, though of an unusual form, is a style associated with Iron Age hillforts. His conclusion is that the age of the fort must remain in doubt (Preston 1954, 10-11).

Challis and Harding (1975, 111-112) refer to Carl Wark as an 'enigmatic site', included in their discussion of promontory forts. They note possible parallels for the earthen rampart with stone outer facing at South Barrule on the Isle of Man, and the outer rampart at Maiden Castle, Bickerton, and suggest that this may be a mid-1st millennium BC development (based on a carbon-14 date from a hut at South Barrule), possibly indicating that a vertical inner face to a rampart was no longer seen as necessary. Forde-Johnston (1976, 62) does not have a detailed description of Carl Wark, but includes it amongst his list of Group II Iron Age contour and semi-contour forts, which by their location have one relatively easy approach and are defended on the other three sides partly or entirely by natural scarps.

A note on recent discoveries in the Sheffield area in 1976 was included in the *Yorkshire Archaeological Journal* of 1977. T.C. Welsh wrote that outworks had been noted at Carl Wark, 'defining an area over twice that contained by the main defences' (YAR 1977, 3). The outworks comprised 'intermittent short lengths of wall base' on the northwest end of the summit ridge, outside the rampart, and across the south-west aspect. These 'outworks' appear to relate to the natural terracing observed by Fairbank in 1809, and no subsequent study has made mention of them. They may relate to misinterpretation of natural landforms visible on aerial photographs.

Graeme Guilbert provides a brief description of the fort in a field guide to sites in the Peak District produced for a Prehistoric Society conference in 1986. Guilbert (1986, 60) summarises the known evidence and disputes Piggott's 'probable hut sites', stating that no superficial indications of internal settlements have been recorded. He also notes that Trustram's postulated second entrance at the eastern end does not have the appearance of a defended entrance and is more likely to be a later break in the defences. Guilbert is the only one of the

later 20th-century accounts to suggest the presence of 'meagre indications of a ditch' on the exterior of the western rampart.

More recent interpretations of the site have challenged the defensive attribution of the site. The Scheduling information classifies the site as a slight univallate hillfort, of Late Bronze Age to Early Iron Age date (see Appendix 3). This type of site covers a wide range of enclosures nationally, the nearest examples being Wincobank hillfort in Sheffield and Mam Tor at Castleton. Excavated examples have demonstrated that these do not all seem to perform the same function, and some have been interpreted as stock enclosures, others as redistribution centres, places of refuge or, in some cases, permanent settlements. Numerous hut sites have been recorded at Mam Tor, which appeared to have been occupied in the early 1st millennium BC (Coombs and Thompson 1979). Very limited excavation at Wincobank did not reveal any evidence for occupation within the fort (Howarth 1905). Both Mam Tor and Wincobank are very different morphologically from Carl Wark and illustrate the difficulties of using a broad term to characterise single banked hilltop enclosures.

Edmonds and Seabourne (2001, 72) suggest the enclosure at Carl Wark may have Neolithic origins and that it could have performed a function similar to causewayed enclosures of that period, as a location for large gatherings and spiritual or societal rituals. They see the stone-built enclosure wall at Gardom's Edge, similarly enclosing part of a promontory, as a parallel. The enclosure at Gardom's Edge is similarly strewn with boulders and earthfast stones, and the incorporates earthfasts as do the southern and eastern walls at Carl Wark, but the bank at Gardom's Edge has evidence for construction in different phases or by different groups, which is not visible in the more homogeneous western wall at Carl Wark. They suggest that the use of Carl Wark as a place of significance may have originated in the Neolithic period and been re-used and added to in later periods. This case has been weakened subsequently by the results of radiocarbon dating which revealed that the enclosure at Gardom's Edge is of Late Bronze Age date (Barnatt 2008).

Barnatt and Smith (2004, 43, 46) note that Carl Wark is different to the other Iron Age hillforts in the Peak District, and mention that the date of construction has always been a mystery given its lack of parallels elsewhere in the north of England. They also mention the relative lack of space for house sites within the boulder-strewn interior.

A short book about Carl Wark was produced in 1999 by Mick Savage, aimed at a general audience. This summarises the previous studies of the site and emphasises the lack of knowledge of the date and purpose of the monument. Like Piggott, Savage believes that there is the potential for hut sites within the enclosure, with analogies from southern hillforts suggesting these could be located along the southern edge and close to the inside of the western rampart (Savage 1999, 41). He also examines potential uses of the fort, with comparisons to the enclosure at Gardom's Edge and ritual activity, with the possibility that the enclosure then became more defensive later in prehistory at times of societal stress (Savage 1999, 46-48). There is the potential for re-use of the fort during the Roman invasion and the confusion of the 4th to 6th centuries AD, when British groups were dealing with the power vacuum left by the withdrawal of Roman infrastructure (Savage 1999, 53-64). Savage concludes that the potential for understanding Carl Wark through documentary sources has been exhausted, and that only further archaeological fieldwork, including geophysical survey

and excavation, can throw light on the date of construction, use and abandonment of the fort (Savage 1999, 65-67).

The most recent archaeological fieldwork at Carl Wark comprised a watching brief on reconstruction of the footpath to the northwest of the fort in 2004 (Ullathorne and Rylatt 2004). No new archaeological deposits were exposed during the works, which included the infilling of erosion scars with gritstone aggregate and spoil from works outside the Scheduled area. It was noted that the foundation stones for the western wall of the fort were visible crossing the footpath at the northwest corner, indicating that the wall originally ran to the cliff edge on this side and that the current entrance is a later insertion (as identified by Trustram in 1911). A patch of possible cobbling was noted just outside this entrance; it was unclear whether this indicated a surfaced area outside the rampart but associated with the fort, or later attempts at footpath stabilisation. The report also noted that liner material had been laid under the fill of the path, which would act as a marker for further erosion in this area.

A walkover survey of Carl Wark was undertaken by ARS Ltd in 2011 as part of a conservation and management audit of hillforts in the Peak District. ARS state that the site has more in common with a gritstone tor enclosure at Cratcliff Rocks near Harthill than with the other hillforts covered by his survey (Waddington and Brightman 2012, 28). The hilltop enclosure at Cratcliff enclosure is cruder in form than those of Carl Wark and Gardom's Edge, and has a rock-cut ditch with outcropping boulders forming a natural defence inside the ditch (SM 1008006). It has been interpreted as late Bronze Age to Iron Age (Hart 1981). ARS note that the date of Carl Wark is unknown, but that in the lack of clear evidence to the contrary, it is generally supposed to be a late prehistoric hillfort. They suggest that gritstone wall surrounding the southern and eastern sides may have originally been much larger and surrounded all of the fort, with the current appearance being the result of boulders falling or being deliberately moved during quarrying activity. They state that only the western rampart and inturned gateway area are still obviously well-preserved, whilst the rest of the walling exists only in relatively small portions (Waddington and Brightman 2012, 31-32). This latter comment is not supported by the current survey, which indicates that walling is present along a large proportion of the southern edge, whilst there is no evidence that the northern side was ever substantially enhanced.

2.7 Recent study

The site was subject to a walkover survey during the compilation of this Conservation Management Plan. The recent aerial photographs (Suave Aerial Photographers) were used to create a base plan which was annotated in the field. The features have been assigned a number, continuing the sequence of numbers allocated in the gazetteer of known archaeological features/sites in the vicinity (Appendix 1). The locations of the features are shown in Figures 10 and 11. The results are placed in the context of previous surveys (e.g. Bevan 2006: see Figure 8) and descriptive text draws upon these previous works.

The current survey area was taken to be the land covered by the schedule, which extends from the monument's interior to approximately the foot of the boulder slopes that surround much of the monument.

2.7.1 Prehistoric

The date of the main Carl Wark enclosure is debated, but it is generally considered to be of prehistoric date, and probably late Bronze Age or Early Iron Age. The most obvious feature of Carl Wark, particularly when viewed from the elevated position of Higger Tor, is the rampart/wall which measures *c.*8m in width and *c.*40m in length and forms the western edge of the monument (Figures 17 and 19). The rampart has been assigned two separate feature numbers as the northern and southern portions are of very different character; the northern portion (feature 86) is revetted on the exterior by a stone wall which reaches *c.*3m high in places (Plates 5 and 32). The boulders are irregular, and very roughly dressed; many may not be dressed at all and although Bevan (2006, 31) and the scheduling information mention the presence of weathered tool marks on some of the stones, none were observed during the survey. The coursing is also irregular; a maximum of eight courses are present. Historic photographs (Figure 13) show that several stones have been removed from the upper course since 1950, and the original height of the wall cannot be determined. The stones are not sitting vertically, but currently lie at a slight angle of repose. The angle is generally thought to be a result of slumping, but it is possible that this was a deliberate aspect of the construction to stabilise the rampart (John Barnatt, pers. comm.).

The northern end of the wall has either collapsed in the past or been deliberately robbed to create access into the monument, allowing us to view the profile of the walling (Plate 36); as noted by previous authors the lower course of foundation stones are still *in situ* across the path, although the form of the wall where it would have met the natural cliff face cannot now be determined. Today, this point forms the main entrance to the site from the north and Higger Tor (see also Figure 16). Hayman Rooke's account indicates that this northern entrance was in existence by 1783 (Figure 5).

Plate 5: Rampart and revetment wall, west side of Carl Wark

At the southern end of the revetted section there is a large earthfast boulder, and this marks the change in character and direction of the rampart; the southerly length (feature 85) is a wide earthen embankment containing foundation stones (and earthfasts) along its length (Plate 33). It has been suggested that the facing stones have been robbed for use in construction of the square post-medieval building outside the rampart which seems very likely (Cox 1905, 362). The embankment turns to the southeast, then curves sharply northeast and

north to form the western side of the main entrance (feature 84) into the monument. Here, the wall stands up to five courses high, with large earthfasts at its base (Plates 29 and 31).

The literature contains no discussion as to whether the northern section of walling has ever been rebuilt with most studies remarking that this is an exceptionally well-preserved wall (e.g. Chalkley Gould 1903, 176; Piggott 1951, 210). Guilbert (1986, 60) attributes this to the inward tilting of the upper blocks caused by the settling of the turf rampart. Past rebuilding is perhaps unlikely to have been extensive, but given the precarious and unsupported nature of several stones where the revetment stops at the large earthfast boulder, it is possible that stones have been moved and/or repositioned in the past (Plate 34). Several studies have mentioned signs of a ditch or scarp to the immediate west of the wall (e.g. Allcroft 1908, Guilbert 1986), though currently nothing is visible on the ground in this area.

The southern entrance (feature 84) is formed by in-turned walls on either side and is approached fairly steeply uphill, giving the enclosure walls the benefit of additional apparent height (Plates 27-29). The wall forming the eastern side of the entrance continues along the southern side of the promontory (feature 83, Plates 6, 24-27). At the entrance the boulder wall is well preserved, containing up to five courses of stonework overlying some large earthfast boulders. The construction of the wall is not consistent along its length; Bevan notes that the earth behind the wall was cut back in parts, allowing the wall to function almost as a revetment. Where large earthfast boulders and slabs are present, the wall either continues across them, or abuts them, depending upon their height. Two areas of tumble were recorded in the western portion (Figure 10). Towards the eastern end, the wall becomes a series of large boulders, some of which are placed directly onto exposed stone, and some which have been set into the ground.

Plate 6: Central section of southern boulder wall (feature 83)

In two places the top of the eastern scarp edge has also been modified with placed stones. A length of rough walling (feature 74) comprising large boulders up to 1.5m in length has been placed to close the gap between natural outcropping rock (Plate 20). To the north of this is a shorter section of rough walling of similar construction (feature 73; Plate 19). There is an informal footpath through a gap in this latter walling (recorded by Trustram [1911] as a putative secondary entrance or 'postern gate') but the antiquity of this entrance is not known.

The northern side of the monument is formed by the natural edge provide by the gritstone cliffs, with no obvious signs of artificial enhancement (see Figure 18).

The interior of the fort, enclosed by the rampart, walling and natural cliff, covers an area of approximately 2 acres (0.82 hectares), with a relatively level surface (Figure 12). It is 176m long, with the width varying between 38m and 60m. The level area at the top of the outcrop continues to the west of the fort for a further 50m. The interior of the monument is strewn with massive boulders and earthfasts, although there are areas which are clear of stones, including an area immediately inside the western rampart (Figure 10). No definitive hut circles or other indication of settlement activity has been noted, apart from a possible C-shaped bank, which also incorporates earthfast boulders, enclosing an area approximately 5m in diameter (feature 98). Piggott (1951, 210) postulated a number of possible hut sites amongst the boulders but did not depict them on her plan, and this has been disputed by most subsequent studies, which have stated that the boulder-strewn interior allows little space for buildings (e.g. Barnatt and Smith 2004, 46; Guilbert 1986, 60).

2.7.2 Post-medieval

There is much evidence for post-medieval stone-getting and the production of millstones, particularly around the northern, eastern and south-eastern flanks of Carl Wark (see also Bevan 2006 and English Heritage Step 3 Report for the Quarrying Industry). Twenty six finished or partly-worked millstones were recorded in total during the survey, lying within the boulderfields on the northern, eastern and southerly flanks of Carl Wark. There is evidence for working of the northern crag faces, but millstones also appear to have been worked from the abundant boulders or large earthfast stones/slabs in the area. Most of the evidence for quarrying is outside the enclosure itself, though a tooled groove was observed on the top of one the crags within the monument (feature 95, Plate 42) which may have been related to working for millstones, and a small quarry scar was observed on one of the northern crag tops (feature 101).

The millstones are either of a domed 'mushroom' type, or flat (see Plates 7, 14-17) and only three of the 26 stones has a central hole. A number of the stones bear carved letters, generally towards the centre. A mound of angular quarry-working spoil is located on the south side of Carl Wark (feature 99) and a depression (feature 82) nearby also suggests a focus for stoneworking in this area. Bevan (2006) records a number of other small quarrying depressions on the southeast side of the monument. The millstones are quite widely scattered suggesting that stones were worked *in situ*, wherever the most appropriate stone could be found – the stone from the Carl Wark crags is more angular and finer grained than much of the stone in the valley (Bevan 2066, 41). Some stones have been propped with a chock stone to facilitate working (Plate 18). The domed millstones are generally considered to pre-date the

19th century, with the flat ones being 19th- to early 20th-century in date (Bevan 2006; Tucker 1985).

Plate 7: Domed millstone with partially worked central hole (feature 77)

A small rectangular structure (feature 87, measuring c 4m x 6m) is located to the south of the main enclosure rampart (Plate 8, 39). The walls are of drystone construction with a rubble core, and it has been built against a large earthfast stone on the south-east side. A block inside the building has a pecked circular depression and Bevan also notes the presence of a mortar scar on this slab (Bevan 2006, 36). A trapezoidal trough has been carved into a large slab a few metres to the south of the building (Plate 40). The structure may have functioned as a sheiling for people monitoring animals grazing on the moors or, perhaps more likely, a stone-worker's hut associated with millstone quarrying (Bevan 2006 feature 431.2; Waddington and Brightman 2012, 36).

A building in this approximate location is depicted on Fairbank's 1809 sketch survey, though not on his final plan for the Parliamentary Enclosure (see Figure 4), whilst Cox (1907, 362) states that the building was built between his visits of 1873 and 1893, and that the stone from the southern end of the western rampart had been removed during this period for the purpose. This late date could suggest that the hut was associated with the management of the moor for grouse shooting as it post-dates most of the millstone manufacture around Carl Wark. It is possible that the later structure was a reconstruction the earlier building shown in 1809, or that Cox's memory of the initial visit was mistaken, given the 20-year gap between the two. If the building was related to millstone manufacture, the carved trough could have been used for quenching associated with simple smithing operations (John Barnatt, pers. comm.).

Plate 8: Remains of a rectangular structure (feature 87) built against the rampart

2.7.3 Twentieth-century military training

Burbage Valley as a whole was used for military training exercises, certainly during WWII. Bevan (2006, 45) notes a number of personal memoirs relating to training activity, including the British 2nd Battalion Rifle Brigade firing mortars west from Burbage Edge in 1941; US or Canadian troops firing heavy guns north from Toad's Mouth in 1943; and British and Canadian Paratroopers advancing west towards Surprise View from Burbage Edge in 1943/44. Bevan located a number of bullet scarred earthfast boulders and an infilled fox-hole on the slopes to the northeast, east and south-east of Carl Wark (Bevan feature group 431.19). He noted that many of the boulders had been shot at from the southeast, indicating an uphill practice assault on Carl Wark from Burbage Brook. He also noted that at least two boulders have bullets scars on the northwest faces, indicating return fire from Carl Wark.

Additional bullet and mortar scars were identified during the current survey. These include bullet scars (east facing) on two boulders at the eastern foot of Carl Wark (feature 76), on the crag faces which form the eastern end of the promontory (Leaning Crack and Carl's Buttress) and on the placed boulders (feature 74) near the postulated 'Postern Gate'. Scars are also present on a rock face (southeast facing) close to the minor access route in the southeast corner of the monument (feature 78; Plate 21). Inside the monument itself bullet scars are present on the western side of a boulder (feature 97, Plate 43) towards the eastern end of the monument, and may indicate the defence of the minor southeast 'entrance'. Some bullet scars were also observed on the wall (feature 85) which forms the western side of the main southern entrance to the monument. This demonstrates that practice manoeuvres were targeted upon the key access points to the monument.

Plate 9: Large mortar scar on earthfast boulder, on northern side of Carl Wark (feature 93)

Three 'starburst' mortar scars were observed within the monument (in addition to the scar noted by Bevan in the square building). Two (feature 92, Plate 41) are located on the same slab, adjacent to the southern boulder wall. The third (feature 93, Plate 9) is located on a slab close to the northern edge of the site near Tower Wall.

2.7.4 Twentieth century - other

A stone pedestal with a bronze interpretation plaque of unknown date is located adjacent to the square building, to the southwest of the main enclosure rampart (Plates 39 and 57). The information is now considered to be outdated, but it provides a snapshot of the site's previous interpretation and management, and mentions the site's status as a protected monument.

Carved graffiti are present in a number of locations on the monument. An example is located near to the eastern end (feature 100) recording 'Harry Armitage 1957' and '1971' has been carved into a boulder on the northern edge of the site (feature 94). Several large initials have been carved into the earthfast boulder which makes up the southeastern wall of the square structure (feature 87, above).

Traces of the archaeological investigations by F.G Simpson were observed. The locations of Simpson's otherwise unpublished excavations were annotated onto Piggott's 1948 plan of the site (Figure 5) and some of these have been identified on the ground; these include the trench

network excavated through the main earthen rampart and continuing into the interior (feature 89) and two of the six test pits (features 90 and 91) excavated along the southern interior side of the monument. In addition to those recorded by Piggott, photographs of the excavation indicate that a trench (feature 88) was located against the outside of the main enclosure and two trenches (feature 96) forming a squashed cross shape were recorded towards the eastern end of the site. These latter are only partly infilled and sharply cut sides are still evident (feature 96). These were identified during the survey, and the locations were matched to the views in the historic photographs (Figure 13).

2.8 Setting

The setting of Carl Wark is an absolutely integral part of the monument. The builders of the monument used the topography of the natural gritstone outcrop/promontory to great effect, if not for actual defensive purposes then at least to create an imposing, elevated enclosure. The outcrop itself forms a distinctive landscape feature, and aside from the massive earthen rampart and wall, the remainder of the enclosure walls are low lying, and probably always were, meaning that much of the effect of 'fortification' is gained from the outcropping gritstone itself. The rampart appears to have deliberately been built to cut off the remainder of the promontory to the west, which is lower lying and much less boulder-strewn (Figure 17). This has created a large fairly flat area in front of the rampart which may also have been an important location for human activity relating to the monument, but which is not part of the enclosure itself. The views to Mam Tor (to the west) are also completely obscured by the rampart to a person standing in the western interior of the monument, although it can be seen over the mid horizon from the more central parts of the site (Figure 14).

360^{o} views are gained from most of the monument's interior, and far reaching views into the limestone area of the White Peak are to be had to the west, south and south-east of the site; on a clear day, it is possible to see the modern plantation surrounding the Neolithic chamber tomb at Minninglow from the interior of the monument, though it has been questioned whether the tomb would be recognisable without the visual cue of the plantation (John Barnatt, pers. comm.).

The impressive setting and appearance of the monument are commented on in many of the early archaeological accounts of the site. Cox (1905, 360-361) comments that Carl Wark 'forms one of the most impressive and suggestive features of the county's scenery...; the general appearance and surroundings of the fortress are strangely overpowering from whatever point it is approached'. He suggests that the location naturally suggested itself as a fort of refuge and defence. Chalkley Gould (1903, 175) mentions its 'weird, dark, almost uncanny aspect', presenting 'a striking picture of loneliness and desolation'. Trustram (1911, 10) goes further in attributing a potential spiritual significance to the monument: 'in the far off days, when any work of nature removed in some small degree from the usual, was considered the work of a god or demon, how forbidding, how pregnant with awe and mystery, must have appeared this bold escarpment of millstone grit standing out from Hathersage Moor'. More recently, Edmonds and Seabourne (2001, 73) state that the monument can appear 'both dramatic and diminutive. Overshadowed by Higger Tor, it gains a prominence only when the light and the angle are right'.

It is interesting that there is currently no evidence for prehistoric activity on Higger Tor itself, despite its more prominent appearance. This could indicate that the more central location of Carl Wark within the Burbage Valley was an important aspect of its significance. It sits within an upland landscape which bears dense traces of prehistoric activity, notably Bronze Age and Iron Age field agriculture, ceremonial activity and settlement. The interrelation between Carl Wark and these sites of prehistoric activity is likely to have been very important.

The Burbage Valley creates a natural amphitheatre, with Carl Wark sitting on the western side, downslope form the rocky outcrop of Higger Tor which overlooks it and also forms a prominent landmark. The valley is drained by the Burbage Brook, which is about 400m to the east of Carl Wark at the closest point. From road networks the valley is accessed from a number of points, including car parks at Toad's Mouth and Upper Burbage Bridge and laybys close to Higger Tor. The area is well served by footpaths which circumnavigate the whole skyline as well as the Green Drive and routes towards Winyards Nick and Millstone Edge. Perhaps the most obviously modern intrusion into the nearby setting is the pine plantation in the base of Burbage Valley; the trees come to within *c.*150m of the monument (Figure 14).

2.9 Ecology

2.9.1 Ecological designations

Carl Wark falls within three sites designated for their ecological interest. It is within the Eastern Peak District Moors Site of Special Scientific Interest (SSSI 1007184), within which features of interest include breeding birds, upland vegetation, lower plants and invertebrates. It is also within the South Pennine Moors Special Area of Conservation (SAC UK0030280), a protected habitat comprising upland dry heath at the southern end of the Pennine range, the habitat's most south-easterly upland location in the UK. The Peak District Moors – South Pennine Moors Phase 1 Special Protection Area (SPA UK9007021) covers the site, which is classified for rare and vulnerable birds and for regularly occurring migratory species. Noted species regularly supported in this area during the breeding season include *Asio flammeus* (short-eared owl), *Falco columbarius* (merlin) and *Pluvialis apricaria* (European golden plover). The SAC and SPA are designated by the European Union as part of the Europe-wide Natura 2000 network of internationally important sites for habitats and birds.

2.9.2 Results of the extended Phase 1 survey

Habitat survey

Carl Wark is surrounded by a mixture of upland heathland, dry acidic grassland, fens and plantation woodland. Upland heathland dominates areas immediately east and west of the site. Smaller patches of fen are located to the north and east. Dry acidic grassland is generally mixed among other habitats. The site itself is a mixture of upland heathland and dry acidic grassland, with extensive strips of bare ground and boulders (Figure 15). The site supports plants that are characteristic of acid moorland, including ling heather and areas dominated by bracken. Amongst gritstone boulders, additional habitat structure supports a range of widespread species including bilberry, crowberry, hard fern, broad buckler fern and waved silk-moss. Closely grazed coarse grasses dominate the plateau, including tufted hair-grass and common bent, with additional species on the plateau including heath rush, heath bedstraw and heath woodrush.

Fauna

The site and immediate surrounding habitat is of poor suitability for badgers, and no signs of badger activity were noted. Equally, there were no signs of bats during the survey and the crevices in the cliff face appear unsuitable to support roosting bats.

Three bird species were recorded during the Phase 1 survey: meadow pipit, carrion crow and wren. A 2004 breeding survey of the area carried out on behalf of the Moors for the Future Partnership recorded two relatively scarce species nesting at Burbage Moor: ring ouzel and stonechat. Both species are likely to visit Carl Wark, together with the more frequent wheatear and curlew. Disturbance due to human visitor pressure is likely to deter the majority of specialist moorland breeding bird species from nesting at Carl Wark. A single pellet of short-eared owl was found at the northwest corner of the site, though no other signs of birds of prey using the site were noted. Nationally rare and protected species recorded within 2km of Carl Wark include the hen harrier and merlin, though again, human visitors are likely to deter these birds from frequenting the site regularly.

No known great crested newt populations are located within 2km of the site. Other amphibians recorded within the 2km radius include common toad, common frog and palmate newt. No reptiles were encountered during the Phase 1 survey in mid-March, but it was concluded that both viviparous lizard and European adder might be expected at this free draining site. Viviparous lizards were noted at the site during the archaeological survey in late April. Information from the National Trust ranger for Burbage Moors indicated that adders were not recorded in the immediate area, and that visitor pressure was likely to deter them from Carl Wark.

2.10 Amenity value

The history of passionate struggle for public access to unenclosed land is outlined in section 2.4 Today, more than one million visits are made to the Eastern Moors each year, and whilst we know that Carl Wark itself is less frequented than other parts of the Burbage Valley, it is part of a well used and much-loved landscape, to which many people feel very strongly attached. Its proximity to Sheffield means it could even be considered an ‘urban fringe park’ (Henry Folkard pers. comm.).

2.10.1 Walking & fell running

Carl Wark lies within Open Access Land, thus anyone is free to roam across the site and the environs as they choose. Two main footpaths are marked on the OS map – the first runs north-south, from Upper Burbage Bridge, over Higger Tor, past the western side of Carl Wark and meets the A625 beyond Toad’s Mouth. The second path runs east-west, linking Houndkirk Moor with the Burbage Valley, Carl Wark and Hathersage Moor. The two paths cross c 80m northwest of Carl Wark.

Minor footpaths on the OS map are marked within the monument, with an access point at its southeastern corner, and running upslope below the northern flank of Carl Wark from the packhorse bridge to join the main Higger Tor footpath.

Carl Wark is an impressive landmark, and bound to be a target point of interest and technical challenges for fell runners.

2.10.2 Climbing

There are 48 named climbs and boulder problems on the cliffs of Carl Wark (e.g. www.ukclimbing.com). The key walls and buttresses are indicated on Figure 16 (also Plates 45-48) The monument is referenced in a number of the climbs' names, including 'J-Warking', Carl's Butress Left Hand', 'Carl's Butress', and 'Carl's Right Wall'. The rarely climbed and hard 'Lost World' (E6, 6c) put up by John Allen and Steve Bancroft in 1985 is considered a classic.

The crags of Carl Wark are perhaps esoteric in climbing terms (Joe Bowden pers. comm.) and are much less used than the more accessible and popular crags at Stanage, Higger Tor and Burbage North and South. The routes at Carl Wark face north or east, and are therefore darker and cooler than the heavily-used south-facing crags elsewhere. There was no climbing chalk observed on any of the routes, almost no litter, and judging by the ephemeral nature of the trampled vegetation, access to the foot of the crags is infrequent.

2.10.3 Cycling

There is no official bridleway across or near Carl Wark, and it is not thought that unauthorised riding is considered to be a problem (whereas cycling is known to take place on the Green Drive through Burbage Valley even though it is not permitted). No tyre tracks were observed during the site visits.

2.10.4 Camping

Although not officially permitted, wild camping is known to occur in the Burbage Valley, mainly in the seclusion afforded by the Burbage Plantation (Bill Gordon pers. comm.). It is extremely unlikely that campers would choose to pitch on Carl Wark itself as it is exposed and tents would be very visible.

3 STATEMENT OF SIGNIFICANCE

3.1 Evidential value

3.1.1 Archaeological significance

Carl Wark is a Scheduled Monument, of national archaeological significance (see Appendix 3 for the Scheduling details). For as long as the monument has been written about, it has been characterised as enigmatic. Its style and construction methods are unique in the north of England, and it does not easily fit with the other Peak District and Yorkshire hillforts, lacking any obvious ditch outside its western rampart and using stone rather than earth in most of the defences. Trustram (1911, 11-12) suggests that the use of stone was a necessary adaptation by the builders as a response to the available materials and the solidity of the gritstone bedrock. The western rampart is of a notably different style to the walling around the south and east ends of the fort, being of turf construction faced with neatly-laid stones. This rampart survives in an excellent state of preservation for much of its length, which is thought to be due to the slight battering of the wall caused by settling of the turves behind, though whether this is a deliberate feature of its construction or accidental is unclear. The loss of the wall at the southern end of the rampart has been attributed to the removal of stones for the construction of a post-medieval hut or bothy in the late 19th century, rather than being due to erosion or collapse.

The use of turf rather than just stone in the western rampart is distinctive, and raises questions as to whether this was built in a different period to the rest of the walling. The

larger size of the rampart is due to its location on the level, easy access to the plateau, but a large stone bank would fulfil the same purpose as the turf and stone rampart. The different style of construction could be related to a desire to make a more impressive statement, rather than to a different period of construction.

The unusual style of the monument has led to much debate about its age, length of use and purpose. The only excavation recorded at the site was limited in scale and never fully published, and no evidence that would provide an unambiguous date appears to have been recovered. The excavation also took place before the advent of modern scientific techniques that can date buried soil layers or tiny amounts of carbonised material. The general consensus, based on morphological analogies, has been that the monument is a late Bronze Age to early Iron Age promontory fort (e.g. Challis and Harding 1975; Forde-Johnston 1976). Many hillforts with a single wall enclosing areas at least partly surrounded by natural scarps were constructed during this period, and the in-turned entrance is a form found in demonstrably Iron Age forts. If this date is valid, the fort would have been contemporary with the nearby field systems at Winyards Nick and Toad's Mouth, which could have been occupied at any point (or continuously) from the late Neolithic to the later Iron Age.

A brief note on the 1950 excavations stated that the layered turf construction of the rampart was unusual for an Iron Age fort and that it had parallels to early medieval Scottish examples (Piggott 1951), though this has been disputed by later discussions of the fort. More recently, a Neolithic origin for the fort has been suggested, with comparisons made to stone-built enclosures at Gardom's Edge and Cratcliff Rocks in Derbyshire, which are thought to be analogous to causewayed enclosures (Edmonds and Seabourne 2001; Waddington and Brightman 2012); however, the late Bronze Age radiocarbon date for the Gardom's Edge enclosure has weakened this theory. Waddington and Brightman (2012, 39) suggest that the nearest parallels are Cornish tor sites or Scottish craggy hilltop sites.

Richard Bradley (1993) has stressed that monuments endure, with stone-built architecture in particular creating permanent places in the landscape to which people could repeatedly return, with the meaning and use of the site changing over time (Cummings 2008, 154). Recent investigations at Fin Cop hillfort in Derbyshire have illustrated this, with evidence for the hill being a significant place from at least the Neolithic period into the middle Iron Age (Waddington 2012, 219). Debates surrounding the age of the construction of Carl Wark's defences risk obscuring the likelihood that the site was visited and used over a much longer period. The rampart and walling at Carl Wark have merely enhanced an already distinctive natural outcrop, echoing the similar shape of Higger Tor to the north, and the dramatic nature and setting of the outcrops may have made them sites of significance for as long as humans have been visiting the area. These distinctive landforms would have been significant aspects of the lived experience of mobile hunter-gatherer communities during the Palaeolithic, Mesolithic and Neolithic periods, particularly if the gritstone edges were relatively treeless in a largely forested landscape, as has been suggested through palaeoenvironmental research (Kitchen 2000, 80-81). They may have functioned prosaically as landmarks and meeting places, as well as having more complex attributions relating to resources, spiritual concepts and communal gatherings.

The nature of potential use of the site in the Bronze Age to Iron Age periods is also unknown. The construction of hillforts in the late 2nd and early 1st millennium BC has been interpreted as being linked to major changes in the organisation of society and an increase in tension between groups (Johnston 2008, 278). Excavations at hillforts have demonstrated that no one purpose can be assigned to all the examples, with some having evidence for long-term, permanent settlement whereas others seem to have been used as stock corrals or for temporary settlement. Temporary occupation could be associated with refuge during times of societal stress or attacks, but could also relate to communal gatherings for trade, social activities and animal husbandry. The creation of an imposing structure visible for large distances may also have been a statement of the power and influence of the group who constructed or occupied it, and the mobilisation of communal labour required to build it could have been used to bring together disparate groups, forging alliances and a sense of solidarity in a society changing in scale and nature (Sharples 2007; Barrett, Freeman and Woodward 2000).

Excavations at Fin Cop and Mam Tor in the Peak District have demonstrated that both originated as hilltop settlements in the late Bronze Age, possibly unenclosed or palisaded. At Fin Cop, this was superseded by impressive hillfort defences in the mid-Iron Age; the defences at Mam Tor are currently undated and it is unclear whether they were contemporary with the late Bronze Age settlement or a later addition (Waddington and Brightman 2012, 29). Human remains were found in the ditch at Fin Cop, with a minimum of 15 individuals found in an area representing only 4% of the full length of the ditch. These mainly comprised women and children, and had been deposited during the dismantling of the defensive wall, presumably in the aftermath of a catastrophic event. The remains suggest that the site had been used as a refuge during battle (Waddington 2012, 224-226).

Both Mam Tor and Fin Cop are larger and very different in style and morphology to Carl Wark, and the likelihood is that the uses of the latter site were also different. The minimal nature of the southern and eastern walls at Carl Wark have led to suggestions that the enclosure was not really intended as a defensive feature; it may have been designed to emphasise the visual impact of the natural landform, and to provide a distinction between the inside and outside of the monument. Barnatt (pers. comm.) suggests that the western rampart may have been designed to create a strong visual 'boundary' for people congregated on the flat area immediately outside. This could indicate that the enclosure was used as a defined space for special activities, rather than as a refuge in times of danger.

Several studies have noted the potential for re-use of the site during the Roman invasion of the 1st century AD and during the early medieval period of conflict between British groups following the withdrawal of the Romans. As mentioned above, C.M. Piggott considered that it may have been constructed in the early medieval period specifically for this purpose. It has also been suggested that it may have been a refuge during the Saxon and Viking incursions into the area, and the establishment of early medieval kingdoms (Savage 1999).

The lack of available information on Carl Wark means that the site currently provides something of a blank slate onto which a multitude of theories can be imposed. Whilst its importance would not be lessened if its origins were better understood, its uniqueness and the ambiguity surrounding its interpretation are of intrinsic interest, and provide a

historiography of archaeological understanding. The site has the potential for buried archaeological remains which could increase the understanding of the site, including for buried land surfaces beneath the western rampart.

The remains of millstone manufacture form a significant aspect of the site's significance. These constitute a fine example of small scale millstone manufacture, mainly of the earlier 'domed' form, with little or none of the later disturbance and modification that occurred at the more extensively quarried edges around the Burbage valley.

An important part of the site's history is its role as a military training ground; it is no surprise that Carl Wark, being a prominent landscape feature with natural defensive characteristics, would be used in training for uphill ground assault and longer-range mortar target practice. The gritstone boulders, rock escarpments and defensible landscape features provided excellent training conditions, and continue to bear the scars of this activity.

3.1.2 Ecological significance

The site is covered by three ecological designations: SSSI, SAC and SPA. These relate to upland moor flora and fauna. The site is visited by protected bird species, but these do not appear to nest on Carl Wark due to visitor pressure. There are no special ecological issues within the site other than the existing designations covering the moorlands. The site is part of the South Pennine Moors SAC, which is representative of upland dry heath and blanket bog at the southern end of the Pennine range, the most south-easterly location of these habitats in the UK and Europe respectively (SAC UK0030280).

3.2 Historical value

Historical value derives from the ways in which past people, events and aspects of life can be connected through a place to the present. The time depth of the gritstone landscape around Carl Wark is integral to its current character. It is now much more widely understood that all our landscapes are the product of thousands of years' of human interaction with the land; there is no truly wild place in the UK. While this time depth may not always be clear in some landscapes, a wide range of traces of human activity are encapsulated in the Burbage Valley, Carl Wark and its environs. These range from the prehistoric cairns, settlement and cairnfields at Toads' Mouth and Winyards Nick, medieval and post-medieval packhorse routes and holloways, 19th-century aristocratic estate features, medieval and post-medieval quarrying and stoneworking and 20th-century military training.

As well as the physical traces of deep time depth, this landscape holds important historical associations with the development of climbing and activism in relation to public access to the countryside (see below).

3.3 Aesthetic value

Carl Wark is an impressive archaeological monument, built on a distinctive outcrop in a gritstone landscape. The exact topographical setting of Carl Wark is significant and archaeological examination has suggested that the site was carefully chosen, perhaps for many reasons including visibility to and from the monument, the control of movement around the site, and the relationship to other human activity in its immediate surrounds and the wider landscape as a whole. The gritstone geology is an integral part of Carl Wark's form and aesthetic.

This characterful and dramatic upland gritstone landscape, dominated by crags and edges, has attracted people since prehistoric times, and continues to inspire walkers, fell-runners, geologists, climbers, artists, nature lovers and outdoor enthusiasts to this day.

The appearance of the landscape today is a result of long-term climate change, human travel, agriculture and settlement (from prehistoric times to the present day) and carefully balanced grazing regimes and habitat management. The richness of the human and natural heritage offer a unique resource for learning, for encouraging participation, and showcasing best practice in conservation management.

3.4 Communal value

The Peak District National Park was the first to be created in the country in 1951, and today 16 million people live within one hour's travel of the Park.

The Sheffield Moors have played an integral role in the campaign from the late 19th century throughout the 20th century for public access to the countryside. The famous mass trespasses conducted by ramblers from Sheffield and Manchester in the 1930s were just a small part of the determined, and long-term application of pressure at a national level to regain access to some of the land which had once been commonly accessible before enclosure. Perhaps because the Sheffield Moors, in which Carl Wark lies, are owned by Sheffield City Council, there is a palpable sense of public ownership of this landscape. The site is well served by a number of designated footpaths, as well as being part of a much wider area of upland Open Access land. The site, and the landscape, is well used by a wide variety of outdoor lovers.

Carl Wark is used for climbing and bouldering. The history of rock climbing in Britain is of international significance, and the gritstone of the Dark Peak has played a major role in the development of the traditions, techniques and world-renown individuals who have excelled in the sport of climbing; the crags of the Dark Peak may be one of the most densely climbed areas in the world. Tensions may exist between alternative factions of the climbing community, as the appropriateness of techniques (such as bolting) fall in and out of favour, but 'no stronger ethic' than that found in the gritstone climbing community can be found in the climbing community as a whole (Henry Folkard pers. comm.).

4 VULNERABILITIES

4.1 Ecology

The current human influence on the site is extensive, with the nature of the site meaning that visitors explore beyond the footpaths and disturb greater areas of habitat. There is, at present, rather limited scope for ecological conservation management at Carl Wark without severely restricting visitor access. No particular ecological vulnerabilities have been identified, aside from general footpath erosion (see below).

4.2 Erosion

4.2.1 Path between Higger Tor and Carl Wark

The monument and its environs are vulnerable to footpath erosion. The main footpath which drops down from Higger Tor and approaches Carl Wark from the north is clearly the most heavily used path, and subject to the greatest degree of erosion (Plates 50-53). This path has been intensively repaired in the past (2003-4) and aggregate and stone steps have been

brought in to consolidate it in places. The repairs at Carl Wark were undertaken with Scheduled Monument Consent and were monitored archaeologically. A full report was written (Ullathorne and Rylatt 2004). The 2004 report demonstrates the severe erosion which had taken place in the path as it comes up the steep rise towards the informal 'entrance' at the northwest corner of the site. The path was braided and eroded gullies were more than 1m deep in parts.

The aggregate laid into the eroded gullies was interleaved with layers of a heavy-duty plastic at 200mm depth intervals. The purpose of this was to demarcate areas of disturbed/backfilled ground, and to act as a warning marker should the plastic become exposed, thus indicating erosion of the new material. A small fragment of exposed plastic was observed on the higher part of the path, to the west of the 'entrance'. The condition of the path is still good generally, but this area requires regular monitoring (see recommendations in section 6.3).

The importance and braided nature of the path as it approached Carl Wark from the north is clearly demonstrated on the aerial photographs (Figures 16 and 20).

4.2.3 Path through south entrance

The other main area of erosion is on the footpath which leads through the main southerly entrance to the monument. Again, the path is on steeply sloping ground; it does not appear to have been subject to any consolidation works in the past, and in places bare subsoil sections of around are exposed below the eroded peat (Plate 54). The depth of erosion exceeds 40cm in places, although the surface of the path itself seems firm and well-drained. Earthfast stones are frequent within the path.

The path is seen clearly on the aerial photographs, but it is less clear and more vegetated than the northern path.

4.2.4 Other paths

The current survey and the aerial photographs also show minor footpaths and desire lines/trods (Plate 55). It would seem that most people, on entering the monument from the northwest, continue along the northern crag edge – good views of the Burbage Valley are afforded from this location.

Because there are a large number of route choices that people can make in and around the monument, footfall is not concentrated in any particular area, and the impact on the ground surface is generally fairly low. The whole of the monument and the promontory is well drained; the worst boggy areas are along sections of the footpaths much lower down the slope towards Burbage Brook.

Footpaths to the foot of the crags for climbing purposes are very ephemeral. The climbs do not seem to make use of top ropes (there are few suitable anchor points) thus there are no rope erosion rope scars along the edge.

4.3 Unauthorised activity & accidental damage

A few examples of carved graffiti have been recorded on the stones of Carl Wark (all on natural boulders). Whilst this is technically damage, it is not widespread or considered to be a particular problem; some historic carvings may even be considered to have some intrinsic heritage value now, as a record of past use of the monument (Plate 44). No obviously recently carved graffiti was recorded, the most recent dateable event being 1971.

It is thought that campers who occasionally 'wild camp' in Burbage Plantation sometimes come up to Carl Wark in the evenings, and traces of fires have been found in the past (Bill Gordon pers. comm.) although none were observed during the current survey.

Direct vandalism has been noted in the past; in 2005 the PDNPA reported that a boulder (part of the southern boulder wall, feature 83) had been levered off the top of the crags and smashed on the rock scree below. The pole used to lever the boulder was still on site, and seemed to be a fallen pine tree taken from the plantation. At that time they also identified two other points at which this appeared to have happened previously, although some time in the past as the smashed rock faces were weathered. Subsequently, temporary notices were displayed on site to inform people of the scheduled status of the monument, and the fact that damage is a criminal offence. No reports of similar activity have been made since.

Examination of historic photographs from 1951 (Figure 13) show that since this date several stones have been lost from the top course of the main rampart wall. This is not perhaps surprising, as some of the upper stones are loose and not bonded into the earthen bank, and some visitors do walk along the top of the rampart.

During the survey it was noted that one of the stones had been removed from the southern corner of the square structure (feature 87). This appears to be very recent activity as the remaining hole is still crisp and unvegetated (Plate 56). In addition, comparison of photographs taken during the survey with those taken by Bevan in 2006 clearly show that stones from the top course of the northwest wall have been dislodged within the last eight years. This is probably accidental, and a result of trample over the low-lying walls.

The dramatic landscape of the valley as a whole attracts sightseers. On two occasions low-flying helicopters were observed circling the valley (the origin/affiliation of the helicopters is not known). A small group using a remote controlled helicopter drone to record some footage of fell-running was also encountered during the survey – the group did not have permission to fly in the SSSI during bird nesting season. This activity does not affect the physical structure of the monument but can affect the general ambiance, and may adversely affect wildlife.

4.4 Stock grazing

During the period of completion of this CMP there was no stock being grazed on this land, but it is understood that cattle grazing is part of the newly implemented HLS agreement. The stock grazing regime will have been designed to benefit the upland moorland vegetation; regular monitoring is recommended to ensure that damage does not occur (e.g. to upstanding stonework, or ground surfaces) from animals using stonework as rubbing posts, overgrazing, or from congregating at particular areas; this latter is most common around feeding stations and water points, neither of which are anticipated in or immediately around Carl Wark.

4.5 Burrowing

A burrow was identified in a section of earthen rampart, exposed by the access at the north-west corner of the site (Plate 53) where a single entrance hole was seen. Burrowing does not otherwise appear to be problematic at this site, but should be monitored.

4.6 Potential conflicts of interest

The potential conflicts of interest at this site are typical of these uplands as a whole and are always likely to occur on open access land which is rich in cultural and natural heritage. The

key balances to be struck are between the management of wildlife habitat/nature conservation, ongoing upland farming regimes, archaeological features/deposits and public access. For example, there are currently plans to remove the plantation and replace it with less densely-planted native broadleaf species. This will have a negative impact on the setting of the monument for the period of woodland regeneration, but will be very beneficial to the setting in the longer term.

Probably the main conflict of interest lies between the maintenance of public access to the site (which inevitably focuses around a small number of key access points) and footpath erosion due to visitor footfall. The conflict is not deemed to be a significant problem and can adequately be dealt with within the terms of this Conservation Management Plan, without alteration to existing rights of access.

5 POLICIES

A series of Policies has been created to define the principles by which Carl Wark will be managed by the National Trust.

5.1 Communication

The land ownership, management and use of the site is fairly complex, and involves a large number of stakeholders. Good communication and dissemination of information helps to enhance the management of the site and the experience for its users, and also helps to mitigate or minimise any potential conflict of interest. Clear paths of communication for particular issues need to be established and maintained.

Policy A: Involve all relevant stakeholders in decision making, and ensure effective dissemination of information and knowledge	
Sub code	**Action**
A1	Create a list of stakeholders with full contacts details, and roles/responsibilities. Circulate appropriately and update regularly.
A2	Involve relevant stakeholders in decision-making processes.
A3	Disseminate information effectively (electronically wherever possible)

5.2 Stewardship

The management of Carl Wark is important for the long-term protection of the archaeological features at the site, for the protection of the natural wildlife habitat and for the maintenance of the physical landscape. A careful balance needs to be struck to ensure that the site does not appear ‘over-managed’ in a landscape which many people treat as fairly wild, whilst addressing the ongoing needs of tenant farmers, archaeology, visitors and wildlife. The stewardship of the site should be used as an opportunity to promote best practice in conservation and interpretation.

Policy B: Use the stewardship of the site to promote best practice in nature and heritage conservation	
Sub code	**Action**
B1	Maintain open access to the site.
B2	Ensure that the natural and heritage significance of the site (especially its Scheduled Ancient Monument status) is fully integrated into other related management schemes (e.g. HLS agreement, Burbage Valley Management Plan).
B3	Improve and update the on-site interpretation of the site.
B4	Ensure that management and interpretation of the site does not adversely impinge upon the site's relatively 'wild' and open aesthetic
B5	Ensure relevant consents are obtained before undertaking *any* works which involve intrusion into the ground, or alteration of any stonework or vegetation (e.g. Scheduled Monument Consent, Natural England consent, permission for works during bird nesting season etc.)
B6	Adopt standard mitigation procedures for both emergency and scheduled repairs/conservation works • consult this Conservation Management Plan • consult with National Trust Land Manager and National Trust Archaeologist (who will consult with PDNPA/English Heritage Monument Inspector) • implement appropriate historic environment/ecological mitigation (e.g. archaeological recording/monitoring, suitable aggregate and reseeding mixes) to agreed written Specifications/Briefs • ensure all other external contractors are suitably briefed about heritage/natural assets, and have full contact details and methods statement to follow for unexpected discoveries or inadvertent damage • update NTSMR in a timely fashion and disseminate to HER/PDNPA
B7	Monitor the site on a regular basis, taking particular note of hotspots for soil erosion or damage to stonework. • Some 'out of hours' monitoring may be needed if certain damage (e.g. camp fires) is occurring.
B8	Examine the potential of the site for conservation training opportunities within any ongoing programme of works (e.g. footpath repairs, heather cutting etc)
B9	Use relevant regional research agendas to frame any archaeological research projects.

5.3 Multiple discourses

Carl Wark has meanings and importance for a wide range of people, at both site and landscape scale. The site is a Scheduled Ancient Monument, recognised for its national significance as a unique monument of probable prehistoric date, within a prehistoric landscape. However, it is also an archaeological enigma, and its date and function are not fully understood. Carl Wark's functions as distinctive gritstone landscape feature along ancient routes, a place of 20th-century military training, an upland moorland habitat, an upland farming area and a destination for walkers, runners and climbers *etc*. are all integral to its identity. Some of these discourses may involve conflict of interest, and the management needs to address these where necessary.

Policy C: Acknowledge the multiple discourses embedded within the site	
Sub code	**Action**
C1	Use the historic and natural heritage attributes of the site to increase the enjoyment and understanding of the site by all users.
C2	Explore the interconnectedness of the human and natural heritage in any interpretation schemes (and links to past climate change).
C3	Celebrate the archaeological ambiguity of the site and ensure this is openly acknowledged any interpretation schemes.
C4	Value the time depth of the human history at this site.
C5	Consider Carl Wark within its wider landscape context.

5.4 Participation

Whilst the ownership and management structure of the site and the wider valley is complex and involves many stakeholders, this very complexity provides an opportunity to generate beneficial partnerships and to widen participation. The National Trust has an extremely well-developed volunteer network and many organisations have an interest in the site; innovative partnerships could be developed to explore the esoteric and ambiguous nature of the site, to disseminate best practice guidance and to widen participation.

Policy D: Use the existing network of stakeholders to encourage partnerships and widen participation	
Sub code	**Action**
D1	Any research project should be conducted to a written Brief (and see Policy B9). Any intrusive works must have formal consents and the approval of the PDNPA/English Heritage Monument Inspector.
D2	Encourage groups (e.g. local heritage societies, Young Archaeologists) to contribute to ongoing research at the site.
D3	Explore the potential for student research projects to contribute to ongoing research at the site.
D4	Provide opportunities for volunteering in conservation and heritage projects.
D5	Consider other methods of disseminating information, such as guided walks.

6 OPPORTUNITIES AND RECOMMENDATIONS

The section below contains recommendations for future management of the site. A number of potential research opportunities have also been identified; these are by no means exhaustive but address some of the key areas of uncertainty and interest.

6.1 Research opportunities

6.1.1 The archaeology of Carl Wark

The date of construction of Carl Wark is of great interest and is still debated within the archaeological community. The excavations of 1951 were inconclusive; much more is now

known about the construction of large earthworks in the prehistoric period and scientific dating techniques have advanced considerably.

Initial enquiries to English Heritage have determined that although Scheduled, re-excavation of key 1950 Simpson trenches might be possible; this would cause minimal damage to the archaeological deposits and might afford access to deposits which contain datable material; radiocarbon or OSL dating techniques are a possibility. On consultation, the PDNPA suggest that this would not be ideal, as degradation of previously exposed deposits might give skewed results and that opening new trenches would provide more valuable results; however, this may be harder to justify on conservation grounds.

Areas which are free of large stones have been identified in the interior. Excavations within the interior, including across putative banks and cleared areas, might clarify if features were of human origin and provide material for dating. The PDNPA advise that relatively wide trenches would need to be opened to answer most research questions, allow ephemeral features to be reliably determined and produce securely dateable material. Again, substantial trenches would have conservation implications.

Non-intrusive survey techniques (such as geophysical survey) may provide further information about areas inside and outside the monument. There is the potential that further research could identify the location of F.G. Simpson's excavation records for Carl Wark, which may have been deposited in a museum or archive outside the area. Much of his work was undertaken in Cumbria, County Durham and Northumberland, and it would be worth contacting universities, museums, archives and council archaeologists in this area as a starting point.

6.1.2 Quarrying

The remains of quarrying and millstone manufacture located around Carl Wark are a significant example of relatively early activity, featuring mainly domed millstones in various stages of manufacture. A detailed record of the quarrying remains is recommended. This should include information on quarry faces (around feature 101), boulder breakage and waste stone heaps (such as those around stones 66 to 72). Detailed documentation of carved initials will add to ongoing debate about whether these represent the quarrymen or purchasers of the stones. Further assessment of the types of stones (domed or flat) would also assist in providing a richer understanding of the quarrying process.

6.1.3 Military heritage

The history of military training in the Burbage Valley as a whole is a very interesting aspect of the use of the landscape. Very detailed survey of rock faces and the ground would undoubtedly reveal a much more information (in the form of bullet and mortar scars, fox holes, slit trenches etc) and with careful examination of the terrain and angle of approach it might be possible to start to identify individual assaults or training exercises. Detailed documentary searches relating to this topic may prove fruitful.

6.2 Interpretation

The site would benefit from updated interpretation, and it would be beneficial to have a better understanding of the date of the monument, if possible, before this was undertaken. On-site interpretation needs to be carefully thought through, as the relatively wild appearance of the site is part of its character and appeal. However, interpretation can also add to visitors'

enjoyment and understanding of the site, and help to minimise accidental damage as people become more aware of its importance. There are several options for the location of on-site interpretation panels; these would need to be discussed with all interested stakeholders.

- Car parks (Upper Burbage Bridge, Toad's Mouth)
- Footpaths (footpath junction north of Carl Wark, on main track to east of Burbage Brook next to bench)
- Carl Wark itself (the current panel lies just outside the monument, to the west of the main rampart)

Planning permission would be required for interpretation panels, and any within the Scheduled area would require Scheduled Monument Consent. Other off-site methods of interpretation should also be considered, such as the use of smart-phone apps. Apps could be used to provide interpretation of the site, as well as to encourage people to view the site from a distance to appreciate the landscape setting.

6.3 Repairs and consolidation

No urgent repairs works have been identified, but regular monitoring of the site is required to ensure its long-term protection. This should include examination for:

- footpath erosion
- integrity of archaeological stonework
- evidence for other damage (fires, graffiti etc)
- animal damage (overgrazing, burrowing, rubbing)

7 ADOPTION AND REVIEW

This Conservation Management Plan needs to be approved and adopted by the National Trust and relevant bodies. It is recommended that it is subject to review at a suitable interval (five years).

8 ACKNOWLEDGEMENTS

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FC FB 121, p8-9: Fairbank sketch plan of survey of Carl Wark and Higger Tor for Hathersage Enclosure, 1809. (Sheffield Archives)

FC Hath 9S: Fairbank plan of old enclosures for Hathersage Enclosure, 1810. (Sheffield Archives).

1877 Ordnance Survey 25 inch: 1 mile map sheet Derbyshire 11.9.

1899 Ordnance Survey 25 inch: 1 mile map sheet Derbyshire 11.9.

1922 Ordnance Survey 25 inch: 1 mile map sheet Derbyshire 11.9.

Historic photographs

Picture Sheffield photos of 1950 excavation:

s21264: View of cut through rampart (head on), with men, by Sheffield Newspapers.

s21265: View of stone-faced rampart (west wall), by Sheffield Newspapers.

s21266: View from rampart over part of interior, including men and trenches on interior, by Sheffield Newspapers.

s21267: View of the north-facing section through the rampart, showing earthfast boulders, , by Sheffield Newspapers.

y01745: Test pit and remains of building behind, Carl Wark, by J.B. Himsworth.

y01746: View of the north-facing section through the rampart, by J.B. Himsworth.

y01747: Detail of north-facing section through the rampart, by J.B. Himsworth.

y01748: View of the trench through the rampart, head on, by J.B. Himsworth.

y01749: View of a trench butting against the stone rampart, by J.B. Himsworth.

y01754: Interior of Carl Wark (during excavation), by A.E. Upton.

y01755: Trench on interior of Carl Wark, by A.E. Upton.

Aerial photographs

CDC SF 3200/44, 18/6/1986, SK 259 815

CDC SF 3200/46; 18/6/1986, SK 259 815

CDC SF 3200/48; 18/6/1986, SK 259 815

CDC SF 3200/50; 18/6/1986, SK 259 815

CDC SF 3200/52; 18/6/1986, SK 259 815

CDC SF 3200/54; 18/6/1986, SK 259 815

10 FIGURES

Figure 1: Site location map

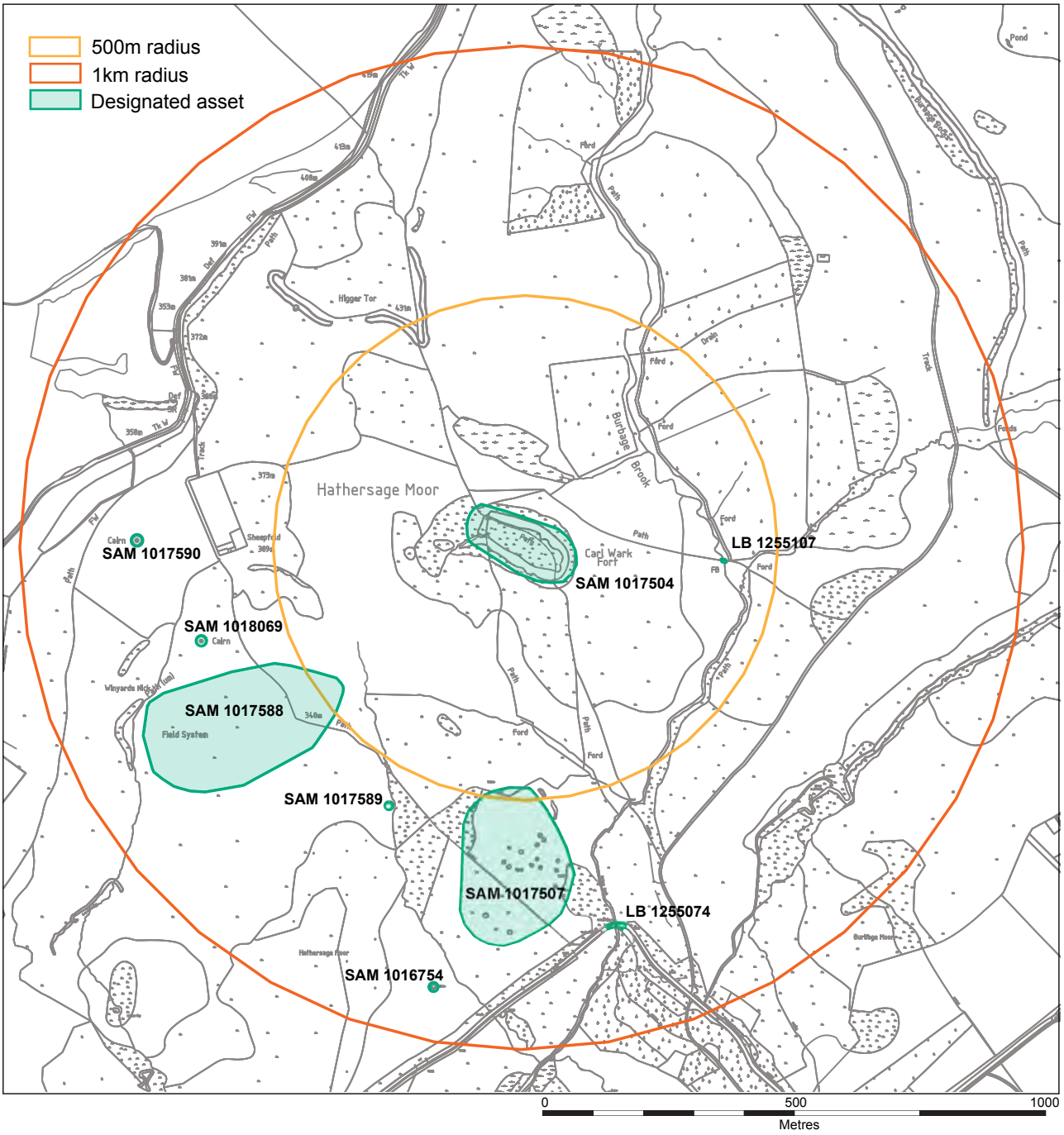


Figure 2: Designated heritage assets

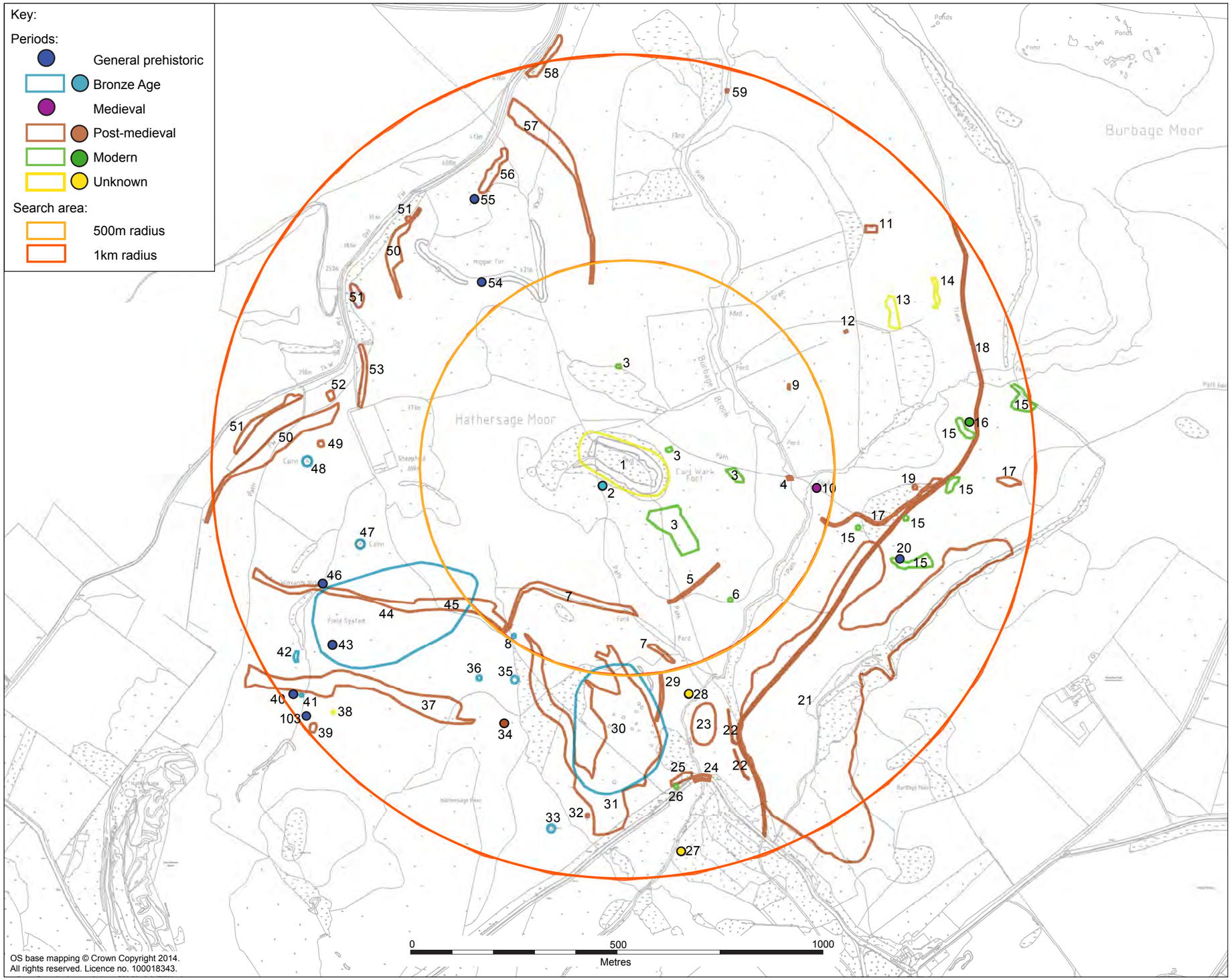
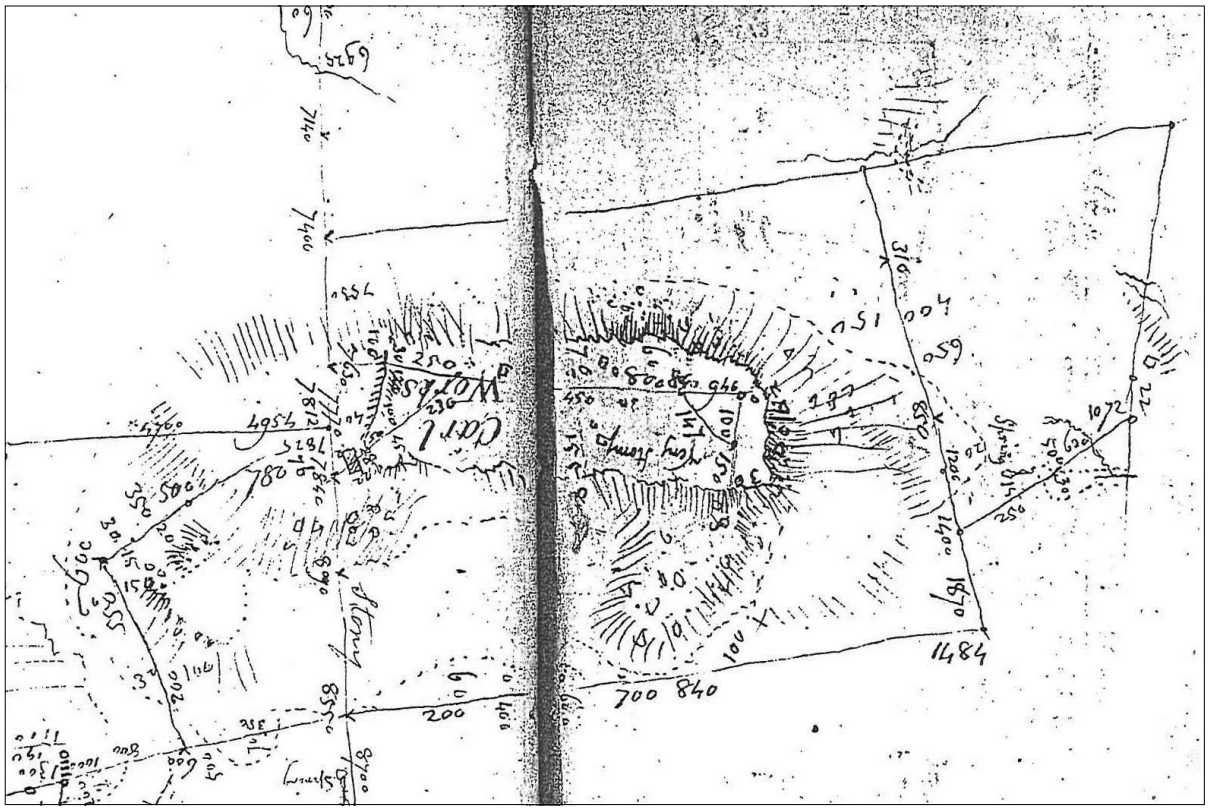
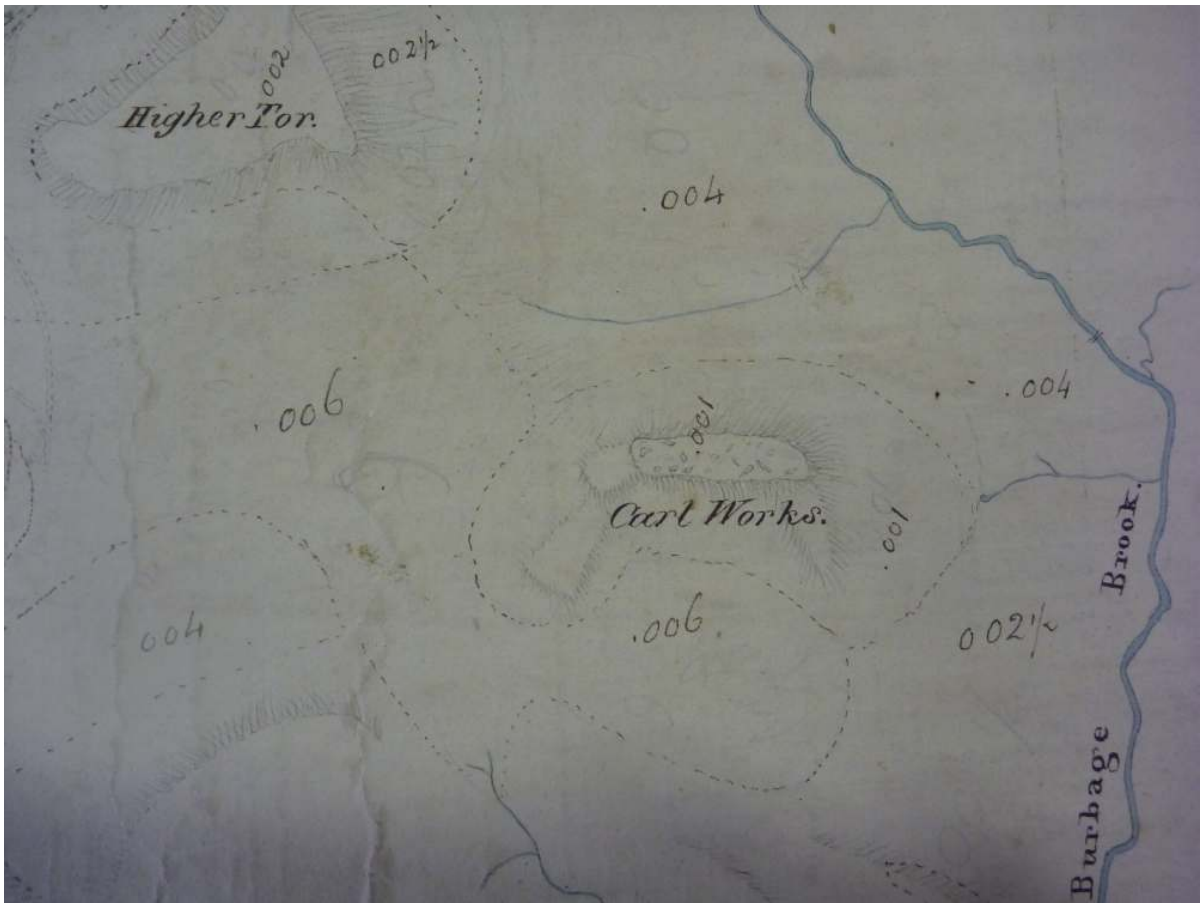


Figure 3: Location of known archaeological sites and findspots

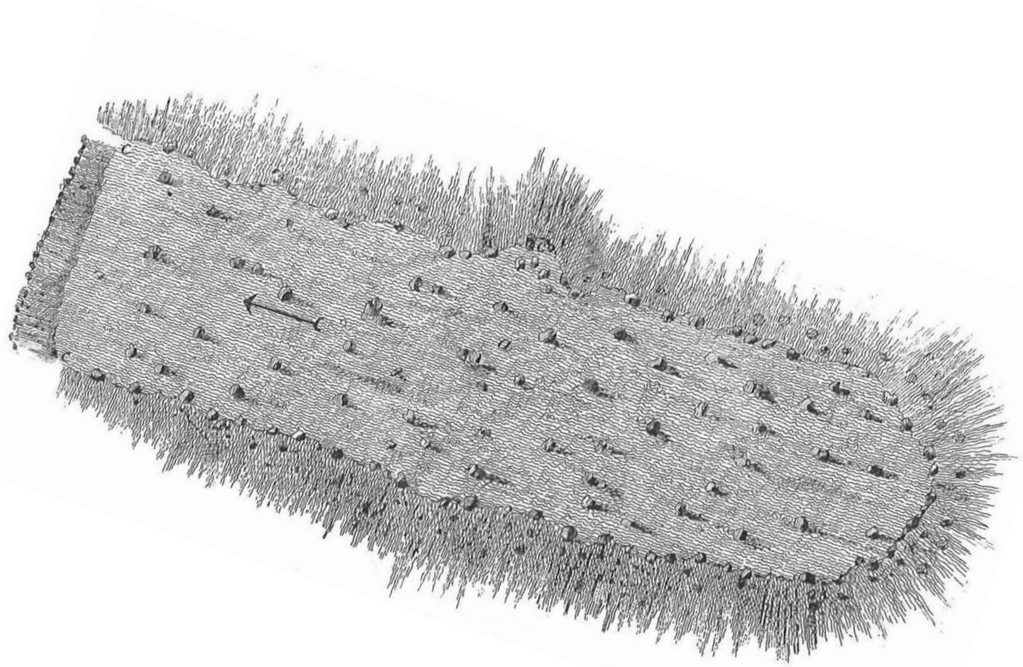


FC FB 121, p8-9: Survey sketch showing rampart and bothy, 1809

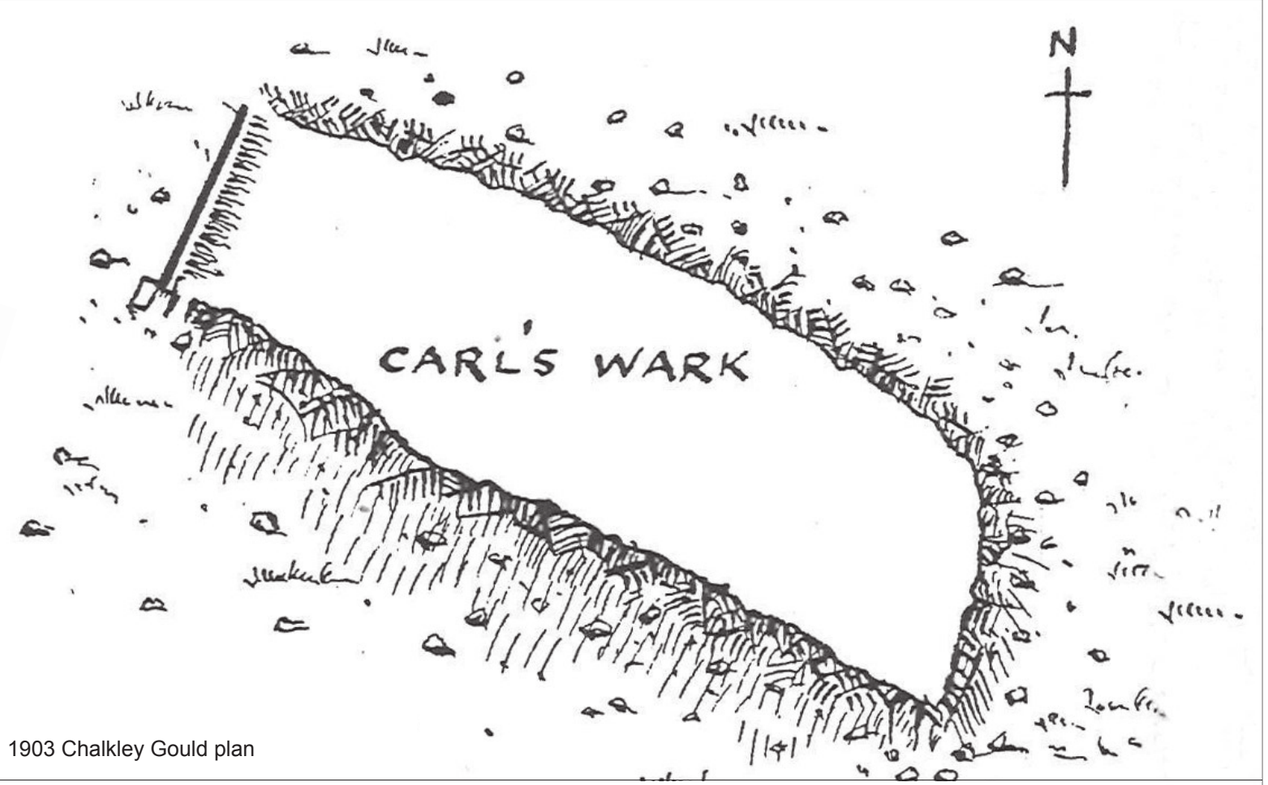


FC Hath 9S: Completed plan of old enclosures in Hathersage, 1810

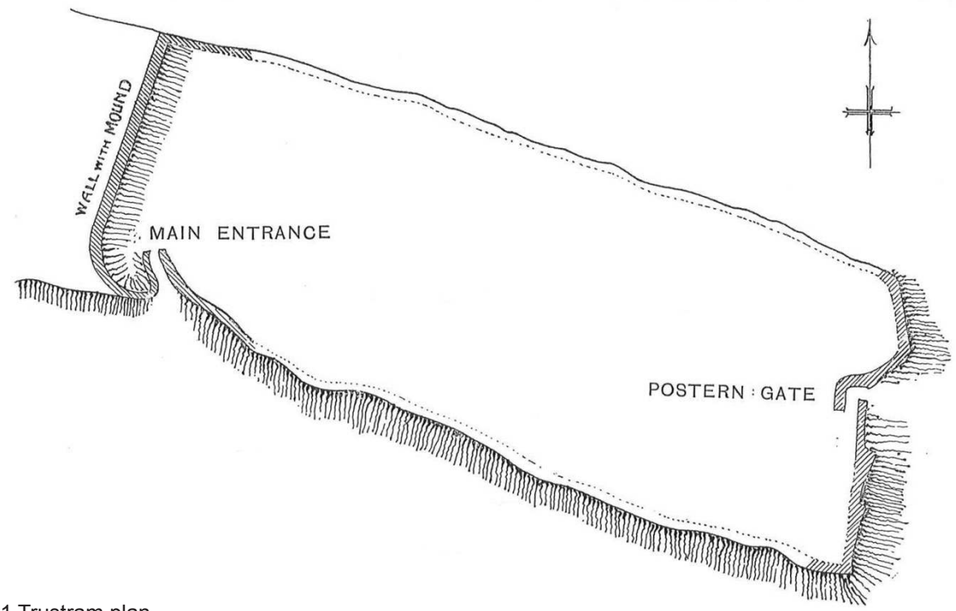
Figure 4: 1809-1810 Fairbank survey and plan



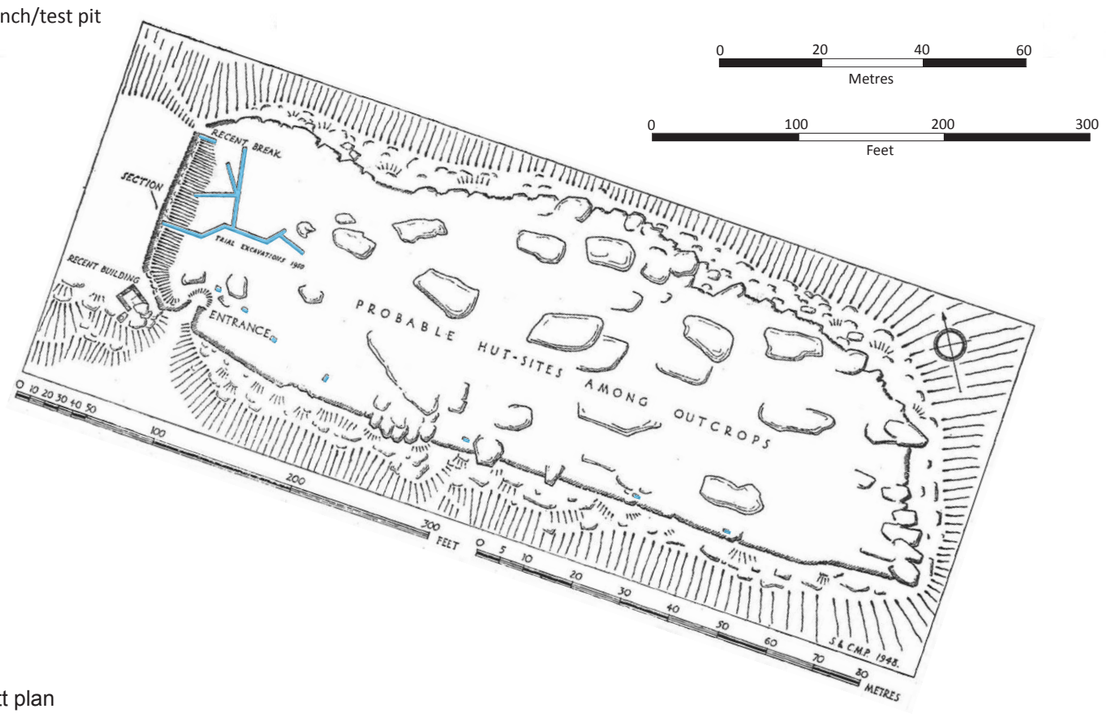
1783 Hayman Rooke plan



1903 Chalkley Gould plan



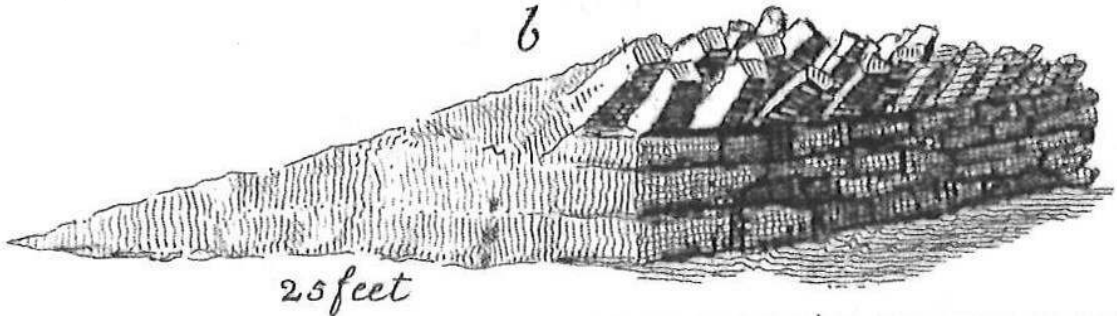
1911 Trustram plan



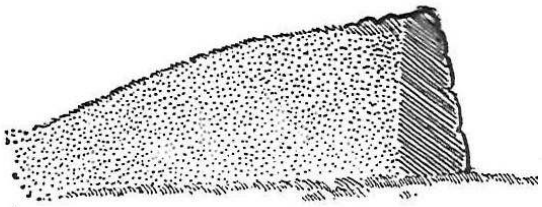
1951 Piggott plan

Figure 5: Published plans of Carl Wark, 1783-1951

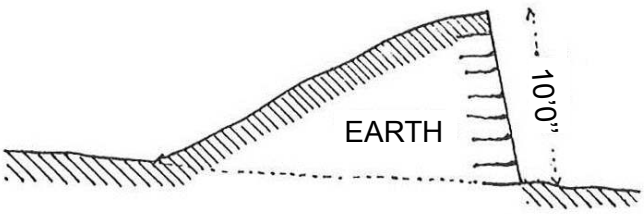
Rooke, 1783



Chalkley-Gould, 1903



Trustram, 1911



Piggott, 1951 (after F.G. Simpson)

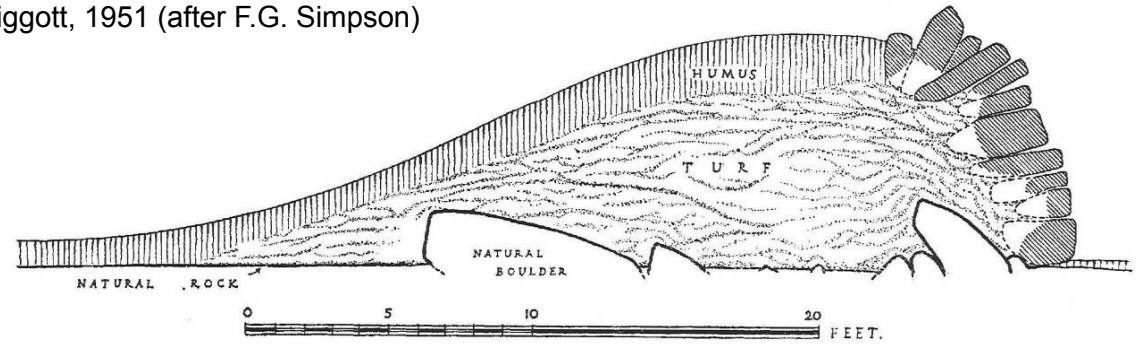


Figure 6: Published sections through the western rampart

Excavation through interior of western rampart, north-facing section (feature 89, photo y01746)

Test pit on east side of southern entrance (feature 102, photo y01745)

Excavations in interior, not mapped by Piggott (feature 96, photo y01754)

Detail of excavation through interior of main rampart showing turf-built bank (photo y01747)

Main rampart wall viewed from the south-west (feature 86, photo s21265)

Excavations in interior, not mapped by Piggott (feature 96, photo y01755)

Figure 7: F. G. Simpson’s 1950 excavations at Carl Wark

Reproduced from Bevan 2006, Plan 1.

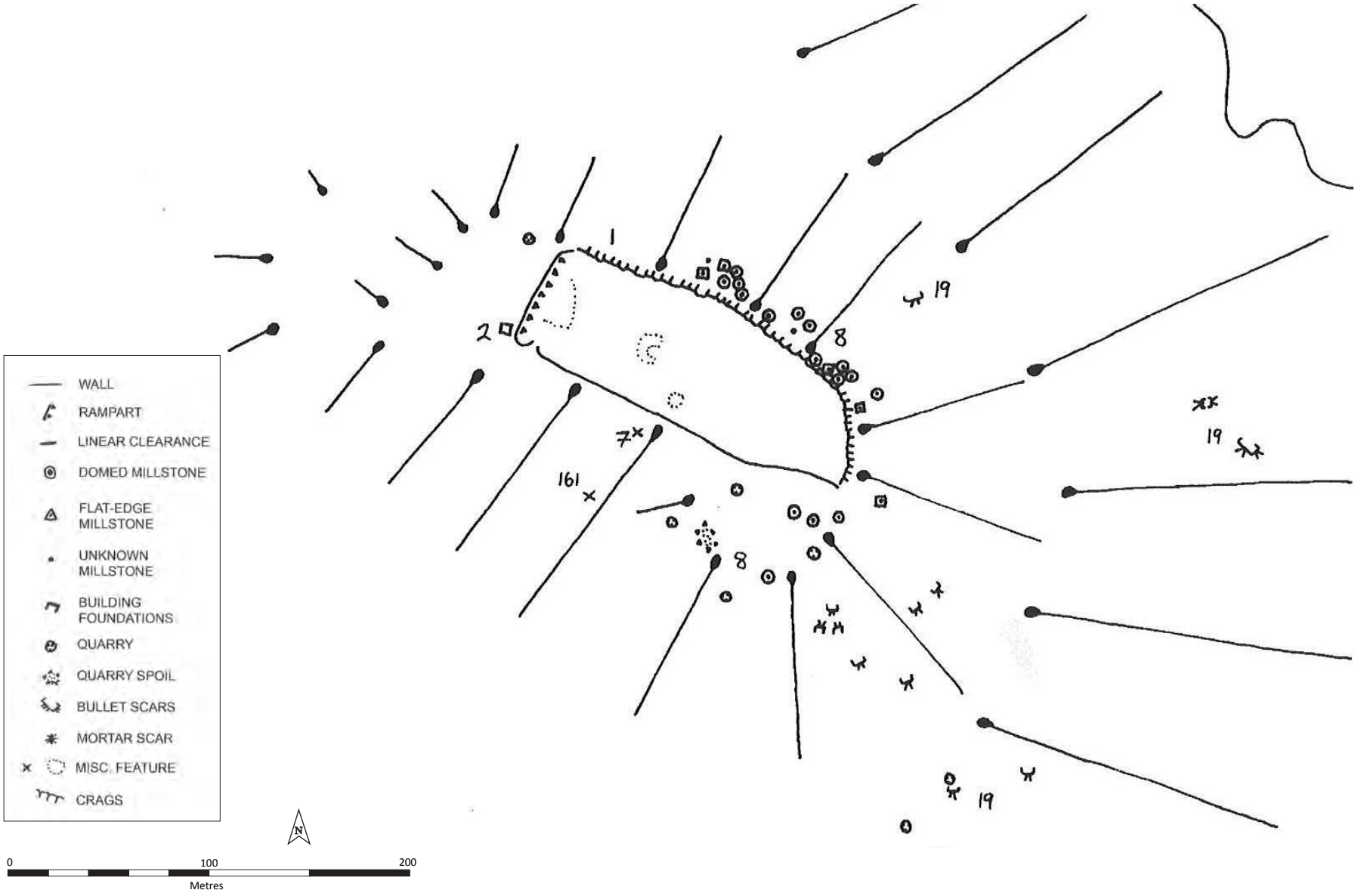
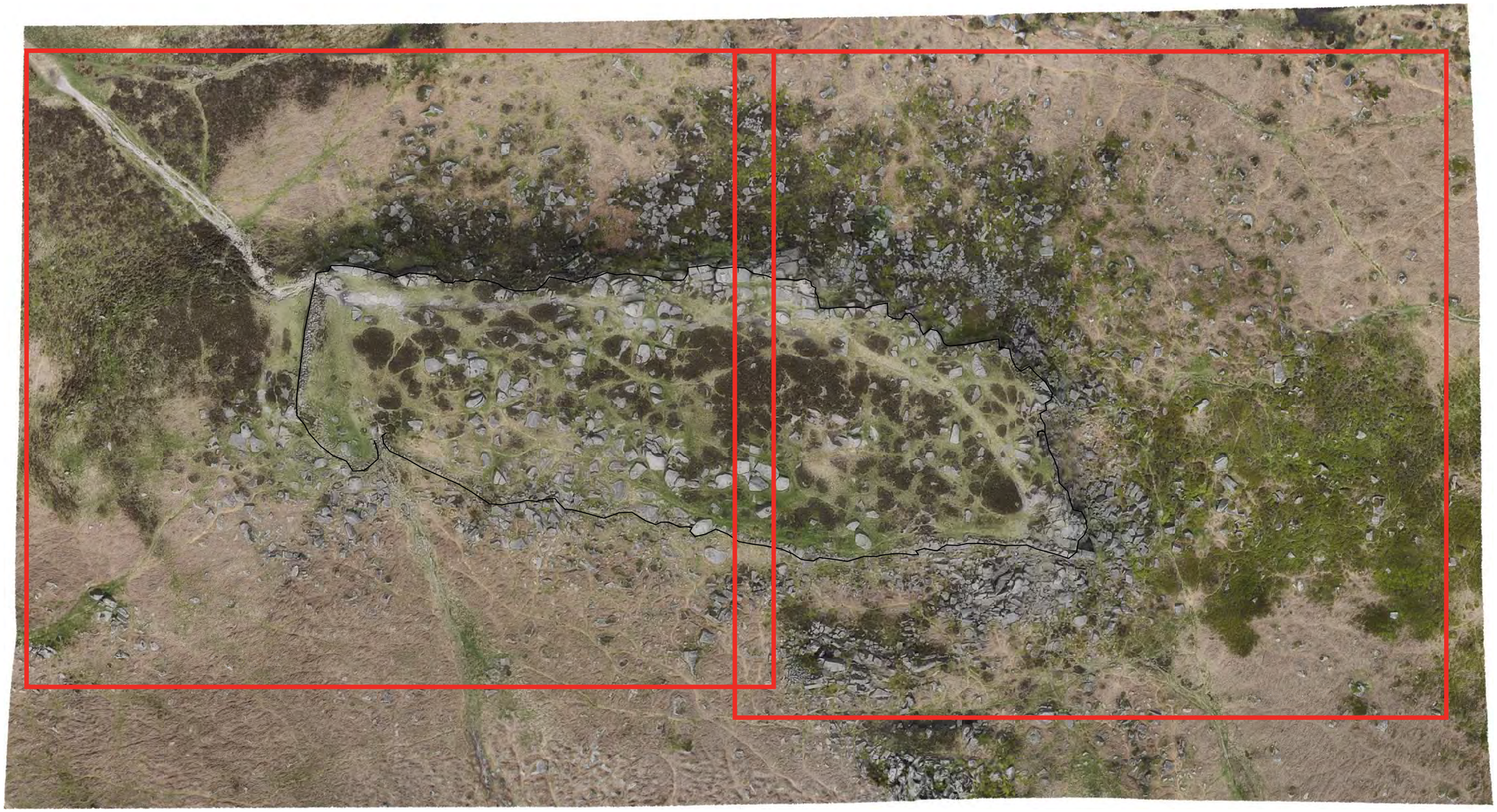


Figure 8: 2006 survey of Carl Wark by Bill Bevan

Aerial photography by SUAVE Aerial Photographers



0 50 100
Metres

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Figure 9: Overall view of Carl Wark showing locations of survey figures

Aerial photography by SUAVE Aerial Photographers

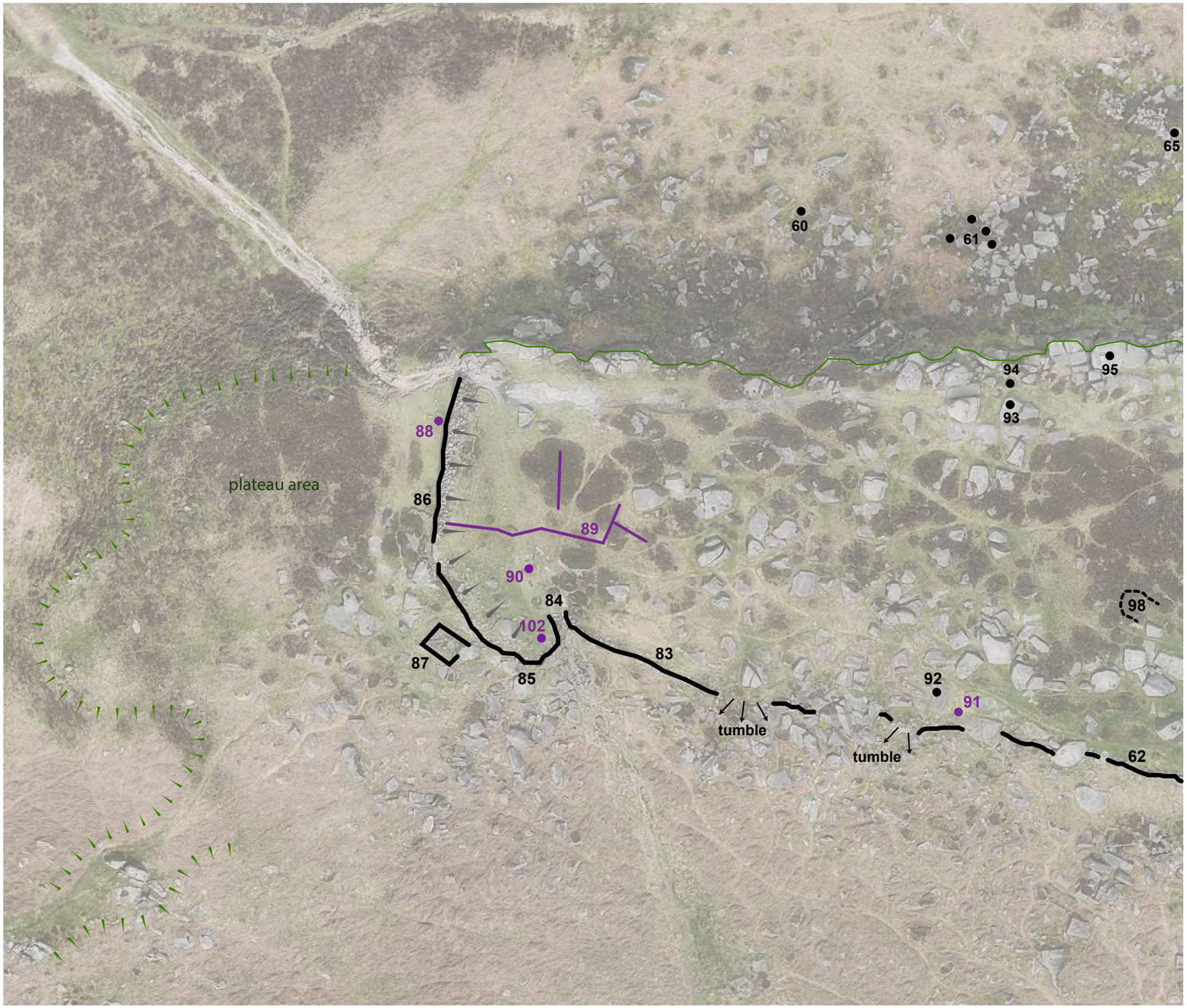


Figure 10: Plan of the west half of Carl Wark showing survey features

Aerial photography by SUAVE Aerial Photographers

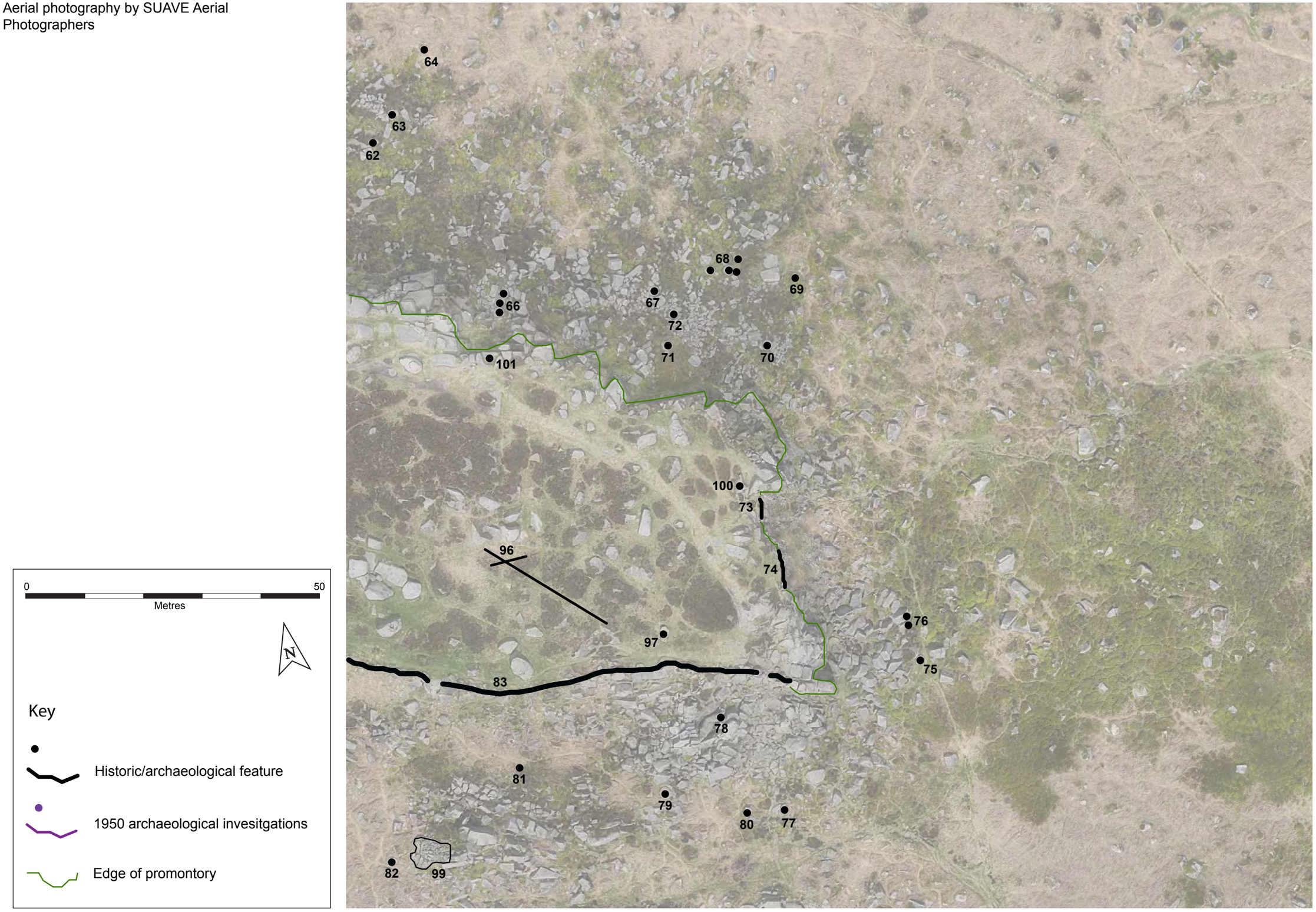


Figure 11: Plan of east half of Carl Wark showing survey features

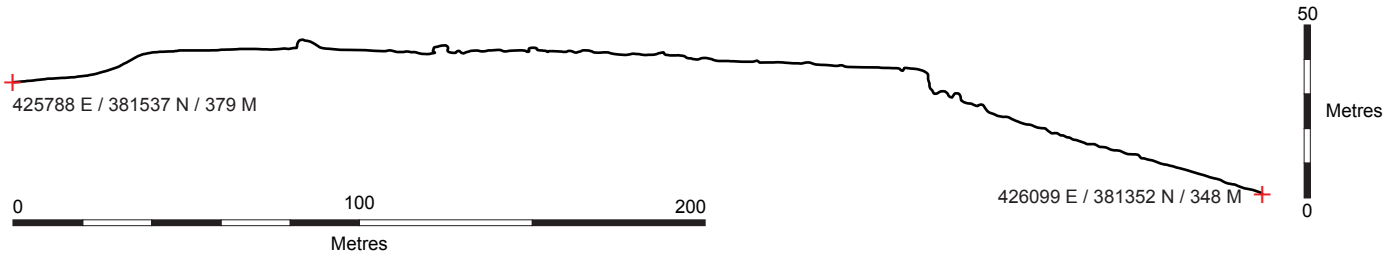


Figure 12: Southeast-facing profile through Carl Wark

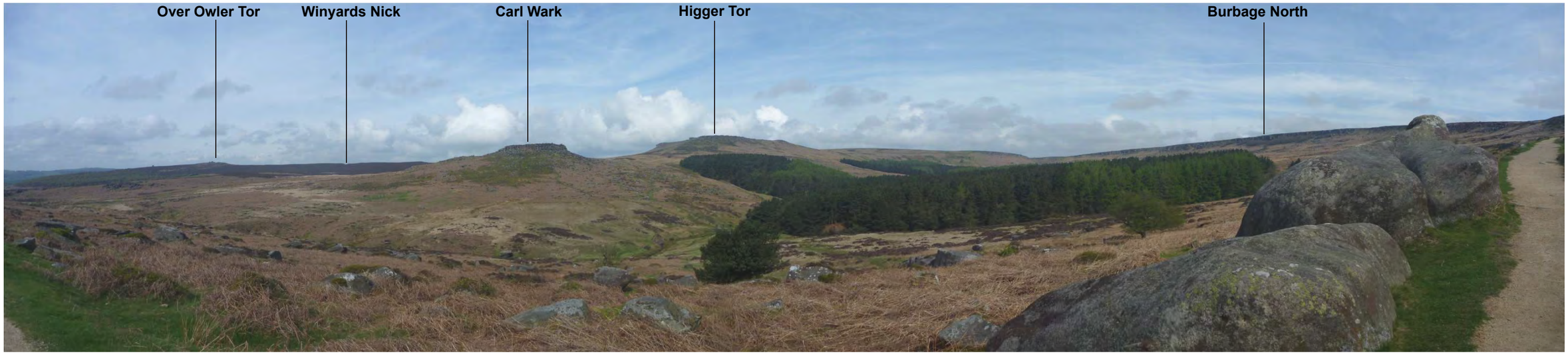
Excavations through the main rampart (interior of monument)

Note loss of some stones from top course of rampart wall since 1950

Excavation at foot of the main rampart (exterior of monument)

Trenches extending into monument interior

Figure 13: 1950 excavations, with the same locations today



180 degree panorama of the view northwest of the Green Drive

Panorama of the view to the southwest of Carl Wark, from a point southeast of the entrance

Figure 14: Panoramas of views to and from Carl Wark

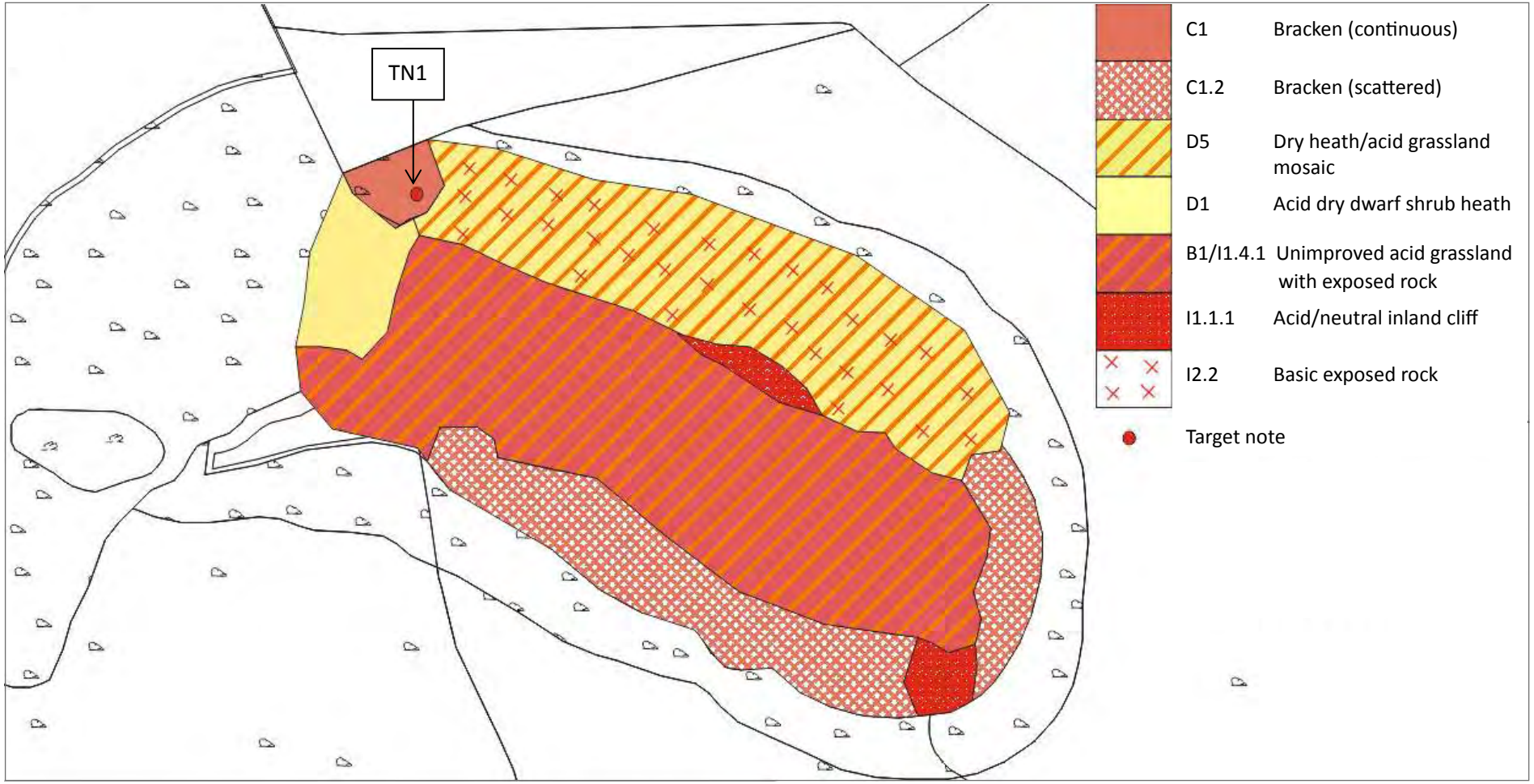
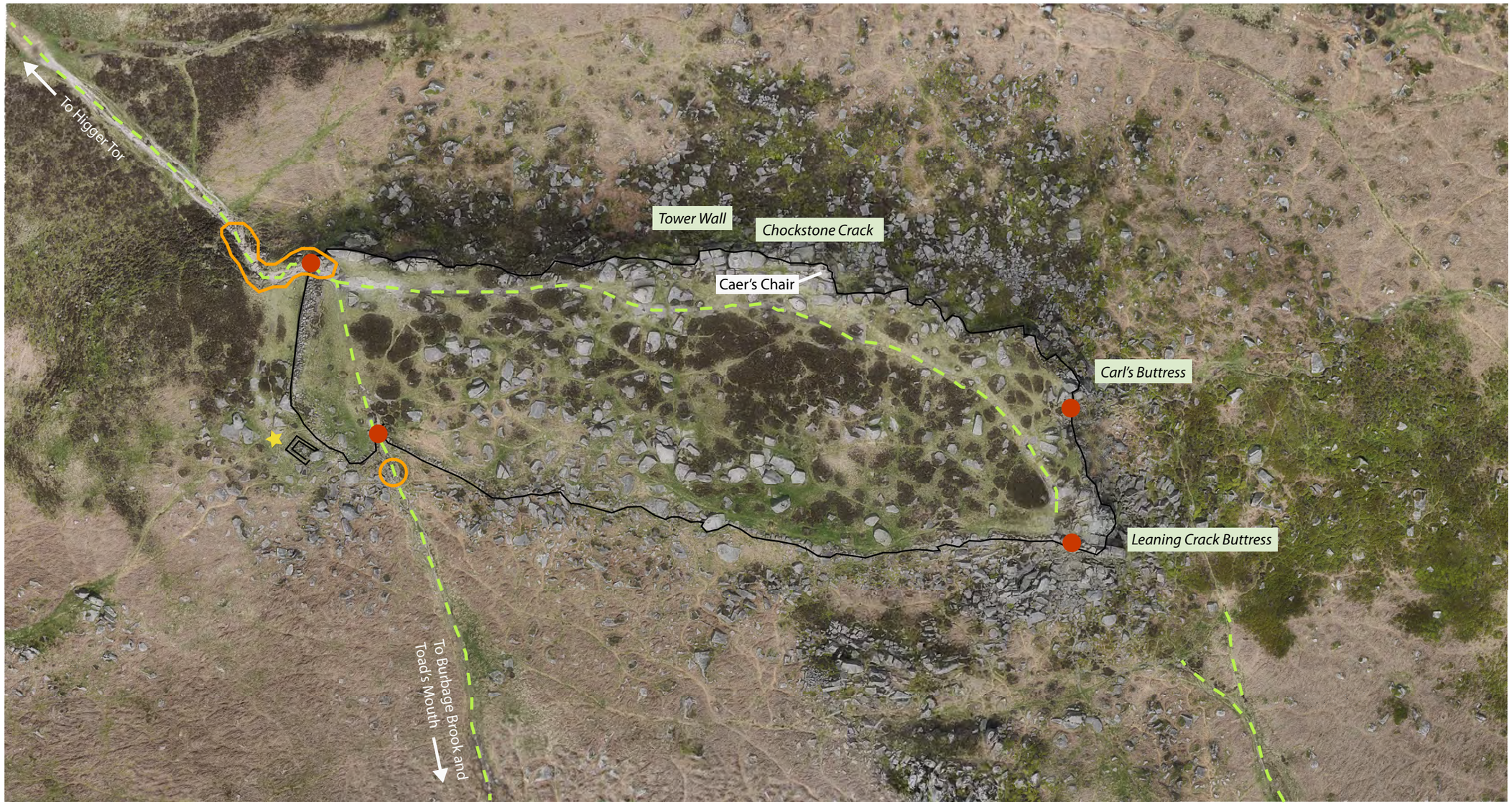


Figure 15: Phase 1 habitat survey plan

Aerial photography by SUAVE Aerial Photographers



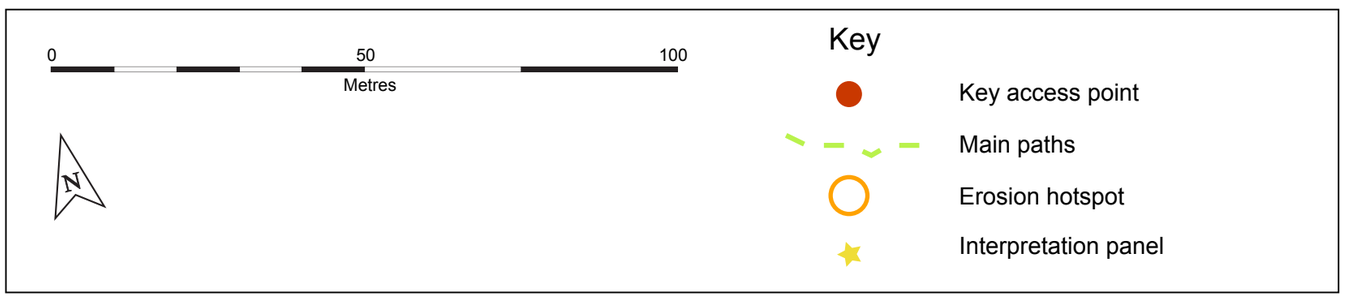


Figure 16: Main paths, access points and climbing areas

Image by SUAVE Aerial Photographers

Figure 17: Aerial view of Carl Wark, facing southeast

Image by SUAVE Aerial Photographers

Figure 18: Aerial view of Carl Wark, facing west towards Hope Valley

Image by SUAVE Aerial Photographers

Figure 19: Aerial view of western rampart and footpath

Image by SUAVE Aerial Photographers

Figure 20: Aerial view showing the path between Carl Wark and Higger Tor, facing northwest

APPENDIX 1 – GAZETTEER OF HERITAGE ASSETS

Site no	Source ID	Name	Description	Period	NGR
1	SM 1017504; SYSMR 130, 4852, 4858; NTSMR 60234*0; PS 312285; BMS 431.1, 431.2, 431.7, 431.8	Carl Wark	A fortified Millstone Grit outcrop set in moorlands and overlooking the Burbage valley. The top of the outcrop forms an almost level plateau. The monument utilises the natural defensive nature of the outcrop, having steep, rocky sides, and is reinforced where necessary with unbonded stone revetment walls. The date of the monument is uncertain, but it is thought that it may have been built during the Iron Age and reused after the Roman period. The entire fortified site is roughly rectangular in shape and measures approximately 180m by 60m. There is also evidence for stone quarrying around the slopes of the outcrop, likely to have been for the construction of millstones. The outcrop is most accessible from its west end where an unbonded stone wall has been constructed, about 3m high and 40m long, with an earthen ramp to its eastern side. The embankment is approximately 8m wide at its base. The south side has also been supplemented by a stone revetment wall of undressed stone blocks, whilst the north and eastern sides are mainly un-reinforced, with the exception of some areas of added stones. The inturned entrance is in the southwest corner. There is a small, ruined bothy or shelter to the southwest of the western rampart, apparently partly constructed of stone from the rampart itself, with a gritstone trough in one corner. The bothy is probably of post-medieval date. There is also evidence for quarrying and millstone manufacture around the south, east and north edges of the outcrop. SM.	Unknown	SK 2594 8145
2	SYSMR 864; NTSMR 60204*0; PS 312333	Plano-convex flint knife found at Carl Wark	A trimmed flint blade (Early Bronze Age plano-convex or 'slug' knife), found on Carl Wark by A.L. Armstrong, now in Sheffield City Museum. The date of the find and precise find-spot are unknown.	Bronze Age	SK 259 814
3	SYSMR 4853; BMS 431.19	Second World War military training area at Carl Wark	Bullet-scarred rocks north, northeast, east and southeast of Carl Wark (four polygons). Numerous earthfast boulders between Carl Wark and Burbage Brook which have been used for target practice. Each boulder is peppered with bullet holes, the majority shot from the south-east, suggesting a mock assault uphill towards Carl Wark from the watercourse. Burbage Valley was used for WWII military training by a number of units between at least 1941 and 1944.	Modern	SK 2607 8141
4	LB 1255107; SYSMR 4040; BMS 431.81	Packhorse Bridge approximately 850m north of Burbage Brook	Packhorse bridge spanning the Burbage Brook just north of the confluence with Parson's Brook. Built c.1750. It has a single segmental arch of coursed squared stone, paved with transverse slabs, and is 1.5m wide, 1.8m high and 3m long. It is on the line of a packhorse route between Sheffield and Hathersage. Grade II listed building.	Post-medieval	SK26345 81426

Site no	Source ID	Name	Description	Period	NGR
5	SYSMR 3974; BMS 431.20	Causeway, post-medieval packhorse route rumoured to be a Roman road	An earthen causeway, approximately 7m wide and 0.5m high aligned northeast to southwest. The feature is on the approximate postulated route of a Roman road, but has no features commonly associated with Roman construction. It is on the line of a packhorse route connecting Sheffield and Hathersage.	Post-medieval	SK 26111 81162
6	SYSMR 4853; BMS 431.41	Second World War military training trench	A small, shallow, square trench approximately 2m square and 0.2m deep. It is a silted foxhole associated with WWII military training.	Modern	SK 26200 81132
7	BMS 431.21	Packhorse route south of Carl Wark	A series of braided hollow ways aligned east to west between fords, forming part of a network of long-distance packhorse routes crossing the area. These connected Sheffield, Hathersage and Grindleford and continuing on to Tideswell and Buxton.	Post-medieval	SK 2587 81120
8	SYSMR 4851; BMS 431.5	Prehistoric round building, east of Winyards Nick	A stone and earthen bank forming a circular enclosure approximately 6m in diameter and 0.5m high, situated next to a watercourse. There is a possible entrance in the southeast-facing side. The feature may be a prehistoric stone-footed round building.	Bronze Age	SK 25674 81042
9	BMS 431.82	Sheep lee	A short stretch of drystone field wall, probably a sheep lee or shelter.	Post-medieval	SK 26342 81647
10	SYSMR 3146	Medieval pot sherds	Medieval pot sherds associated with industrial activity, found near the confluence of Burbage and Parsons Brooks.	Medieval	SK 2641 8140
11	BMS 431.60	Ruined building and enclosure	A ruined, rectangular stone building within a rectangular walled enclosure. The building is 10m by 5m and is constructed of mortared gritstone blocks. The enclosure is 24m by 14m with a drystone wall, located on a platform above a boggy delve to the north. It was shown on the 1880 OS map and was reputedly built as a farmhouse following the 1808 enclosure, but was never inhabited.	Post-medieval	SK 26543 82029
12	BMS 431.83	Ruined field barn	A small, square building approximately 3m by 3m with ruined walls standing to 0.2m high, abutting a field wall. It appears to have been built between 1822 and 1880.	Post-medieval	SK 26482 81774
13	SYSMR 4041; BMS 431.59; PS 621365	Bloomery sites east of Burbage Brook	Two areas containing mounds of industrial waste and an enclosure, representing the sites of two bloomeries. The southern area comprises three mounds and a small drystone walled enclosure. One of the mounds contains iron smelting bloomery slag and the enclosure could be an ore washing area or store. There are five mounds in the northern area. The site as a whole represents at least two bloomery hearths, a type of iron-smelting furnace used between the Iron Age and the early post-medieval periods, superseded by blast furnaces and finery forges from the end of the 15th century.	Unknown	SK 26595 81827
14	BMS 431.61	Cairn and terraced trackway	A linear stone feature which appears to be a terraced trackway with a low stone revetment, though there is no evidence for continuation of the track. A small cairn is above the linear feature and the two may be associated.	Unknown	SK 26694 81870

Site no	Source ID	Name	Description	Period	NGR
15	BMS 431.66	Bullet-scarred rocks below Burbage Edge	An extensive area below Burbage Edge containing numerous earthfast boulders which have been used for target practice. Each boulder is peppered with bullet holes, and a number of boulders have also been hit by mortar shells. Towards the north end of the area are three silted foxholes, each approximately 2m square, which might have been used for machine guns or mortars.	Modern	SK 26513 81306
16	PS 621385	Alleged cup marked stone, most likely bullet scars	Alleged prehistoric cup marks on a boulder below Burbage Edge. Six cups reported. Inspection revealed that the whole outcrop is bullet-scarred having been used for target practice.	Modern	SK 2678 8156
17	BMS 431.67	Packhorse route west of Burbage Moor	A series of braided hollow ways aligned southwest to northeast between a packhorse bridge across Burbage Brook and the gap in the vertical scarp of Burbage Edge. They form part of a complex of long-distance packhorse routes that cross the area, connecting Sheffield, Hathersage and Grindleford.	Post-medieval	SK 26665 81395
18	SYSMR 4864; BMS 431.57	Duke of Rutland's Green Drive	Terraced trackway running the length of Burbage Valley. It is revetted in places with large boulders and is approximately 5m wide. A number of trackways and hollow ways join the track, associated with quarrying. The trackway was built by the Duke of Rutland between 1857 and 1870 as part of a network of carriage routes designed for viewing the Longshaw Estate.	Post-medieval	SK 26516 81218
19	BMS 431.68	Possible base of waymarker post, Burbage	Earthfast boulder with a socket on the top and a carved panel on one side. The socket may have held a short wooden or gritstone post, whilst the recess may have held a panel. The stone is probably the setting for a waymarker associated with the adjacent hollow way.	Post-medieval	SK 26647 81402
20	SYSMR 4868; BMS 431.69	Possible prehistoric carved rock, Burbage (SMR 4868)	A small circular cup in the top of an earthfast boulder. It appears to be carved but could be the result of natural weathering. Human-made cup marks date from prehistory, probably from the Neolithic to Bronze Age, and are usually enclosed within carved rings.	Unknown	SK 26610 81230
21	SYSMR 4869; BMS 431.70-76, 431.78-79; PS 1466358	Burbage Edge quarrying area.	An extensive area of post-medieval quarrying at Burbage and Wildmoorstones Edge, near Burbage Bridge. An extensive area of surface quarrying and vertical face quarries, unfinished carved gritstone blocks, chisel marks, quarry waste, working platforms and a shelter on the southern half of Burbage Edge. There are also terraced trackways leading to various parts of the quarries. Unfinished stone products include millstones, crushing stones, gate posts, troughs, door steps, lintels and roof ridge tiles.	Post-medieval	SK 2640 8090

Site no	Source ID	Name	Description	Period	NGR
22	BMS 431.77	Ruined walls and gateposts west of Burbage Quarry	Two ruined drystone walls near the southern end of Burbage Edge, running just below a break of slope between steeper ground below the Edge and a flatter area east of Burbage Brook. They are aligned approximately northwest to southeast. The northern wall turns to run upslope and contains two gateposts where it is crossed by the Green Drive. The walls were part of a longer boundary between Burbage Brook and the southern end of Burbage Edge that was in place by 1830.	Post-medieval	SK 26206 80786
23	BMS 431.80	Probable day-working area east of Burbage Brook	An area comprising six round and linear cairns, and an unfinished gate post, occupying a flatter area of ground east of Burbage Brook. The cairns are substantial features and appear to comprise stone that has been dumped on top of and between earthfast boulders. They probably represent waste stone within an area of day-working.	Post-medieval	SK 2613 8083
24	LB 1255074	Burbage Bridge	Turnpike road bridge spanning the Burbage Brook. Built c.1758. A solid wall of uncoursed rubble with two irregular buttresses on each side, pierced by a round culvert. Parapet walls with slab coping, parts of it renewed. Carries the road from Sheffield to Hathersage. Grade II.	Post-medieval	SK 26133 80699
25	SYSMR 4862; BMS 431.46	Day-working quarry area at Toad's Mouth	A small area of surface quarries, a cairn, a worked gritstone block and short terraced trackway within a boulder field at Toad's Mouth.	Post-medieval	SK 26078 80695
26	SYSMR 4855; BMS 431.31	Modern grafitti on Toad's Mouth boulder	An outcropping boulder naturally bearing a resemblance to a toad, with a single cup and ring carving on the northeast-facing side, forming the eye of the toad. It is presumably a 19th- or 20th-century addition.	Modern	SK 26068 80676
27	NTSMR 60233*0	Ruined building beside Burbage Brook	An unfinished drawing by Butcher in 1956 shows a rectangular building 3.4m wide by 7.3m long beside Burbage Brook. It remains as a single course of large, shaped stones with vertical slabs at one end.	Unknown	SK 260 805
28	SYSMR 3794; PS 621383	Unclassified settlement at Burbage Moor	Alleged settlement of unspecified date at Burbage Brook, comprising two crude longhouses and one square building, excavated from the drift and partly defined by upcast banks, with associated structures. Excavated in 1976. No features located in this area during the Burbage Moor Survey in 2006.	Unknown	SK 261 809
29	BMS 431.45	Terraced trackway east of Toad's Mouth	A narrow terraced trackway running diagonally up a steep slope from Burbage Brook onto a small inclined plateau. It leads towards the lines of packhorse routes and may have been part of these long-distance tracks.	Post-medieval	SK 26033 80894

Site no	Source ID	Name	Description	Period	NGR
30	SM 1017507; SYSMR 135, 2449, 3795; NTSMR 60200*0, 60205*0, 60232*0; PS 312295, 621369; BMS 431.28	Toad's Mouth field system	A field system comprising a series of at least 70 Bronze Age cairns with associated lynchets and clearance banks. The remains overlook the Burbage Valley, a short distance to the north of a natural rock outcrop known as the Toad's Mouth. The features show that the area was one of prehistoric settlement comprising an area cleared of stones and used for agriculture. They occupy gently shelving and relatively well-drained land facing to the southwest. Many of the cairns appear to have been placed over large earthfast boulders. At least one appears to have been reused as a shooting butt. They vary in size from 2-9m in diameter. The lynchets are now fragmentary and only a few centimetres in height. In the centre-west area of cairnfield are the fragmentary remains of linear banks comprised of stone clearance debris. SM.	Bronze Age	SK 2592 8081
31	BMS 431.30	Packhorse routes running through Toad's Mouth field system	A series of braided hollow ways, aligned approximately north to south. It runs through Toad's Mouth prehistoric field system, and forms part of a complex of packhorse routes connecting Sheffield, Hathersage and Grindleford.	Post-medieval	SK 2590 8077
32	BMS 431.32	Ruined building west of Toad's Mouth	A rectangular gritstone building, 7m by 5m and standing up to 1m high. There is an entrance in the southeast-facing side. It does not appear on any historical maps, and the lack of slumping around the sides suggest a relatively recent date, possibly 19th or 20th century. It may be associated with the Duke of Rutland's Longshaw estate or WWII practice.		SK 25853 80605
33	SM 1016754; SYSMR 856; NTSMR 60203; PS 312304; BMS 431.33	Cairn 380m southwest of Burbage Bridge	A stone cairn situated on a spur of land overlooking the Burbage Valley, with a Bronze Age cairnfield and field system to the immediate northeast. It lies on gently sloping, open moorland. The cairn is approximately 7.5m in diameter and is roughly circular in plan. The cairn is larger than most of those in the cairfield to the northeast, and may have had a different function. It is likely to belong to the Bronze Age period and may have been used as a funerary monument. SM.	Bronze Age	SK 25766 80575
34	NTSMR 60205*0	Shooting butt on Hathersage Moor	The site of what at first was thought to be a hut circle was found by Butcher 457m NW of Burbage Bridge. The OS inspector noted it as remains of an old shooting butt, an opinion with which Mr Butcher agreed. No excavations or surveys have been carried out. No features were noted at this location during the Burbage Moor Survey of 2006 and it is possible that this reference relates to a feature further east, within Toad's Mouth field system (site 30).		SK 25651 80830

Site no	Source ID	Name	Description	Period	NGR
35	SM 1017589; SYSMR 4564; PS 312336; BMS 431.27	Ringcairn 500m northwest of Burbage Bridge	A ring cairn situated on the western edge of a stream, on gently sloping ground overlooking the Burbage Valley. It is roughly circular with external dimensions of approximately 10m by 9.5m. It comprises a bank of stones and turf standing to a maximum height of about 0.4m and the internal dimensions are 7.5m by 6m. The bank contains some notably larger stones (orthostats) amongst the smaller stones. There is an opening on the southern side. The interior is flat and stone-free. A cairnfield is located about 180m to the southeast, and another c.240m to the northwest, both of which may be contemporary with the cairn. It is interpreted as a Bronze Age ring cairn possibly used for funerary and ritual purposes. SM.	Bronze Age	SK 2567 8093
36	BMS 431.26	Barrow between Toad's Mouth and Winyards Nick	A stone built, sub-circular round barrow, approximately 7m by 8m in diameter and 0.5m high. It is built on a gentle slope below Winyards Nick cairnfield, and is visible from Winyards Nick and from the edge of Toad's Mouth cairfield. It is a type of barrow built during the later Neolithic to earlier Bronze Age.	Bronze Age	SK 25590 80940
37	BMS 431.22	Packhorse route south of Winyards Nick	A series of braided hollow ways aligned approximately east to west, probably connecting to 431.30 (Site 31) and heading south. It forms part of a network of packhorse routes connecting Sheffield, Hathersage and Grindleford.	Post-medieval	SK 25295 80932
38	BMS 431.24	Possible standing stone south of Winyards Nick	An upright stone, 1.1m by 1.8m in plan and 0.7m high. The stone is similar to probable standing stones within Winyards Nick cairnfield to the northeast. It is relatively isolated and there are no packing stones around its base, and it could alternatively be an earthfast boulder moved by glacial action.	Unknown	SK 25238 80857
39	BMS 431.34	Day-working quarry area east of Over Owler Tor	Part of an area of day-working surface quarry remains following the outcropping edge of Over Owler Tor. Unfinished millstones indicate that these were the main product of the quarries.	Post-medieval	SK 25187 80820
40	BMS 431.23	Cairn south of Winyards Nick	An oval stone cairn measuring 8m by 5m and 0.3m high. The feature is most likely a prehistoric burial barrow or ceremonial monument, possibly associated with Winyards Nick cairnfield to the east. It is probably of later Neolithic to early Bronze Age date.	Bronze Age	SK 25160 80898
41	SYSMR 855; NTSMR 60202; PS 312301	Mesolithic to Bronze Age flints and arrowheads found at Burbage	Two microliths, a leaf-shaped arrowhead, two barbed and tanged arrowheads, a flint scraper, blade and flakes were found as surface finds c.1910, and are now in Sheffield City Museum.	Prehistoric	SK 2515 8090
42	BMS 431.15	Three probable cairns west of Winyards Nick	An oval, flat-topped stone cairn and two possible cairns located in a group. The southernmost cairn is 7m by 4m and 0.5m high, and is possibly a prehistoric barrow. The other two features are similar but less well formed. They may be cairns but could be natural features. The cairns may be associated with Winyards Nick cairnfield to the east.	Bronze Age	SK 25146 80992
43	SYSMR 5146	Mesolithic flint finds at Winyards Nick	Flint scrapers, blades/flakes and a microlith tip of early Mesolithic date found near Winyards Nick. Currently in the Henderson Collection held by Sheffield Museum.	Prehistoric	SK 252 810

Site no	Source ID	Name	Description	Period	NGR
44	SM 1017588; SYSMR 3132; NTSMR 60214*0; BMS 431.4; PS 312290	Winyard Nick field system	A field system comprising a series of at least 20 Bronze Age cairns with associated clearance banks overlooking the Burbage Valley to the west of Carl Wark. The remains demonstrate that this was an area of prehistoric settlement lying on gently shelving and relatively well-drained south-facing land. Many of the cairns have been placed over large, earthfast boulders, and they vary in size from 2m to 9m in diameter. To the south of the cairns and the made cleared areas are the fragmentary remains of a linear clearance bank, aligned east-west, with more fragments of linear clearance banking to the north west which are curving and run north-south. A hut site was recorded within this area in the 1930s; Barnatt could not find this during his 1986 survey, but noted that an ephemeral earthwork could have been hidden by heather. SM.	Bronze Age	SK 2537 8110
45	BMS 431.9	Packhorse route running through Winyards Nick	A series of braided hollow ways aligned east to west and running through Winyards Nick field system, which is located in a natural gap in an otherwise steep ridge. It is part of a network of packhorse routes connecting Sheffield, Hathersage and Grindleford.	Post-medieval	SK 25390 81115
46	SYSMR 869; NTSMR 60207*0; PS 312351	Mesolithic and Bronze Age flints found in the vicinity of Winyards Nick	Two scrapers, a barbed and tanged arrowhead, a microlith and flint flakes, recovered as surface finds in 1963.	Prehistoric	SK 2521 8116
47	SM 1018069; SYSMR 853; PS 1167694; BMS 431.6	Cairns at Winyards Nick, 680m WSW of Carl Wark Hillfort	The remains of two or three stone cairns situated in a prominent location on shelving ground. The monument overlooks several prehistoirc field systems. The cairns lie in an unusual formation in that one (at the north end) appears to overlie the remains of one, or possibly two, other cairns. Alternatively, this may be a single cairn, or two cairns, to which a platform has been added on the southern side. They may be funerary monuments rather than clearance cairns. SM.	Bronze Age	SK 2530 8126
48	SM 1017590; SYSMR 4565; BMS 431.3	Cairn at Winyards Nick, 470m southeast of Mitchell Field	A stone cairn situated on the top of an east-west ridge with commanding views. The cairn stands at the highest point in the local landscape on a north-facing edge overlooking the Hope Valley to the west and the gritstone moors to the north and northwest. It overlooks Bronze Age field systems and cairnfields to the north at Callow and Car Head Moor. The cairn is roughly oval in plan and measures 8m by 7m. SM.	Bronze Age	SK 2517 8146
49	SYSMR 4860; BMS 431.13	Ruined building west of sheepfold on Hathersage Moor	A ruined building, approximately 5m square, surviving as a low platform. It does not appear on any historical maps, suggesting it either pre-dates 1830 or was too short-lived to have been mapped.	Post-medieval	SK 25207 81507
50	BMS 431.16	Packhorse route west and southwest of Higger Tor	A series of braided hollow ways running approximately north to south along the western side of Higger Tor. They form part of a network of packhorse routes connecting Sheffield, Hathersage and Grindleford. Two polygons.	Post-medieval	SK 2522 8157

Site no	Source ID	Name	Description	Period	NGR
51	SYSMR 4859; BMS 431.10	Quarrying southwest, west and northwest of Higger Tor	Three groups of small quarries and spoil heaps west of Higger Tor. The quarries could have provided gritstone for a variety of uses, including walling, building and road making. The absence of part-finished products suggests this was not an area of day-working. Three polygons.	Post-medieval	SK 2530 8186
52	BMS 431.12	Ruins of Higger Lodge	A large, sub-rectangular area of gritstone rocks, approximately 16m by 16m in extent with straight edges on three sides. The spread is on the site of a building known as Higger Lodge, which was depicted on the 1880 OS map and was a shooting lodge for the Duke of Rutland. It was demolished around 1945.	Post-medieval	SK 25232 81623
53	BMS 431.11	Bank and ditch north of enclosure on Hathersage Moor	An earthen bank and ditch on a north-south alignment. It is located to the north of a rectangular moorland enclosure and is probably a drain for the enclosure, which was constructed between 1840 and 1880.	Post-medieval	SK 25313 81676
54	SYSMR 854; NTSMR 60201; PS 312298	Mesolithic flints found on Higger Tor	Microliths, a rough micro-burin and waste chert flakes, and a minute tranchet arrowhead recovered as surface finds on the slope below Higger Tor. Possibly a Mesolithic flint-working site.	Prehistoric	SK 256 819
55	SYSMR 3136	Flint blade of unknown date on Hathersage Moor	A worked flint blade of unknown date recovered as a surface find on Hathersage Moor, north of Higger Tor.	Prehistoric	SK 2558 8210
56	SYSMR 4859; BMS 431.17	Quarrying north of Higger Tor	A small group of quarry delves, spoil heaps and shallow vertical rock-cut faces forming an area of stone-getting and day-working on the northwest flank of Higger Tor. The quarries could have provided gritstone for a variety of uses, including walling, building and road making.	Post-medieval	SK 25625 82168
57	BMS 431.18	Packhorse route east of Higger Tor	Braided hollow ways running approximately north to south along the eastern side of Higger Tor. They would have given local access to the area of moorland between Higger Tor and Carl Wark, possibly for the transport of millstone and other quarry products, and would also have formed part of the packhorse routes connecting Hathersage, Outseats and Sheffield.	Post-medieval	SK 2583 8214
58	BMS 431.50	Quarries and spoil mounds adjacent to a road	A series of large spoil mounds and small quarry delves alongside the Sheffield to Hathersage turnpike road. The quarries may have been excavated to provide stone for the construction of the road.	Post-medieval	SK 2575 8244
59	BMS 431.48	Sheepwash enclosure adjacent to Burbage Brook	A sub-circular drystone walled enclosure situated immediately adjacent to Burbage Brook. It is approximately 14m by 10m in extent, and the wall survives to a height of between 0.1 and 0.3m Most of the boundary is a ruined bank. There is a 3m square walled enclosure within the northern end of the feature, with an entrance facing the brook which has been dammed to create a pool 4m square opposite the enclosure. The enclosure would have been a sheepwash, for managing a flock while washing them in the stream. It is depicted on the 1880 OS map.	Post-medieval	SK 26192 82362
60	BMS 431.8	Millstone	Partly worked flat millstone and working debris on north flank of Carl Wark.	Post-medieval	SK 25923 81519

Site no	Source ID	Name	Description	Period	NGR
61	BMS 431.8	Millstones	Four domed millstones, some with carvings at centre, on north flank of Carl Wark.	Post-medieval	SK 25942 81508
62	BMS 431.8	Millstone	Roughly worked flat millstone.	Post-medieval	SK 25975 81509
63	BMS 431.8	Millstone	Domed millstone on north flank of Carl Wark.	Post-medieval	SK 25977 81511
64	BMS 431.8	Millstone	Slightly domed millstone with central hole, on north flank of Carl Wark.	Post-medieval	SK 25985 81520
65	BMS 431.8	Millstone	Slightly domed millstone on north flank of Carl Wark.	Post-medieval	SK 25970 81521
66	BMS 431.8	Millstones	Three domed millstones on north flank of Carl Wark. Each with same carvings in centre 'S W'.	Post-medieval	SK 25987 81480
67	BMS 431.8	Millstone	Domed millstone, similar to group feature 13, on north flank of Carl Wark.	Post-medieval	SK 26011 81473
68	BMS 431.8	Millstones	Four domed millstones, one with a central cross, on northeast flank of Carl Wark.	Post-medieval	SK 26022 81472
69	BMS 431.8	Millstone	Domed millstone with central 'W' carved on it, on northeast flank of Carl Wark.	Post-medieval	SK 26037 81463
70	BMS 431.8	Millstone	Roughly worked flat millstone, which has been propped from behind with a chockstone. On northeast flank of Carl Wark.	Post-medieval	SK 26025 81456
71	BMS 431.8	Millstone	A millstone, probably flat, well worked beneath, but has been turned over so rough unworked face is uppermost. On northeast flank of Carl Wark.	Post-medieval	SK 26010 81462
72	BMS 431.8	Millstone	A millstone, probably flat, well worked beneath, but has been turned over so rough unworked face is uppermost. Rough side has 'TC' carved into it. On northeast flank of Carl Wark.	Post-medieval	SK 26012 81467
73	BMS 431.1	Boulder wall	Placed boulders forming part of 'defensive' wall on east side of Carl Wark promontory. Adjacent to the 'Postern Gate' (Trustram 1911) although this might be a more modern entrance. A few bullet scars are present on these boulders.	Unknown	SK 26018 81430
74	BMS 431.1	Boulder wall	Placed boulders forming part of 'defensive' wall on east side of Carl Wark promontory. Adjacent to the 'Postern Gate' (Trustram 1911) although this might be a more modern entrance. A few bullet scars are present on these boulders.	Unknown	SK 26017 81420
75	BMS 431.8	Millstone	Slightly domed millstone with central hole on east flank of Carl Wark.	Post-medieval	SK 26034 81397
76	BMS 431.19	Bullet scars	Bullet scars on large boulders adjacent to minor footpath, on east flank of Carl Wark.	Post-medieval	SK 26034 81403
77	BMS 431.8	Millstone	Domed millstone with part-worked central hole, and carvings (possibly 'LX') on southeast flank of Carl Wark .	Post-medieval	SK 26004 81379
78	BMS 431.19	Bullet scars	Bullet scars on outcropping rock face, on approach to minor footpath access at southeast corner of Carl Wark.	Post-medieval	SK 25998 81398
79	BMS 431.8	Millstone	Flat millstone on southern flank of Carl Wark.	Post-medieval	SK 25987 81387
80	BMS 431.8	Millstone	Flat millstone on southern flank of Carl Wark.	Post-medieval	SK 25998 81379
81	BMS 431.8	Depression	Depression within general scree on south side of Carl Wark - probably quarry working.	Post-medieval	SK 25964 81399
82	BMS 431.8	Millstone	Very roughly worked millstone on southern flank of Carl Wark.	Post-medieval	SK 25940 81391

Site no	Source ID	Name	Description	Period	NGR
83	BMS 431.1	Boulder wall	Drystone boulder wall running along most of length of southern edge of Carl Wark. Embanked on north side with earth. Utilises large earthfast boulders and slabs where these outcrop. The wall survives up to 4 courses high in places. In some places the boulders have tumbled downslope to the south. At its western end, the wall curls northwards to form the main southerly entrance to Carl Wark.	Unknown	SK 25963 81415
84	BMS 431.1	Entrance	Main southern entrance to Carl Wark, formed by wall features 83 and 85.	Unknown	SK 25872 81476
85	BMS 431.1	Rampart	Rampart of earth and stone forming the western side of the main southern entrance (84) and curving round to form the main 'defensive' structure on the western side of Carl Wark. Stonework survives up to 5 courses high close to entrance, but whole structure becomes more degraded further west. The wall utilises earthfast slabs and boulders at some points. Bullet scars are visible close to south entrance. This portion of the wall may have been robbed to create the structure to the southeast (feature 87) but was once presumably of similar appearance to the northern portion of rampart (feature 86).	Unknown	SK 25858 81478
86		Rampart and wall	Rampart of earth embanked behind a stone revetment. The revetment wall may have originally been vertical, but now rests at an angle. This section of rampart/wall is continuous with feature 85, but of a very different character, being much better preserved (possibly rebuilt?) and standing up to 3m high. It has been broken through at the northern end to provide access into Carl Wark, as the main approach from Higger Tor. This rampart was investigated archaeologically by F. G. Simpson in 1950.	Unknown	SK 25862 81502
87	BMS 431.2	Structure	Remains of a square structure (c 4m x 5m) at the southwest corner of Carl Wark (outside the main rampart). Part of a large earthfast boulder my have been incorporated and modified to form the southeastern wall/entrance. Some carvings (initials) are located on this boulder. The walls are formed of worked blocks on two faces with a rubble core (c 80cm thick). It has been suggested the rampart wall (feature 85) was robbed to build this structure. A trapezoidal stone-cut trough is located to the south, and a partially worked millstone is within the structure. Cox (1907) states the building was constructed between 1873 and 1893.	Post-medieval	SK 25853 81476
88		Previous archaeological trench	Depression of former archaeological trench probably excavated by F.G. Simpson in 1950 on west (outer) side of main rampart wall (feature 86). Partly reed-filled.	Post-medieval	SK 25864 81509
89		Previous archaeological trench	Depression of former archaeological trench excavated by F.G. Simpson in 1950 through main rampart embankment (feature 86). Partly reed-filled at bottom of slope. Historic photographs show mottled soil section interpreted as turf-built bank. No other records are known to survive.	Post-medieval	SK 25880 81484
90		Previous archaeological trench	Depression of former test-pit excavated by F.G. Simpson in 1950, just inside main south entrance to Carl Wark. No records are known to survive.	Post-medieval	SK 25869 81483

Site no	Source ID	Name	Description	Period	NGR
91		Previous archaeological trench	Depression of former test-pit excavated by F.G. Simpson in 1950, along north side of southerly boulder wall, inside Carl Wark. No records are known to survive.	Post-medieval	SK 25920 81442
92		Mortar scar	Two mortar scars on earthfast slab within Cark Wark, close to southern boulder wall.	Post-medieval	SK 25920 81447
93		Mortar scar	Mortar scar on earthfast slab within Carl Wark, close to northern crag edge.	Post-medieval	SK 25944 81484
94		Carving	Graffito carved into small earthfast stone - date '1971'.	Post-medieval	SK 25944 81486
95		Carving	Linear groove carved into slab which forms the top of the crag. In cross section the groove has two sloped edges, which drop down into a small regular groove at the base. c 20cm wide at the top, and c 5cm wide at the base. Metal chisel marks are clearly seen on the sloped sides. Possibly relates to millstone quarrying activity. c 2.5m long in total.	Post-medieval	SK 25959 81486
96	Picture Sheffield image	Previous archaeological trench	Depression of former archaeological trench excavated by F.G. Simpson in 1950. Two cuts, forming a rough X shape. One arm of the X running approximately east-west is c 5m long, the other running northwest-southeast is c 15m long. Clear sharp cut sides are still apparent in places. Trenches are damp and reed-filled in part. See also Picture Sheffield image y01755.	Post-medieval	SK 25973 81436
97		Bullet scars	Bullet scars on an earthfast boulder towards the southeast end of Carl Wark.	Post-medieval	SK 25994 81415
98		Bank	Possible C-shaped bank formed with soil and earthfast stones - approximately 5m diameter (may be natural).	Unknown	SK 25952 81446
99	Bevan 2006	Quarry spoil	Angular blocks of quarry working waste on the southern flank of Carl Wark.	Post-medieval	SK 25944 81391
100		Carving	Graffito carved into earthfast slab 'Harry Armitage 1957' with a triangle carved below.	Post-medieval	SK 26015 81435
101	ARS Ltd 2012	Quarrying	Area of quarrying on top of cliff edge, north side of Carl Wark.	Post-medieval	SK 25981 81469
102	Picture Sheffield image	Previous archaeological trench	Archaeological test pit excavated by F.G. Simpson in 1950, identified on historic photographs. See also Picture Sheffield image y01745.	Post-medieval	SK 25867 81473
103	HAS Index	Prehistoric flint working site and huts	A circular hut floor and hearth recorded by W.M. Cole in 1936, and a flint working floor with numerous flint chippings, partially worked flint and chert implements, rubbing stones and earth discoloured by fire. One of the rubbing stones was of Langdale tuff. The site was bulldozed and partly destroyed during fire prevention work in 1959. Part of a jet bangle was found in the same area in 1961.	Prehistoric	SK 2516 8085

APPENDIX 2 – PHOTOGRAPHS

Plate 10: Carl Wark viewed from the southeast

Plate 11: Carl Wark viewed from the east, with Burbage Brook and Lower Burbage Bridge

Plate 12: Bullet scarred boulder below the eastern flank of Carl Wark

Plate 13: Higger Tor viewed form Carl Wark

Plate 14: Domed millstone with carved letters (feature 61)

Plate 15: Slightly domed millstone with central hole (feature 64)

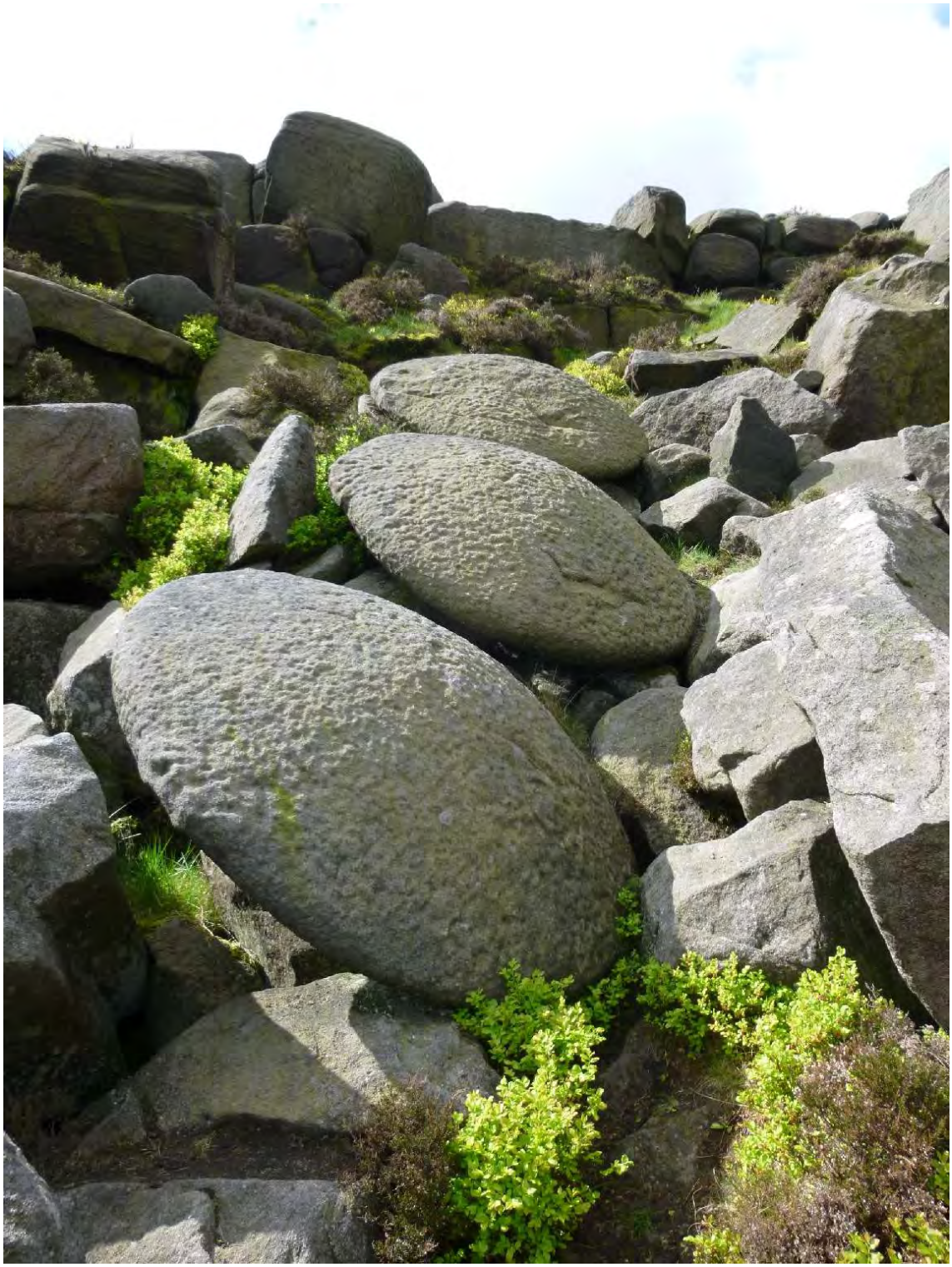


Plate 16: Three domed millstones each with 'S W' carved in centre (feature 66)

Plate 17: Flat millstone, partially prepared (feature 70)

Plate 18: Flat millstone, partially prepared, showing chockstone at rear (feature 70)

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Plate 24: Boulder wall forming southern edge of Carl Wark, four courses high (feature 83)

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Plate 27: Western end of southern boulder wall (feature 83)

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Plate 37: View along top of rampart, to north (feature 86)

Plate 38: View along top of rampart to south (feature 86)

Plate 39: Remains of square structure at southwest end of Carl Wark, with interpretation panel (centre) and Higger Tor (background). Note tumbled stones on northwest wall (feature 87)

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Plate 44: Graffiti dated 1957 (feature 100)

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Plate 46: Chockstone Crack and Tower Wall climbing area, north side of Carl Wark

Plate 47: Carl's Buttress climbing area, northeast corner of Carl Wark

Plate 48: Leaning Crack Buttress climbing area, southeast corner of Carl Wark

Plate 49: Slight erosion on footpath to north of Carl Wark

Plate 50: Main footpath between Carl Wark and Higger Tor (viewed to northwest)

Plate 51: Braided footpath on main approach to northwest 'entrance' of Carl Wark from Higger Tor

Plate 52: Previously repaired footpath erosion at northwest entrance to Carl Wark

Plate 53: Footpath erosion and animal burrows on the rampart at the northwest 'entrance'

Plate 54: Footpath erosion to south of southern entrance to Carl Wark

Plate 55: Slight footpath erosion on minor path approaching southeast entrance to Carl Wark

Plate 56: Stone removed from ruined structure (feature 87)

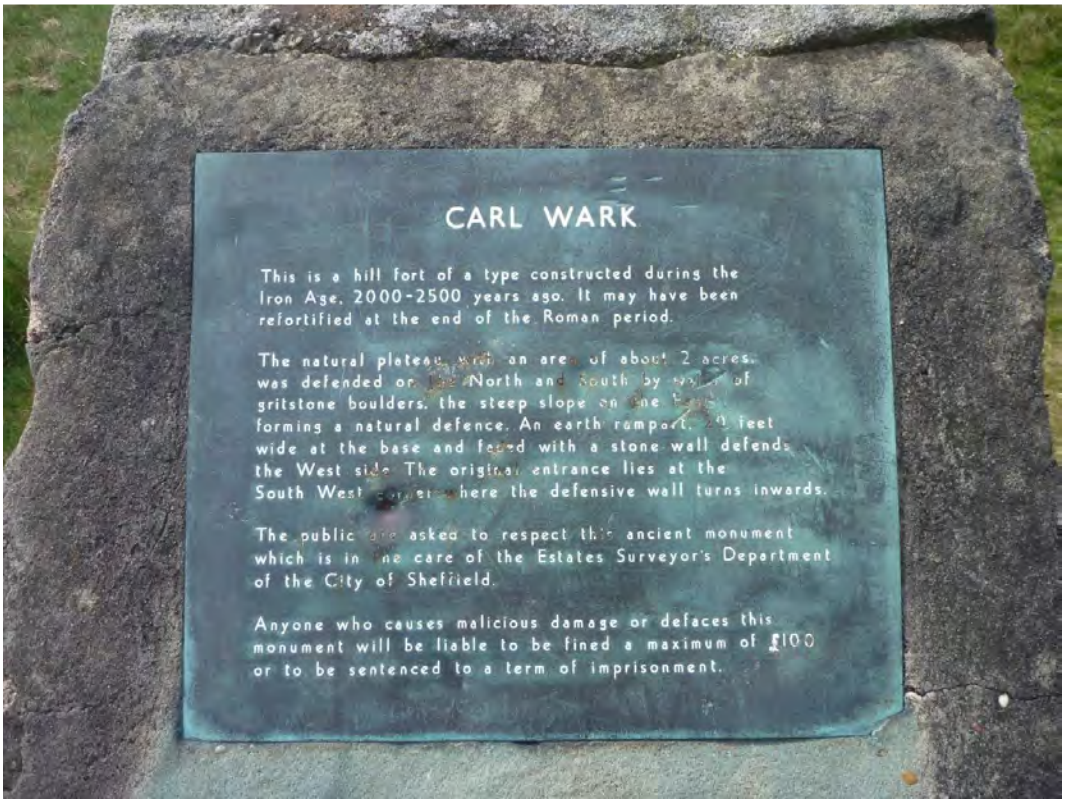

Plate 57: Current interpretation panel located to west of Carl Wark

APPENDIX 3 – CARL WARK SCHEDULING INFORMATION

Extract from English Heritage's Record of Scheduled Monuments

MONUMENT	Carl Wark slight univallate hillfort
PARISH	Sheffield
DISTRICT	Sheffield
COUNTY	South Yorkshire
NATIONAL HERITAGE LIST ENTRY	1017504
NATIONAL MONUMENT NO	29791
NGR	SK 2594 8145

DESCRIPTION

The monument includes a fortified Millstone Grit outcrop set in moorlands and overlooking the Burbage valley. The top of the outcrop forms an almost level plateau. The monument utilises the natural defensive nature of the outcrop, having steep, rocky sides, and is reinforced where necessary with unbonded stone revetment walls. The date of the monument is uncertain, but it is thought that it may have been built during the Iron Age and reused after the Roman period. The entire fortified site is roughly rectangular in shape and measures approximately 180m by 60m.

There is also evidence for stone quarrying around the slopes to the fortified outcrop. The stone is likely to have been used for the construction of millstones and grindstones for the emerging metal industries of Sheffield. The evidence for millstone quarrying at the site is shown by a discarded millstone to the west of the fortifications.

The natural outcrop is most accessible from its west end where an unbonded wall has been constructed from blocks of local stone. The wall is about 3m high and 40m long and has an earthen ramp to its eastern side. The wall appears to have a battered back but this appearance may be due to subsidence in the earthen ramp. The embankment wall is approximately 8m wide at its base. It is topped with large semi-upright boulders up to about 1m in length and 0.45m wide. They appear to have been roughly dressed and some have tool marks but are now well weathered. Some stone robbing appears to have taken place at the north but more so at the south end of the wall; otherwise the revetted wall is in good condition.

The north side of the fortification relies chiefly on the natural defensive nature of the outcrop, being essentially a steep-sided rock face. In some places where access would have been less difficult, the top of the rock face has been reinforced with stone blocks, similar to those in the west wall, but mainly undressed.

The eastern end of the fortification is formed by the impressive natural defence of the outcrop but, as with the northern side, some rough stone blocks have been used to reinforce small areas. In one place, a raised platform was added behind a stone revetment to enhance the height of the defences by about 1m.

The southern side of the fortified area is less steep than the north and east sides and the defensive position of the site has been enhanced by a stone revetment wall for almost its entire length. The undressed stone blocks of the south wall serve to raise its height by approximately 1m to form a level platform inside the site. For the last 30m of the western end of the south wall, the revetment wall utilises dressed and more regularly placed gritstone blocks near inturned entranceway. This entranceway is at the point of easiest approach to the site on this side. The revetment wall is backed by an earthen embankment.

The construction of the hillfort fortifications is unusual as normally they have earthen ramparts rather than stone revetment walls. About 80% of the interior of the fortified area is strewn with large, earthfast boulders, but it appears to have been cleared of smaller material which was no doubt used in the construction of the revetments. To the immediate east of the west wall, and behind the entranceway in the south side, is a level area cleared of all stone debris.

The plateau of the outcrop extends for about 50m to 80m to the west of the substantial west wall of

the monument, before falling away level with the rest of the surrounding moorlands. Immediately outside of the fortified area are the foundations of a small building at the south end of the west wall. It appears that the material for the construction of the building was robbed from the west wall itself. The foundations of the building stand to a maximum height of about 0.6m with a wall thickness of 0.8m. It measures 6m by 4m and its interior is covered with stone debris including the broken remains of a large millstone. Adjacent, to the south, is a rainwater collection trough, hewn from a large boulder. The date of the building is unknown but apparently pre-dates the millstone and post-dates the west wall of the fortifications. To the north of the small building is a modern stone pillar bearing a bronze interpretation plaque. To the south of the fortified area in particular, there is evidence for stone getting in the debris surrounding the site.

Excluded from the scheduling is the stone pillar and metal interpretation plaque, although the ground below these features is included.

ASSESSMENT OF IMPORTANCE

Slight univallate hillforts are defined as enclosures of various shapes, generally between 1ha and 10ha in size, situated on or close to hilltops and defined by a single line of earthworks, the scale of which is relatively small. They date to between the Late Bronze Age and Early Iron Age (eighth to fifth centuries BC), the majority being used for 150 to 200 years prior to their abandonment or reconstruction. Slight univallate hillforts have generally been interpreted as stock enclosures, redistribution centres, places of refuge and permanent settlements. The earthworks generally include a rampart, narrow level berm, external ditch and counterscarp bank, while access to the interior is usually provided by two entrances comprising either simple gaps in the earthwork or an inturned rampart.

Postholes revealed by excavation indicate the occasional presence of portal gateways while more elaborate features like overlapping ramparts and outworks are limited to only a few examples. Internal features included timber or stone round houses; large storage pits and hearths; scattered postholes, stakeholes and gullies; and square or rectangular buildings supported by four to six posts, often represented by postholes, and interpreted as raised granaries. Slight univallate hillforts are rare with around 150 examples recorded nationally. Although on a national scale the number is low, in Devon they comprise one of the major classes of hillfort. In other areas where the distribution is relatively dense, for example, Wessex, Sussex, the Cotswolds and the Chilterns, hillforts belonging to a number of different classes occur within the same region. Examples are also recorded in eastern England, the Welsh Marches, central and southern England. In view of the rarity of slight univallate hillforts and their importance in understanding the transition between Bronze Age and Iron Age communities, all examples which survive comparatively well and have potential for the recovery of further archaeological remains are believed to be of national importance.

Carl Wark slight univallate hillfort survives well. The defensive features used to enhance this naturally defendable site are probably prehistoric in origin and remained in use during the Iron Age. It is also thought that the site was rearranged and reoccupied during the post Roman period. The relatively late reuse of such a site in this area of England is unusual.

SCHEDULING HISTORY

Monument included in the Schedule on 12th September 1933 as:

COUNTY/NUMBER: Yorkshire 221A; NAME: Carl Wark (fort)

Scheduling amended on 1st April 1974 to:

COUNTY/NUMBER: Yorkshire 221A; NAME: Carl Wark (fort)

Scheduling revised on 23rd December 1997. The reference of this monument is now:

NATIONAL MONUMENT NUMBER: 29791; NAME: Carl Wark slight univallate hillfort.

APPENDIX 4 – PHASE 1 ECOLOGY SURVEY

PBA APPLIED ECOLOGY

Settle | Sheffield | Inverness

Extended 'Phase 1' Habitat Survey

Carl Wark, Burbage Moor

Sheffield, South Yorkshire

ArcHeritage

31 March 2014

Commercial Courtyard, Settle, North Yorkshire BD24 9RH
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Report title:	Extended 'Phase 1' Habitat Survey, Carl Wark, Burbage Moor, Sheffield, South Yorkshire
Edition:	v.1.1
Report date:	31 March 2014
Client:	ArcHeritage.
Originated by:	P. Bradley and N. Wilkinson
Checked by:	N. Wilkinson
Approved by:	P. Bradley
Circulation:	Client
Status:	Final

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Contents

1. Introduction

This report describes the habitats and associated features of evident ecological interest in the vicinity of Carl Wark, Burbage Moor. Ecological features warranting further specific survey and assessment are highlighted.

Carl Wark presents as an exposed outcrop of millstone grit, which shows signs of having been historically worked for millstones. Deep peat of the moor gives way to thin soils as the land rises up to the plateau and along well-used footpaths approaching the site. Vegetation is a mix of heather, bracken and coarse grasses.

2. Approach

The 'extended phase I survey' is part of a widely employed hierarchical system of ecological assessment of planned development projects (IEEM, 2012. Guidelines for preliminary ecological appraisal). The standard 'phase I' habitat mapping survey is 'extended' to highlight, with target notes, features of apparent or potential ecological significance; some of which might warrant further specific survey and assessment. Any such 'phase 2' surveys might form technical addenda to the current report and, where required, subsequently aggregated to form a single ecological assessment of the planned development.

2.1 Extended Phase I Habitat Survey

The habitat survey comprised mapping of vegetative communities present on-site. The survey area extended to the boundary fence of the site, covering an area of approximately 500 square metres. A brief visual inspection of fields, hedgerows, and water bodies within the local area was undertaken following the site survey to identify the suitability of the surrounding area for protected species.

The habitat mapping survey followed standard methodology (JNCC, 2010). Each habitat type is recorded by way of colour or code, allowing simple interpretation of the resulting habitat map.

2.2 Target Notes

In line with standard practice (JNCC, 2010; IEEM, 2012), the standard 'Phase I Habitat Survey' mapping exercise was extended with numbered 'target notes' highlighting features of evident or potential ecological significance in respect of the planned development. Such features might include indications of the likely presence of protected species, such as badger, bats, breeding birds or amphibians.

Land within and surrounding the development was surveyed for signs of badgers, including; setts, bedding, hairs, tracks, latrines, feeding signs and paw prints. The timing of the survey in early spring is within the recommended period for badger survey. Any setts found would be classified by the methods laid out within Harris *et al* (1991).

The habitat was assessed for its potential to support breeding bird species and birds present within or adjacent to the site were recorded. Where possible, the surveyor determined the way in which birds were utilising the site *e.g.* breeding, foraging.

Habitats with the potential to host bats were assessed for their potential to support roosts and foraging. This focused upon the buildings within the site, but also the presence of potentially suitable features within any mature trees and hedgerows.

An assessment for amphibian concerns was undertaken by the use of aerial photographs and OS maps to identify any water bodies with in 500m of the survey site; followed by ground-truthing during the site visit to determine suitability within and adjacent to the site.

The likely suitability of the habitat to support populations of reptiles was assessed.

2.3 Survey Constraints

Due to project timetabling, the survey was undertaken in mid-March. Due to the mild 2013/2014 winter, spring vegetation had begun to emerge, though it was not at the optimum time for surveying.

Weather at the time of survey was suitable; being overcast, with moderate wind and a temperature of 7^{o}C.

3. Survey Results

The following chapter has been produced based upon information gathered during the extended Phase 1 Habitat survey. The survey was undertaken on the 15 March 2014.

3.1 Desk Study

Data provided by SBRC was interpreted to determine the presence of statutorily and locally designated species and habitats. Whilst biological records are rarely comprehensive, they may provide valuable information on the presence of species not recorded during field surveys.

The desk study highlighted the presence of several important bird species and protected mammals within 2km of the site.

Site designations include: SSSI (Eastern Peak Districk Moors – 1007184), SAC (South Pennine Moors – UK0030280), SPA (Peak District Moors – South Pennine Moors Phase 1 – UK9007021) and Schedule Monument status. The SSSI citation lists breeding birds, upland vegetation, lower plants and invertebrates as the interest features.

3.2 Habitat Survey

Carl Wark is surrounded by a mixture of upland heathland, dry acidic grassland, fens and plantation woodland. Upland heathland (UK BAP Habitat) dominates areas immediately east and west of the site. Smaller patches of fen (UK BAP Habitat) are located to the north and east of Carl Wark. Dry acidic grassland is generally mixed among other habitats. Coniferous woodland listed on the National inventory of woodland and trees (England) is located to the north east of the site.

The site itself is a mixture of upland heathland and dry acidic grassland, with extensive strips of bare ground and boulders. The site supports plant species that are characteristic of acid moorland, including ling heather (*Calluna vulgaris*) and areas dominated by bracken (*Pteridium* sp.). Amongst gritstone boulders, additional habitat structure supports a range of widespread species including: bilberry (*Vaccinium myrtillus*, crowberry (*Empetrum nigrum*), hard fern (*Blechnum* sp.), broad buckler fern (*Dryopteris dilatata*) and waved silk-moss (*Plagiothecium undulatum*). Closely grazed coarse grasses dominate the plateau, include tufted hair-grass (*Deschampsia cespitosa*) and common bent (*Agrostis capillaris*). Additional plant species recorded on the plateau include heath rush (*Juncus squarrosus*), heath bedstraw (*Galium saxatile*), and heath woodrush (*Luzula multiflora*).

3.3 Fauna

The following brief summary is based upon information resulting from the extended Phase 1 habitat survey, together with referenced target notes as applicable. Any requirements for further, more specific surveys are set out within section 4.

3.3.1 Badger

Badgers have previously been recorded within 2km of the site. However, no signs of badger (*Meles meles*) were identified within the site boundary. In addition, no foraging evidence was found and no setts were detected within 30 metres. It is determined that the site and immediate surrounding habitat is of poor suitability for badger.

3.3.2 Bats

Three records of bats within 2km were held by the record centre. No signs of bats were recorded during the survey. Whilst the cliff face includes a number of deep crevices, these appear unsuitable to support roosting bats.

3.3.3 Breeding birds

Only three bird species were recorded during the current 'Phase I' survey on 15th March: meadow pipit (*Anthus pratensis*), carrion crow (*Corvus corone*), and wren (*Troglodytes troglodytes*). The surveyor has previously noted cuckoo (*Cuculus canorus*) at this site, but this species has suffered national decline, and is now likely to be no more than an infrequent visitor. A 2004 breeding bird survey of the area carried out on behalf of the Moors for the Future Partnership, recorded two relatively scarce species nesting at Burbage Moor: ring ouzel (*Turdus torquatus*) stonechat (*Saxicola rubicola*). Both species are likely to visit Carl Wark, together with more frequent wheatear (*Oenanthe oenanthe*) and curlew (*Numenius arquata*). However human visitor pressure to this site is likely to deter all but the most determined nesting attempts. A single pellet of short-eared owl (*Asio flammeus*) was found at location TN1 (Appendix 1). No other signs were found of birds of prey currently using this site. At a less disturbed outcrop location, peregrine (*Falco peregrinus*) might be expected, but Carl Wark is usually too disturbed for this species.

SBDC holds extensive records of birds within a 2km radius of Carl Wark. These records contain several nationally rare and protected species, including; hen harrier (*Circus cyaneus*) and merlin (*Falco columbarius*). Heavy human disturbance pressure at Carl Wark is likely to be unfavourable for anything more than passing flights by these two raptors. The majority of specialist moorland breeding bird species are more likely to nest in areas away from human presence.

3.3.4 Amphibians

Analysis of OS and aerial maps identified a pond within the field approximately 100 metres of the east site margin. Records show there are no known GCN populations located within 2km of the site.

3.3.5 Reptiles

No reptiles were encountered, but both viviparous lizard (*Zootoca vivipara*) and European adder (*Vipera berus*) might be expected at this free-draining site with frequent refuges and basking opportunities. The records show that viviparous lizards are present within 2km.

4. Recommendations and Mitigation

4.1 Avoiding impacts on flora and fauna through changes in management

The current human influence on the site is extensive, the volume of human visitors and the extensive number of paths and tracks in the area limit the potential for positive ecological management of the site. The nature of the site means visitors explore beyond the footpaths and disturb greater areas of habitat. Around trampled areas there is likely to be an increase in vegetation diversity. If conservation of plant diversity is considered potentially important to the future management of the site, vegetation would need to be assessed by specific survey carried out in the Summer. Human disturbance means that most moorland bird species birds, with the exception of e.g. meadow pipit, are unlikely to nest near the site.

Beyond restricting visitors to a limited number of routes there is, at present, rather limited scope for ecological conservation management at Carl Wark.

References

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IEEM (2012). *Guidelines for preliminary ecological appraisal*. Institute of Ecology and Environmental Management, Winchester.

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Mitchell-Jones A.J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.

Appendices

Appendix 1

Legislation

A1.1 European protected species

Bats, Otters, Pool frog, Natterjack toad and Great crested newts receive protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are therefore subject to the provisions of Section 9 of the Act. These species are also protected under The Conservation of Habitats and Species Regulations 2010 which make provision implementing Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (the Habitats Directive). An offence is committed under Regulation 39 if a person;

- Deliberately captures, injures or kills any such species
- Deliberately disturbs wild animals of any such species in such a way as to be likely significantly to affect the ability of any significant group of animals of that species to:

  i) to survive, to breed or to reproduce or to rear or nurture their young or

  ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate or the local distribution or abundance of that species.

A1.2 UK Protected Species

The above mentioned species (Schedule 5, section 9) are protected against intentional or reckless killing, injury or removal, and anyone undertaking these activities is guilt of an offence.

Under schedule 5 a wider range of species are also protected against killing, sale and habitat destruction.

Hedgehogs are partly protected under Schedule 6 of the Wildlife and Countryside Act (1981). It is illegal to trap or kill them without a licence.

Breeding bird species are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Under section1, all birds' nests and eggs are protected, making it an offence to (with exemption) intentionally;

- Kill, injure or take any wild bird,
- Take, damage or destroy the nest of any wild bird while it is in use or being built,
- Take or destroy the egg of any wild bird.

Further protection is provided for birds listed under schedule 1 of the Wildlife and Countryside Act 1981 (as amended). These species are protected under a penalty system. It is therefore an offence the intentionally or recklessly;

- Disturb any Schedule 1 bird while it is building a nest or is in or near a nest containing eggs or young,
- Disturb dependent young of any Schedule 1 bird

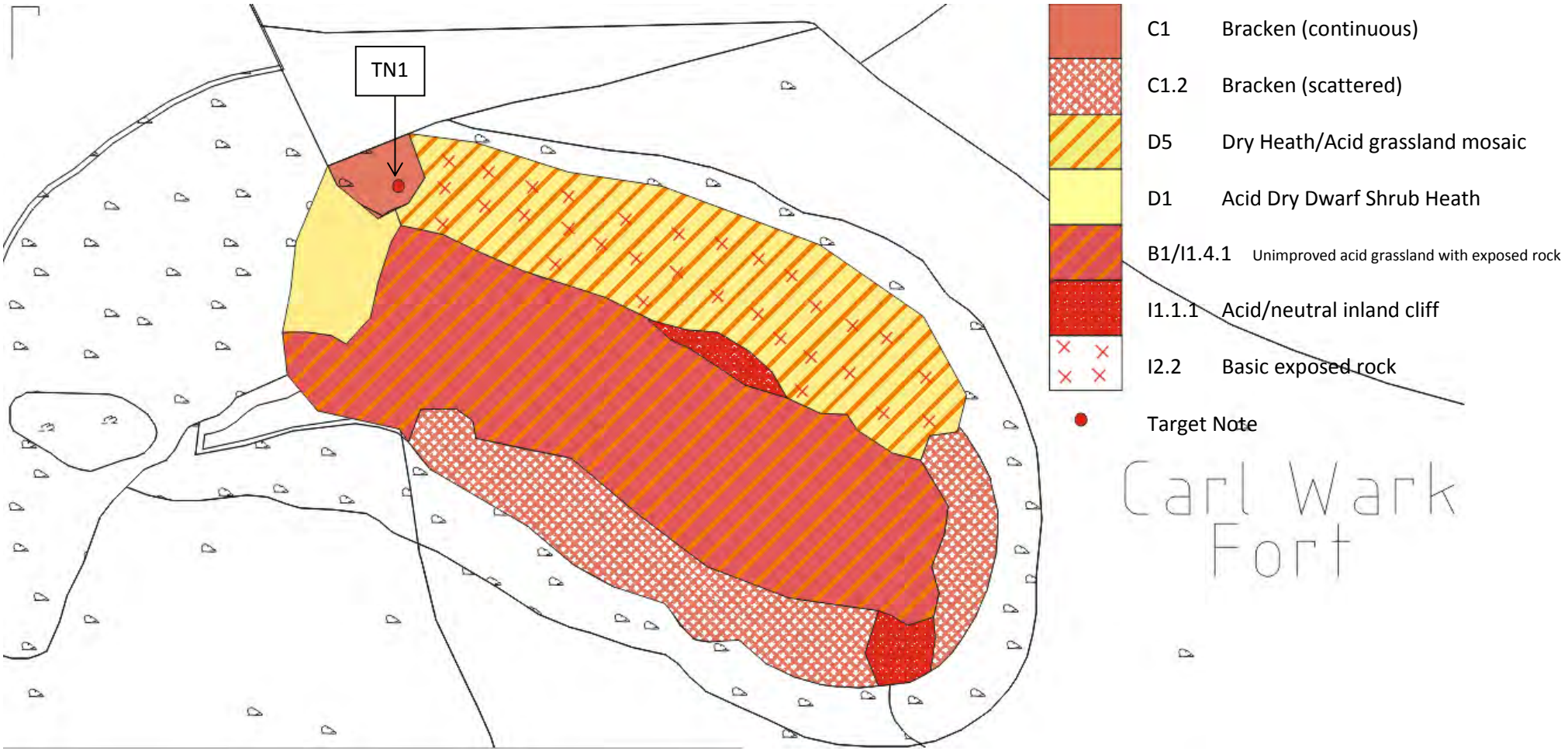
The Protection of Badgers Act 1992, makes it an offence to;

- Wilfully kill, injure, take, possess or cruelly ill-treat a badger; or
- Attempt to do so; or
- Intentionally or recklessly interfere with a sett by damaging, destroying, obstructing, causing a dog to enter a sett or disturbing an occupied sett.

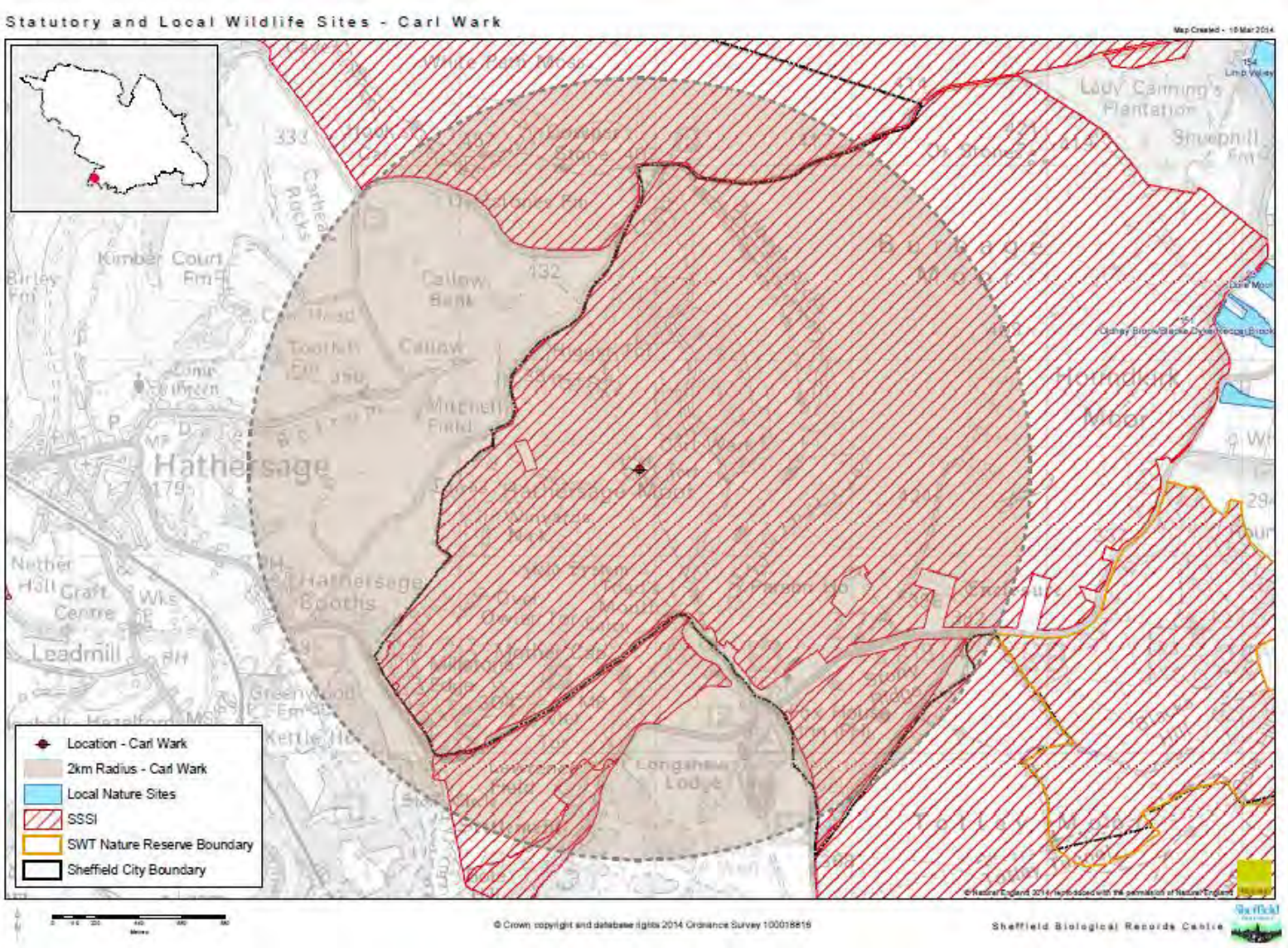
Appendix 2

Maps

Phase 1 Habitat Map – Carl Wark



Nature conservation designations – Carl Wark



Appendix 3

Target Note

Target Note	Photograph	Notes
TN1		A single pellet of short-eared owl (*Asio flammeus*) was found at location TN1

Appendix 4

Data Search Results

Table 1: Rare and protected species records within 2km

Scientific Name	*Common Name*	*Date*	*Grid Ref*	*Location*	*BAP Species*	*Wildlife and Countryside Act*
Amphibians						
Bufo bufo	Common Toad	02/09/2002	SK260797	Longshaw Pool	1	1
Bufo bufo	Common Toad	29/04/2005	SK260797	Longshaw Pool	1	1
Triturus helveticus	Palmate Newt	01/01/1975	SK2782	BURBAGE MOOR	0	1
Triturus helveticus	Palmate Newt	13/04/1975	SK263810	Burbage Brook Yorks	0	1
Triturus helveticus	Palmate Newt	04/09/1980	SK2681	Burbage Brook Yorks	0	1
Triturus helveticus	Palmate Newt	09/03/1981	SK262809	Burbage Brook Yorks	0	1
Triturus helveticus	Palmate Newt	01/04/1981	SK262809	Burbage Brook Yorks	0	1
Triturus helveticus	Palmate Newt	17/05/1981	SK2681	Burbage Brook Yorks	0	1
Triturus helveticus	Palmate Newt	05/03/2013	SK26458132	Burbage Moor	0	1
Triturus helveticus	Palmate Newt	28/05/2012	SK26458132	Burbage Moor	0	1
Rana temporaria	Common Frog	01/07/1996	SK2480	Millstone Edge	0	1
Rana temporaria	Common Frog	27/04/2010	SK261809	BURBAGE MOOR	0	1
Rana temporaria	Common Frog	09/03/1981	SK262809	Burbage Brook Yorks	0	1
Rana temporaria	Common Frog	21/03/2013	SK2682	Burbage	0	1
Rana temporaria	Common Frog	02/07/2012	SK262827	Burbage Moor	0	1
Reptile						
Lacerta vivipara	Viviparous Lizard	01/01/1978	SK2782	HOUNDKIRK MOOR	1	1
Lacerta vivipara	Viviparous Lizard	27/04/2010	SK263812	BURBAGE MOOR	1	1
Lacerta vivipara	Viviparous Lizard	27/04/2010	SK264809	BURBAGE MOOR	1	1
Lacerta vivipara	Viviparous Lizard	19/08/2011	SK2580	Hathersage Moor	1	1
Lacerta vivipara	Viviparous Lizard	25/09/1983	SK2682	Burbage Moor (Ox Stones Valley)	1	1
Lacerta vivipara	Viviparous Lizard	11/08/1984	SK2481	Hathersage	1	1
Lacerta vivipara	Viviparous Lizard	21/07/2012	SK246808	Little Moor NT	1	1
Lacerta vivipara	Viviparous Lizard	05/07/2012	SK262827	Burbage Moor	1	1
Lacerta vivipara	Viviparous Lizard	03/08/2012	SK265803	Burbage Moor	1	1
Lacerta vivipara	Viviparous Lizard	05/07/2013	SK262828	Burbage	1	1
Terrestrial Mammal						
Nyctalus noctula	Noctule	28/05/1985	SK2782	HOUNDKIRK MOOR	1	1
Myotis daubentoni	Daubenton's Bat	06/09/1986	SK260797	Longshaw Pool	0	1
Pipistrellus pipistrellus 45kHz	45 Khz Pipistrelle	12/09/2009	SK2682	Burbage Bridge	0	0
Lepus europaeus	Brown Hare	01/01/1975	SK2782	BURBAGE MOOR	1	0
Lepus europaeus	Brown Hare	11/07/1992	SK272815	HOUNDKIRK MOOR	1	0
Lepus timidus	Mountain Hare	01/01/1975	SK2782	BURBAGE MOOR	1	0
Lepus timidus	Mountain Hare	19/12/1988	SK2782	BURBAGE MOOR	1	0
Lepus timidus	Mountain Hare	03/02/2011	SK2782	BURBAGE MOOR	1	0

Lepus timidus	Mountain Hare	29/03/1981	SK268814		1	0
Meles meles	Badger	18/09/2008	SK2580	Millstone Edge	0	0
Meles meles	Badger	01/07/1996	SK2480	Millstone Edge	0	0
Meles meles	Badger	11/03/2012	SK253795	Padley Gorge	0	0
Meles meles	Badger	19/02/2013	SK266800	Longshaw National Trust	0	0
Meles meles	Badger	30/03/1996	SK240812		0	0
Meles meles	Badger	31/08/1990	SK2579		0	0
Meles meles	Badger	24/03/1985	SK2580		0	0
Meles meles	Badger	10/04/1984	SK259794		0	0
Meles meles	Badger	05/10/1986	SK2580		0	0
Meles meles	Badger	09/05/1987	SK2580		0	0
Meles meles	Badger	18/06/1985	SK259802		0	0
Meles meles	Badger	01/03/1981	SK259802		0	0
Meles meles	Badger	24/06/1989	SK2680		0	0
Meles meles	Badger	27/10/1984	SK2680		0	0
Meles meles	Badger	07/09/1983	SK2580		0	0
Meles meles	Badger	22/04/1986	SK2580		0	0
Meles meles	Badger	07/05/1985	SK259794		0	0
Meles meles	Badger	24/04/1983	SK259802		0	0
Meles meles	Badger	27/06/1984	SK259802		0	0
Meles meles	Badger	26/09/1984	SK259802		0	0
Meles meles	Badger	31/12/1981	SK2579		0	0
Meles meles	Badger	24/03/1985	SK2579		0	0
Meles meles	Badger	24/03/1985	SK2579		0	0
Meles meles	Badger	13/03/1983	SK2580		0	0
Meles meles	Badger	24/04/1983	SK2580		0	0
Meles meles	Badger	21/06/1983	SK2580		0	0
Arvicola terrestris	Water Vole	29/06/2006	SK264814	Burbage Brook Yorks	1	1
Arvicola terrestris	Water Vole	26/04/2008	SK26218104	Burbage Brook Yorks	1	1
Arvicola terrestris	Water Vole	01/01/1974	SK2782	BURBAGE MOOR	1	1
Arvicola terrestris	Water Vole	01/01/1978	SK2782	BURBAGE MOOR	1	1
Arvicola terrestris	Water Vole	15/05/1979	SK2579	Padley Gorge	1	1
Arvicola terrestris	Water Vole	03/07/1977	SK2480	River Derwent, Hathersage to Grindleford	1	1
Arvicola terrestris	Water Vole	20/05/2013	SK262810	BURBAGE MOOR	1	1
Arvicola terrestris	Water Vole	12/09/2002	SK259803	DERBYSHIRE	1	1
Arvicola terrestris	Water Vole	14/09/2002	SK267816		1	1
Arvicola terrestris	Water Vole	12/09/2001	SK257798	DERBYSHIRE	1	1
Insect - Butterfly						
Lasiommata megera	Wall	27/08/2002	SK251830	Stanage Edge	1	0

Coenonympha pamphilus	Small Heath	28/06/2012	SK260818	Burbage Moor (Ox Stones Valley)	1	0
Coenonympha pamphilus	Small Heath	21/07/2012	SK246808	Little Moor NT	1	0
Coenonympha pamphilus	Small Heath	05/07/2012	SK262827	Burbage Moor	1	0
Coenonympha pamphilus	Small Heath	12/07/2013	SK259804	Longshaw National Trust	1	0
Coenonympha pamphilus	Small Heath	08/09/2012	SK263812	Burbage Moor	1	0
Coenonympha pamphilus	Small Heath	07/09/2012	SK263815	Burbage Moor	1	0
Coenonympha pamphilus	Small Heath	18/07/2002	SK2581	Hathersage Moor	1	0
Coenonympha pamphilus	Small Heath	18/07/2002	SK2680		1	0
Coenonympha pamphilus	Small Heath	25/07/2006	SK257801	Lawrence Field (Burbage Brook)	1	0
Coenonympha pamphilus	Small Heath	05/07/2012	SK262807	Burbage Moor	1	0
Coenonympha pamphilus	Small Heath	03/08/2011	SK257804	Hathersage Moor	1	0
Coenonympha pamphilus	Small Heath	03/08/2011	SK2680	Nell Croft & Stony Ridge	1	0
Coenonympha pamphilus	Small Heath	27/06/2011	SK262807	BURBAGE MOOR	1	0
Coenonympha pamphilus	Small Heath	03/07/2006	SK2581	Hathersage Moor	1	0
Coenonympha pamphilus	Small Heath	08/09/2012	SK263812	Burbage Moor (Ox Stones Valley)	1	0
Coenonympha pamphilus	Small Heath	04/08/2012	SK244809	Little Moor NT	1	0
Coenonympha pamphilus	Small Heath	16/07/2000	SK2680	Longshaw National Trust	1	0
Coenonympha pamphilus	Small Heath	18/07/2002	SK2681	BURBAGE MOOR	1	0
Coenonympha pamphilus	Small Heath	07/09/2012	SK259824	Burbage Moor	1	0
Coenonympha pamphilus	Small Heath	12/07/2012	SK262808	Burbage Moor	1	0
Coenonympha pamphilus	Small Heath	01/01/1978	SK2782	BURBAGE MOOR	1	0
Coenonympha pamphilus	Small Heath	01/06/1978	SK2782	BURBAGE MOOR	1	0
Coenonympha pamphilus	Small Heath	12/08/1997	SK2682	Burbage Bridge	1	0
Coenonympha pamphilus	Small Heath	24/07/1998	SK2581	Mitchell Field	1	0
Coenonympha pamphilus	Small Heath	07/09/1999	SK2482	Callow Bank	1	0
Coenonympha pamphilus	Small Heath	07/07/2000	SK260804	Longshaw National Trust	1	0
Coenonympha pamphilus	Small Heath	14/06/2009	SK2580		1	0
Coenonympha pamphilus	Small Heath	04/09/2007	SK2580		1	0
Coenonympha pamphilus	Small Heath	23/07/2012	SK2582	Higger Tor	1	0
Coenonympha pamphilus	Small Heath	14/06/2009	SK2581	Burbage	1	0
Coenonympha pamphilus	Small Heath	14/06/2009	SK2681	Burbage	1	0
Coenonympha pamphilus	Small Heath	14/06/2009	SK2680	Hathersage Moor	1	0
Coenonympha pamphilus	Small Heath	04/09/2007	SK2582		1	0
Insect - Moth						
Spilosoma luteum	Buff Ermine	27/06/2012	SK26038181	Burbage Moor (Ox Stones Valley)	1	0

Table 2: Bird species records within 2km

Scientific Name	*Common Name*	*Date*	*Grid Ref*	*Location*	*BAP Species*	*Wildlife and Countryside Act*	*Red and Amber birds*
Perdix perdix	Grey Partridge	22/06/1989	SK2579	Longshaw Estate	1	0	1
Perdix perdix	Grey Partridge	30/04/1994	SK266802	Longshaw Estate	1	0	1
Perdix perdix	Grey Partridge	01/01/1987	SK2782	BURBAGE MOOR	1	0	1
Perdix perdix	Grey Partridge	04/09/1993	SK253803	Hathersage Moor	1	0	1
Perdix perdix	Grey Partridge	21/04/1994	SK254822	Hathersage Moor	1	0	1
Vanellus vanellus	Lapwing	01/01/1987	SK2782	BURBAGE MOOR	1	0	1
Vanellus vanellus	Lapwing	30/03/1996	SK244811	Hathersage Moor	1	0	1
Vanellus vanellus	Lapwing	30/03/1996	SK246813	Hathersage Moor	1	0	1
Vanellus vanellus	Lapwing	30/03/1996	SK250817	Hathersage Moor	1	0	1
Vanellus vanellus	Lapwing	29/03/1997	SK271823	BURBAGE MOOR	1	0	1
Vanellus vanellus	Lapwing	20/05/1999	SK245810	Hathersage Moor	1	0	1
Vanellus vanellus	Lapwing	22/06/1990	SK264813	BURBAGE MOOR	1	0	1
Vanellus vanellus	Lapwing	01/07/1990	SK264813	BURBAGE MOOR	1	0	1
Vanellus vanellus	Lapwing	02/02/1992	SK2782	BURBAGE MOOR	1	0	1
Vanellus vanellus	Lapwing	19/03/2000	SK245814	Hathersage Moor	1	0	1
Vanellus vanellus	Lapwing	25/03/2000	SK245814	Hathersage Moor	1	0	1
Vanellus vanellus	Lapwing	16/03/2001	SK247814	Mitchell Field	1	0	1
Vanellus vanellus	Lapwing	30/03/2001	SK247814	Mitchell Field	1	0	1
Vanellus vanellus	Lapwing	06/04/2002	SK245810	Hathersage Moor	1	0	1
Vanellus vanellus	Lapwing	10/05/2002	SK244814	Hathersage Moor	1	0	1
Vanellus vanellus	Lapwing	31/03/2007	SK2682	Burbage Brook, N of A625	1	0	1
Vanellus vanellus	Northern Lapwing	17/03/2011	SK2580		1	0	1
Numenius arquata	Curlew	04/06/1996	SK259795	Longshaw Estate	1	0	1
Numenius arquata	Curlew	06/06/1996	SK266799	Longshaw Estate	1	0	1
Numenius arquata	Curlew	16/04/1997	SK265795	Longshaw Estate	1	0	1
Numenius arquata	Curlew	17/04/1997	SK261798	Longshaw Estate	1	0	1
Numenius arquata	Curlew	08/07/2000	SK264795	Longshaw Estate	1	0	1
Numenius arquata	Curlew	17/03/2002	SK258799	Longshaw Estate	1	0	1
Numenius arquata	Eurasian Curlew	11/02/2007	SK2580	Surprise	1	0	1
Numenius arquata	Eurasian Curlew	18/06/2007	SK255803	Hathersage Moor	1	0	1
Numenius arquata	Curlew	28/04/2000	SK265813	Burbage Brook Yorks	1	0	1
Numenius arquata	Curlew	29/03/2002	SK269801	Burbage Brook Yorks	1	0	1
Numenius arquata	Curlew	28/04/1996	SK253822	Hathersage Moor	1	0	1
Numenius arquata	Curlew	11/05/1996	SK253822	Hathersage Moor	1	0	1
Numenius arquata	Curlew	03/04/2002	SK256803	Burbage Brook, S of A625	1	0	1
Numenius arquata	Curlew	10/05/2002	SK244814	Hathersage Moor	1	0	1
Numenius arquata	Curlew	20/05/1999	SK245810	Hathersage Moor	1	0	1

Numenius arquata	Curlew	01/04/1990	SK28Q	REDMIRES RESERVOIRS	1	0	1
Numenius arquata	Curlew	30/05/2002	SK262795	Longshaw Estate	1	0	1
Numenius arquata	Curlew	30/05/2002	SK267797	Longshaw Estate	1	0	1
Numenius arquata	Curlew	10/05/1992	SK270828	BURBAGE MOOR	1	0	1
Numenius arquata	Curlew	19/03/2000	SK245814	Hathersage Moor	1	0	1
Numenius arquata	Curlew	30/04/1994	SK265800	Longshaw Estate	1	0	1
Numenius arquata	Curlew	01/01/1987	SK2782	BURBAGE MOOR	1	0	1
Numenius arquata	Curlew	19/12/1988	SK2782	BURBAGE MOOR	1	0	1
Numenius arquata	Curlew	30/03/1996	SK253822	Hathersage Moor	1	0	1
Numenius arquata	Curlew	05/07/1996	SK259803	Burbage Brook, S of A625	1	0	1
Numenius arquata	Curlew	14/06/1997	SK273807	HOUNDKIRK MOOR	1	0	1
Numenius arquata	Curlew	12/06/2002	SK2681	Burbage Brook Yorks	1	0	1
Numenius arquata	Curlew	12/03/2003	SK265813	Burbage Brook Yorks	1	0	1
Numenius arquata	Curlew	01/07/1990	SK264813	BURBAGE MOOR	1	0	1
Numenius arquata	Curlew	02/02/1992	SK2782	BURBAGE MOOR	1	0	1
Cuculus canorus	Common Cuckoo	25/04/2009	SK255796	Longshaw Estate	1	0	1
Cuculus canorus	Cuckoo	30/04/1997	SK261798	Longshaw Estate	1	0	1
Cuculus canorus	Cuckoo	15/05/2002	SK263797	Longshaw Estate	1	0	1
Cuculus canorus	Cuckoo	03/05/2003	SK262795	Woodlands on Longshaw Estate	1	0	1
Cuculus canorus	Cuckoo	12/06/2003	SK265795	grass-moor & heathland areas of Longshaw Estate south to Grouse Inn (Jubilee)	1	0	1
Cuculus canorus	Cuckoo	03/05/2004	SK264798	trees by Longshaw Lodge	1	0	1
Cuculus canorus	Common Cuckoo	24/04/2005	SK2580	Surprise	1	0	1
Cuculus canorus	Common Cuckoo	21/04/2007	SK251800	Surprise View and Car Park	1	0	1
Cuculus canorus	Common Cuckoo	17/04/2007	SK265795	Longshaw Estate	1	0	1
Cuculus canorus	Common Cuckoo	09/06/2007	SK250801	Hathersage Moor	1	0	1
Cuculus canorus	Common Cuckoo	10/06/2007	SK260807	Hathersage Moor	1	0	1
Cuculus canorus	Cuckoo	26/05/2002	SK28Q	BURBAGE MOOR	1	0	1
Cuculus canorus	Cuckoo	27/04/2010	SK2580	Hathersage Moor	1	0	1
Cuculus canorus	Cuckoo	01/01/1987	SK264813	BURBAGE MOOR	1	0	1
Cuculus canorus	Cuckoo	01/05/2013	SK2580	Hathersage Moor	1	0	1
Cuculus canorus	Cuckoo	01/05/2013	SK2579	Lawrence Field (Burbage Brook)	1	0	1
Cuculus canorus	Cuckoo	02/02/1992	SK2782	BURBAGE MOOR	1	0	1
Cuculus canorus	Cuckoo	30/04/1994	SK264814	BURBAGE MOOR	1	0	1
Cuculus canorus	Cuckoo	23/04/2000	SK2481	Hathersage Moor	1	0	1
Cuculus canorus	Cuckoo	24/04/2007	SK2581	Burbage Moor	1	0	1
Cuculus canorus	Cuckoo	27/04/2007	SK2680	Burbage Moor	1	0	1
Cuculus canorus	Cuckoo	05/05/2007	SK2579	Longshaw Estate	1	0	1
Cuculus canorus	Cuckoo	29/04/2007	SK2579	Padley Wood	1	0	1

Cuculus canorus	Cuckoo	01/06/2007	SK2579	Padley Wood	1	0	1
Cuculus canorus	Cuckoo	27/04/2007	SK2579	Padley Wood	1	0	1
Cuculus canorus	Cuckoo	12/05/2007	SK2579	Padley Wood	1	0	1
Cuculus canorus	Cuckoo	06/06/2011	SK2579	Padley Gorge	1	0	1
Cuculus canorus	Cuckoo	28/04/2011	SK2579	Padley Gorge	1	0	1
Cuculus canorus	Cuckoo	23/05/2011	SK2579	Longshaw Estate	1	0	1
Numenius arquata	Curlew	27/04/2009	SK2581	Burbage Moor	1	0	1
Numenius arquata	Curlew	31/03/2007	SK2682	Burbage Brook, N of A625	1	0	1
Numenius arquata	Curlew	05/05/2007	SK2579	Longshaw Estate	1	0	1
Numenius arquata	Curlew	17/03/2011	SK2580		1	0	1
Numenius arquata	Curlew	04/04/2008	SK2682	Burbage Rocks, Burbage Moor	1	0	1
Numenius arquata	Curlew	08/04/2008	SK2581	Hathersage Moor	1	0	1
Numenius arquata	Curlew	02/05/2009	SK2680	Burbage Brook	1	0	1
Numenius arquata	Curlew	24/04/2007	SK2581	Burbage Moor	1	0	1
Numenius arquata	Curlew	29/04/2007	SK2680	Burbage Moor	1	0	1
Passer domesticus	House Sparrow	22/02/2011	SK2579	Padley Gorge	1	0	1
Passer montanus	Tree Sparrow	24/06/1990	SK262820	Burbage Brook Yorks	1	0	1
Passer montanus	Tree Sparrow	24/06/1990	SK2782	BURBAGE MOOR	1	0	1
Turdus torquatus	Ring Ouzel	24/04/2007	SK2581	Burbage Moor	1	0	1
Turdus torquatus	Ring Ouzel	29/04/2007	SK2680	Burbage Moor	1	0	1
Turdus torquatus	Ring Ouzel	26/04/2011	SK2581	Burbage Moor	1	0	1
Turdus torquatus	Ring Ouzel	27/04/2011	SK2579	Padley Gorge	1	0	1
Turdus torquatus	Ring Ouzel	05/04/2007	SK2682	Burbage Moor	1	0	1
Turdus torquatus	Ring Ouzel	24/04/2007	SK2682	Burbage Moor	1	0	1
Turdus torquatus	Ring Ouzel	22/04/2007	SK2579	Padley Wood	1	0	1
Turdus torquatus	Ring Ouzel	29/04/2007	SK2579	Padley Wood	1	0	1
Turdus torquatus	Ring Ouzel	09/04/2007	SK2682	Burbage Rocks, Burbage Moor	1	0	1
Turdus torquatus	Ring Ouzel	02/05/2009	SK2680	Burbage Brook	1	0	1
Turdus torquatus	Ring Ouzel	27/04/2009	SK2581	Burbage Moor	1	0	1
Turdus torquatus	Ring Ouzel	01/01/1987	SK264813	BURBAGE MOOR	1	0	1
Turdus torquatus	Ring Ouzel	01/01/1987	SK2782	BURBAGE MOOR	1	0	1
Turdus torquatus	Ring Ouzel	31/03/1998	SK265813	Burbage Brook Yorks	1	0	1
Turdus torquatus	Ring Ouzel	20/05/1999	SK265813	Burbage Brook Yorks	1	0	1
Turdus torquatus	Ring Ouzel	18/06/1999	SK265813	Burbage Brook Yorks	1	0	1
Turdus torquatus	Ring Ouzel	01/07/1990	SK264813	BURBAGE MOOR	1	0	1
Turdus torquatus	Ring Ouzel	29/03/2006	SK267812	Burbage Moor	1	0	1
Turdus torquatus	Ring Ouzel	31/03/2006	SK264808	Burbage Brook, N of A625	1	0	1
Turdus torquatus	Ring Ouzel	10/06/2007	SK252811	Hathersage Moor	1	0	1
Turdus torquatus	Ring Ouzel	06/04/2010	SK2682	Burbage Bridge	1	0	1

Turdus torquatus	Ring Ouzel	05/08/2011	SK259812	Hathersage Moor	1	0	1
Turdus torquatus	Ring Ouzel	28/04/2000	SK265813	Burbage Brook Yorks	1	0	1
Turdus torquatus	Ring Ouzel	24/08/2000	SK265813	Burbage Brook Yorks	1	0	1
Turdus torquatus	Ring Ouzel	10/05/2002	SK265813	Burbage Brook Yorks	1	0	1
Turdus torquatus	Ring Ouzel	12/06/2002	SK2681	Burbage Brook Yorks	1	0	1
Turdus torquatus	Ring Ouzel	02/02/1992	SK2782	BURBAGE MOOR	1	0	1
Turdus torquatus	Ring Ouzel	26/05/1993	SK2682	BURBAGE MOOR	1	0	1
Turdus torquatus	Ring Ouzel	08/04/2003	SK265813	Burbage Brook Yorks	1	0	1
Turdus torquatus	Ring Ouzel	27/06/2003	SK265813	Burbage Brook Yorks	1	0	1
Turdus torquatus	Ring Ouzel	05/06/1993	SK277818	HOUNDKIRK MOOR	1	0	1
Turdus torquatus	Ring Ouzel	21/04/1994	SK254822	Hathersage Moor	1	0	1
Turdus torquatus	Ring Ouzel	13/05/1995	SK263828	Burbage rocks, Burbage Moor	1	0	1
Turdus torquatus	Ring Ouzel	25/04/2000	SK264824	Burbage Brook Yorks	1	0	1
Turdus torquatus	Ring Ouzel	01/03/2001	SK2682	Burbage rocks, Burbage Moor	1	0	1
Turdus torquatus	Ring Ouzel	29/03/2002	SK264809	Burbage Brook Yorks	1	0	1
Emberiza schoeniclus	Reed Bunting	29/04/2007	SK2579	Padley Wood	1	0	1
Emberiza schoeniclus	Reed Bunting	31/03/2007	SK2682	Burbage Brook, N of A625	1	0	1
Emberiza schoeniclus	Reed Bunting	26/04/2011	SK2581	Burbage Moor	1	0	1
Emberiza schoeniclus	Reed Bunting	01/01/1987	SK2782	BURBAGE MOOR	1	0	1
Emberiza schoeniclus	Reed Bunting	03/11/1995	SK257797	Burbage Brook, S of A625	1	0	1
Emberiza schoeniclus	Reed Bunting	24/06/1990	SK262820	Burbage Brook Yorks	1	0	1
Emberiza schoeniclus	Reed Bunting	24/06/1990	SK2782	BURBAGE MOOR	1	0	1
Emberiza schoeniclus	Reed Bunting	26/05/1991	SK262806	Burbage Brook Yorks	1	0	1
Emberiza schoeniclus	Reed Bunting	23/05/2012	SK266817	Burbage Moor (Ox Stones Valley)	1	0	1
Emberiza schoeniclus	Reed Bunting	01/05/2013	SK266803	Burbage Moor	1	0	1
Emberiza schoeniclus	Reed Bunting	25/03/1993	SK254822	BURBAGE MOOR	1	0	1
Emberiza schoeniclus	Reed Bunting	30/04/1994	SK262807	BURBAGE MOOR	1	0	1
Emberiza schoeniclus	Reed Bunting	17/08/2007	SK256810	Carl Wark, Hathersage Moor	1	0	1
Emberiza schoeniclus	Reed Bunting	21/03/2002	SK258805	Burbage Brook, S of A625	1	0	1
Emberiza schoeniclus	Reed Bunting	03/04/2002	SK258803	Burbage Brook, S of A625	1	0	1
Emberiza schoeniclus	Reed Bunting	28/05/2002	SK257802	Burbage Brook Yorks	1	0	1
Emberiza schoeniclus	Reed Bunting	28/05/2002	SK259805	Burbage Brook Yorks	1	0	1
Emberiza schoeniclus	Reed Bunting	12/06/2002	SK2681	Burbage Brook Yorks	1	0	1
Emberiza schoeniclus	Reed Bunting	13/06/2002	SK258804	Burbage Brook Yorks	1	0	1
Emberiza schoeniclus	Reed Bunting	00/01/1900	SK2782	HOUNDKIRK MOOR	1	0	1
Anthus trivialis	Tree Pipit	29/04/2007	SK2579	Padley Wood	1	0	1
Anthus trivialis	Tree Pipit	01/06/2007	SK2579	Padley Wood	1	0	1
Anthus trivialis	Tree Pipit	06/05/2007	SK2579	Padley Wood	1	0	1
Anthus trivialis	Tree Pipit	20/05/2013	SK266815	BURBAGE MOOR	1	0	1

Anthus trivialis	Tree Pipit	20/05/2013	SK266816	BURBAGE MOOR	1	0	1
Anthus trivialis	Tree Pipit	06/06/2011	SK2579	Padley Gorge	1	0	1
Anthus trivialis	Tree Pipit	17/05/2012	SK2780	Nell Croft & Stony Ridge	1	0	1
Anthus trivialis	Tree Pipit	20/05/2008	SK264797	Longshaw Estate	1	0	1
Anthus trivialis	Tree Pipit	28/05/2002	SK263805	Longshaw Estate	1	0	1
Anthus trivialis	Tree Pipit	01/01/1987	SK2782	BURBAGE MOOR	1	0	1
Anthus trivialis	Tree Pipit	13/04/2002	SK2579	Burbage Brook,in Padley Wood	1	0	1
Anthus trivialis	Tree Pipit	29/05/2002	SK257800	Burbage Brook, S of A625	1	0	1
Anthus trivialis	Tree Pipit	05/08/2011	SK2580	Hathersage Moor	1	0	1
Muscicapa striata	Spotted Flycatcher	11/06/2009	SK2579	Padley Wood	1	0	1
Muscicapa striata	Spotted Flycatcher	20/05/2005	SK2579	Yarncliff Wood	1	0	1
Muscicapa striata	Spotted Flycatcher	06/06/2011	SK2579	Padley Gorge	1	0	1
Muscicapa striata	Spotted Flycatcher	19/06/1999	SK2579	Woodlands on Longshaw Estate	1	0	1
Muscicapa striata	Spotted Flycatcher	27/06/1996	SK251801	Hathersage Moor	1	0	1
Muscicapa striata	Spotted Flycatcher	26/05/1991	SK262806	Burbage Brook, S of A625	1	0	1
Phylloscopus sibilatrix	Wood Warbler	01/06/2007	SK2579	Padley Wood	1	0	1
Phylloscopus sibilatrix	Wood Warbler	06/06/2011	SK2579	Padley Gorge	1	0	1
Phylloscopus sibilatrix	Wood Warbler	07/05/2011	SK2579	Longshaw Estate	1	0	1
Phylloscopus sibilatrix	Wood Warbler	20/05/2011	SK2579	Longshaw Estate	1	0	1
Phylloscopus sibilatrix	Wood Warbler	22/05/2011	SK2579	Longshaw Estate	1	0	1
Carduelis cabaret	Lesser Redpoll	31/03/2007	SK2681	Toad's Mouth	1	0	1
Carduelis cabaret	Lesser Redpoll	05/05/2007	SK2579	Longshaw Estate	1	0	1
Carduelis cabaret	Lesser Redpoll	29/04/2007	SK2579	Padley Wood	1	0	1
Falco columbarius	Merlin	24/08/2008	SK251800	Surprise View and Car Park	0	1	1
Falco columbarius	Merlin	01/01/1987	SK2782	BURBAGE MOOR	0	1	1
Falco columbarius	Merlin	19/12/1988	SK2782	BURBAGE MOOR	0	1	1
Falco columbarius	Merlin	22/06/1990	SK264813	BURBAGE MOOR	0	1	1
Falco columbarius	Merlin	07/08/1990	SK2681	Carl Wark, Hathersage Moor	0	1	1
Falco columbarius	Merlin	02/02/1992	SK2782	BURBAGE MOOR	0	1	1
Falco columbarius	Merlin	02/02/1992	SK2782	BURBAGE MOOR	0	1	1
Falco columbarius	Merlin	26/03/2001	SK28R	BURBAGE MOOR	0	1	1
Falco columbarius	Merlin	10/12/2001	SK28Q	Burbage Brook Yorks	0	1	1
Falco columbarius	Merlin	04/04/2002	SK265813	Burbage Brook Yorks	0	1	1
Falco columbarius	Merlin	06/12/2011	SK276817	HOUNDKIRK MOOR	0	1	1
Falco columbarius	Merlin	06/12/2011	SK276817	HOUNDKIRK MOOR	0	1	1
Numenius phaeopus	Whimbrel	01/01/1988	SK2782	BURBAGE MOOR	0	1	1
Numenius phaeopus	Whimbrel	01/01/1988	SK2782	BURBAGE MOOR	0	1	1
Charadrius morinellus	Dotterel	09/04/2011	SK2782	Burbage Moor	0	1	1
Charadrius morinellus	Dotterel	01/01/1974	SK2782	BURBAGE MOOR	0	1	1

Charadrius morinellus	Dotterel	01/01/1988	SK2782	BURBAGE MOOR	0	1	1
Charadrius morinellus	Dotterel	01/01/1988	SK2782	BURBAGE MOOR	0	1	1
Charadrius morinellus	Dotterel	01/03/1998	SK2782	BURBAGE MOOR	0	1	1
Charadrius morinellus	Dotterel	04/05/1998	SK271823	BURBAGE MOOR	0	1	1
Charadrius morinellus	Dotterel	02/02/1992	SK2782	BURBAGE MOOR	0	1	1
Charadrius morinellus	Dotterel	10/05/1992	SK270828	BURBAGE MOOR	0	1	1
Charadrius morinellus	Dotterel	12/05/1992	SK270828	BURBAGE MOOR	0	1	1
Anas acuta	Pintail	03/03/1996	SK261797	pond in Longshaw Estate	0	1	1
Milvus milvus	Red Kite	31/03/1996	SK2782	BURBAGE MOOR	0	1	1
Milvus milvus	Red Kite	06/06/1999	SK28R	Hallam Moors SSSI	0	1	1
Falco peregrinus	Peregrine	22/05/1995	SK264814	BURBAGE MOOR	0	1	1
Falco peregrinus	Peregrine	03/02/2011	SK270830	BURBAGE MOOR	0	1	1
Falco peregrinus	Peregrine	23/05/2012	SK2681	Burbage Moor (Ox Stones Valley)	0	1	1
Turdus pilaris	Fieldfare	18/10/2007	SK2780	Totley Moor	0	1	1
Turdus pilaris	Fieldfare	06/11/2007	SK260807	Toad's Mouth	0	1	1
Turdus pilaris	Fieldfare	08/11/2007	SK260807	Toad's Mouth	0	1	1
Turdus pilaris	Fieldfare	22/11/1995	SK262797	Woodlands on Longshaw Estate	0	1	1
Turdus pilaris	Fieldfare	12/11/1998	SK262799	Longshaw Estate	0	1	1
Turdus pilaris	Fieldfare	18/10/2007	SK2780	Blacka Moor	0	1	1
Turdus pilaris	Fieldfare	01/01/1987	SK2782	BURBAGE MOOR	0	1	1
Turdus pilaris	Fieldfare	01/07/1987	SK260820	Burbage rocks, Burbage Moor	0	1	1
Turdus pilaris	Fieldfare	03/02/2011	SK2782	BURBAGE MOOR	0	1	1
Turdus iliacus	Redwing	03/11/1995	SK265799	Woodlands on Longshaw Estate	0	1	1
Turdus iliacus	Redwing	22/11/1995	SK262797	Woodlands on Longshaw Estate	0	1	1
Turdus iliacus	Redwing	25/02/1997	SK262798	Longshaw Estate	0	1	1
Turdus iliacus	Redwing	01/01/1987	SK2782	BURBAGE MOOR	0	1	1
Fringilla montifringilla	Brambling	14/03/1998	SK265800	Woodlands on Longshaw Estate	0	1	1
Fringilla montifringilla	Brambling	03/11/1995	SK263806	Burbage Brook Yorks	0	1	1
Plectrophenax nivalis	Snow Bunting	00/01/1900	SK2782	BURBAGE MOOR	0	1	1
Plectrophenax nivalis	Snow Bunting	01/01/1975	SK2782	BURBAGE MOOR	0	1	1
Plectrophenax nivalis	Snow Bunting	01/01/1988	SK2782	BURBAGE MOOR	0	1	1
Plectrophenax nivalis	Snow Bunting	19/12/1988	SK2782	BURBAGE MOOR	0	1	1
Plectrophenax nivalis	Snow Bunting	01/03/1998	SK2782	BURBAGE MOOR	0	1	1
Plectrophenax nivalis	Snow Bunting	02/02/1992	SK2782	BURBAGE MOOR	0	1	1
Calcarius lapponicus	Lapland Bunting	00/01/1900	SK2782	BURBAGE MOOR	0	1	0
Calcarius lapponicus	Lapland Bunting	01/01/1987	SK2782	BURBAGE MOOR	0	1	0
Calcarius lapponicus	Lapland Bunting	01/01/1988	SK2782		0	1	0
Phalacrocorax carbo	Great Cormorant	01/08/2005	SK261806	Toad's Mouth	0	0	1
Falco tinnunculus	Kestrel	27/03/2002	SK2580	Burbage Brook, S of A625	0	0	1

Falco tinnunculus	Kestrel	11/12/2013	SK2581	Mitchell Field	0	0	1
Falco tinnunculus	Kestrel	23/06/2003	SK252821	Hathersage Moor	0	0	1
Falco tinnunculus	Kestrel	04/05/2010	SK2780	Nell Croft & Stony Ridge	0	0	1
Falco tinnunculus	Kestrel	05/08/2011	SK269802	Nell Croft & Stony Ridge	0	0	1
Falco tinnunculus	Kestrel	18/09/2011	SK253815	Higgar Tor	0	0	1
Falco tinnunculus	Kestrel	31/12/2002	SK259827	Burbage Brook Yorks	0	0	1
Falco tinnunculus	Kestrel	15/04/2013	SK2681	Burbage Moor	0	0	1
Falco tinnunculus	Kestrel	01/07/1990	SK264813	BURBAGE MOOR	0	0	1
Falco tinnunculus	Kestrel	02/02/1992	SK2782	BURBAGE MOOR	0	0	1
Falco tinnunculus	Kestrel	17/08/2001	SK255832	Stanage Edge	0	0	1
Falco tinnunculus	Kestrel	06/10/2001	SK272807	HOUNDKIRK MOOR	0	0	1
Falco tinnunculus	Kestrel	05/07/1996	SK266802	Longshaw Estate	0	0	1
Falco tinnunculus	Kestrel	25/02/1997	SK265798	Longshaw Estate	0	0	1
Falco tinnunculus	Kestrel	01/01/1987	SK264813	BURBAGE MOOR	0	0	1
Falco tinnunculus	Kestrel	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Falco tinnunculus	Kestrel	01/03/1998	SK2782	BURBAGE MOOR	0	0	1
Falco tinnunculus	Kestrel	22/06/1990	SK264813	BURBAGE MOOR	0	0	1
Falco tinnunculus	Kestrel	19/08/2011	SK2580	Hathersage Moor	0	0	1
Falco tinnunculus	Kestrel	26/06/2005	SK2681	Toad's Mouth	0	0	1
Falco tinnunculus	Kestrel	29/04/2007	SK2680	Burbage Moor	0	0	1
Falco tinnunculus	Kestrel	30/08/2007	SK2581	Higger Tor, Hathersage Moor	0	0	1
Falco tinnunculus	Kestrel	01/06/2007	SK2579	Padley Wood	0	0	1
Falco tinnunculus	Kestrel	12/11/2007	SK28R	Burbage Brook	0	0	1
Falco tinnunculus	Kestrel	08/09/2011	SK2582	Stanage Edge	0	0	1
Falco tinnunculus	Kestrel	31/10/2011	SK2780		0	0	1
Falco tinnunculus	Kestrel	23/05/2011	SK2579	Longshaw Estate	0	0	1
Falco tinnunculus	Kestrel	27/04/2009	SK2581	Burbage Moor	0	0	1
Lagopus lagopus	Red Grouse	24/08/2008	SK251800	Surprise View and Car Park	0	0	1
Lagopus lagopus	Red Grouse	21/01/2010	SK2780	Burbage Moor	0	0	1
Lagopus lagopus	Red Grouse	21/01/2010	SK2781	Burbage Moor	0	0	1
Lagopus lagopus	Red Grouse	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Lagopus lagopus	Red Grouse	17/06/1995	SK265811	HOUNDKIRK MOOR	0	0	1
Lagopus lagopus	Red Grouse	28/04/1996	SK253833	Stanage Edge	0	0	1
Lagopus lagopus	Willow Ptarmigan	18/06/2007	SK255803	Hathersage Moor	0	0	1
Lagopus lagopus	Red Grouse	06/10/2001	SK272807	HOUNDKIRK MOOR	0	0	1
Lagopus lagopus	Red Grouse	30/08/1997	SK274810	BURBAGE MOOR	0	0	1
Lagopus lagopus	Red Grouse	29/03/2002	SK264809	Burbage Brook Yorks	0	0	1
Lagopus lagopus	Red Grouse	21/01/2010	SK2781	BURBAGE MOOR	0	0	1
Lagopus lagopus	Red Grouse	21/01/2010	SK2782	BURBAGE MOOR	0	0	1

Lagopus lagopus	Red Grouse	21/01/2010	SK2682	BURBAGE MOOR	0	0	1
Lagopus lagopus	Red Grouse	01/03/1990	SK28Q	BURBAGE MOOR	0	0	1
Lagopus lagopus	Red Grouse	01/07/1990	SK264813	BURBAGE MOOR	0	0	1
Lagopus lagopus	Red Grouse	02/02/1992	SK2782	BURBAGE MOOR	0	0	1
Lagopus lagopus	Red Grouse	07/01/1995	SK265805	BURBAGE MOOR	0	0	1
Lagopus lagopus	Red Grouse	07/01/1995	SK266825	BURBAGE MOOR	0	0	1
Lagopus lagopus	Red Grouse	13/05/1995	SK263828	Burbage rocks, Burbage Moor	0	0	1
Lagopus lagopus	Red Grouse	27/06/1996	SK257799	Burbage Brook, S of A625	0	0	1
Lagopus lagopus	Red Grouse	30/11/1996	SK277814	HOUNDKIRK MOOR	0	0	1
Lagopus lagopus	Red Grouse	14/06/1997	SK277817	HOUNDKIRK MOOR	0	0	1
Lagopus lagopus	Red Grouse	14/02/1998	SK253812	Hathersage Moor	0	0	1
Lagopus lagopus	Red Grouse	01/03/1998	SK2782	BURBAGE MOOR	0	0	1
Lagopus lagopus	Red Grouse	02/10/1999	SK253832	Stanage (Derbyshire part)	0	0	1
Lagopus lagopus	Red Grouse	01/12/2013	SK2782	Burbage Moor	0	0	1
Lagopus lagopus	Red Grouse	31/03/2007	SK2682	Burbage Brook, N of A625	0	0	1
Lagopus lagopus	Red Grouse	08/09/2011	SK2582	Stanage Edge	0	0	1
Lagopus lagopus	Red Grouse	17/03/2011	SK2681	Burbage Moor	0	0	1
Lagopus lagopus	Red Grouse	26/04/2011	SK2581	Burbage Moor	0	0	1
Lagopus lagopus	Red Grouse	22/02/2011	SK2480		0	0	1
Lagopus lagopus	Red Grouse	24/04/2007	SK2581	Burbage Moor	0	0	1
Lagopus lagopus	Red Grouse	02/05/2009	SK2680	Burbage Brook	0	0	1
Lagopus lagopus	Red Grouse	27/04/2009	SK2581	Burbage Moor	0	0	1
Lagopus lagopus	Red Grouse	27/12/1991	SK2581	Hathersage Moor	0	0	1
Haematopus ostralegus	Oystercatcher	23/05/1998	SK2682	Burbage rocks, Burbage Moor	0	0	1
Charadrius hiaticula	Ringed Plover	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Charadrius hiaticula	Ringed Plover	01/01/1988	SK2782	BURBAGE MOOR	0	0	1
Charadrius hiaticula	Ringed Plover	01/01/1988	SK2782	BURBAGE MOOR	0	0	1
Charadrius hiaticula	Ringed Plover	01/03/1998	SK2782	BURBAGE MOOR	0	0	1
Pluvialis apricaria	Golden Plover	18/04/2008	SK273808	HOUNDKIRK MOOR	0	0	1
Pluvialis apricaria	Golden Plover	01/01/1987	SK264813	BURBAGE MOOR	0	0	1
Pluvialis apricaria	Golden Plover	01/01/1988	SK2782	BURBAGE MOOR	0	0	1
Pluvialis apricaria	Golden Plover	01/01/1988	SK2782	BURBAGE MOOR	0	0	1
Pluvialis apricaria	Golden Plover	19/12/1988	SK2782	BURBAGE MOOR	0	0	1
Pluvialis apricaria	Golden Plover	01/03/1998	SK2782	BURBAGE MOOR	0	0	1
Pluvialis apricaria	Golden Plover	04/05/1998	SK271823	BURBAGE MOOR	0	0	1
Pluvialis apricaria	Golden Plover	01/08/1998	SK275814	HOUNDKIRK MOOR	0	0	1
Pluvialis apricaria	Golden Plover	02/02/1992	SK2782	BURBAGE MOOR	0	0	1
Pluvialis apricaria	Golden Plover	10/05/1992	SK270828	BURBAGE MOOR	0	0	1
Pluvialis apricaria	Golden Plover	26/05/1993	SK2682	BURBAGE MOOR	0	0	1

Pluvialis apricaria	Golden Plover	13/05/1995	SK263828	Burbage rocks, Burbage Moor	0	0	1
Gallinago gallinago	Snipe	05/05/2007	SK2579	Longshaw Estate	0	0	1
Gallinago gallinago	Snipe	17/03/2011	SK2580		0	0	1
Gallinago gallinago	Common Snipe	23/12/2007	SK251800	Surprise View and Car Park	0	0	1
Gallinago gallinago	Snipe	08/07/2000	SK264795	Longshaw Estate	0	0	1
Gallinago gallinago	Snipe	00/01/1900	SK2782	HOUNDKIRK MOOR	0	0	1
Gallinago gallinago	Snipe	01/01/1987	SK264813	BURBAGE MOOR	0	0	1
Gallinago gallinago	Snipe	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Gallinago gallinago	Snipe	01/01/1988	SK2782	BURBAGE MOOR	0	0	1
Gallinago gallinago	Snipe	02/02/1992	SK2782	BURBAGE MOOR	0	0	1
Gallinago gallinago	Snipe	26/06/1994	SK250815	Hathersage Moor	0	0	1
Gallinago gallinago	Common Snipe	01/04/2007	SK2581	Higger Tor, Hathersage Moor	0	0	1
Gallinago gallinago	Snipe	01/01/1988	SK2782	BURBAGE MOOR	0	0	1
Gallinago gallinago	Snipe	10/05/2002	SK244814	Hathersage Moor	0	0	1
Gallinago gallinago	Snipe	11/06/2003	SK257816	Higger Tor	0	0	1
Gallinago gallinago	Snipe	19/12/1988	SK2782	BURBAGE MOOR	0	0	1
Gallinago gallinago	Snipe	28/04/1996	SK247822	Hathersage Moor	0	0	1
Gallinago gallinago	Snipe	18/06/1999	SK265813	Burbage Brook Yorks	0	0	1
Scolopax rusticola	Woodcock	06/06/1996	SK266799	Longshaw Estate	0	0	1
Scolopax rusticola	Woodcock	22/06/1989	SK2579	Longshaw Estate	0	0	1
Scolopax rusticola	Woodcock	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Scolopax rusticola	Woodcock	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Scolopax rusticola	Woodcock	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Scolopax rusticola	Woodcock	13/05/1984	SK260797	Longshaw Pool	0	0	1
Tringa totanus	Redshank	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Calidris alpina	Dunlin	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Calidris alpina	Dunlin	02/02/1992	SK2782	BURBAGE MOOR	0	0	1
Columba oenas	Stock Dove	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Picus viridis	Green Woodpecker	05/05/2007	SK2579	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	27/04/2007	SK2579	Padley Wood	0	0	1
Picus viridis	Green Woodpecker	12/10/2003	SK259795	Woodlands on Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	03/05/1978	SK2579	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	20/08/2000	SK247806	Gritstone Edge, Hathersage Moor	0	0	1
Picus viridis	Green Woodpecker	26/07/1987	SK2579	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	04/03/1989	SK2579	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	26/04/1989	SK2579	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	26/04/1989	SK2579	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	23/05/1986	SK2579	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	01/07/1996	SK2480	Millstone Edge	0	0	1

Picus viridis	Green Woodpecker	26/05/2002	SK257795	Woodlands on Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	12/07/2003	SK259797	Woodlands on Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	13/11/2003	SK2579	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	22/04/1978	SK2579	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	22/11/1995	SK258794	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	06/03/1996	SK261797	Woodlands on Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	26/10/1997	SK266797	Woodlands on Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	23/07/2001	SK263805	Woodlands on Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	12/03/2002	SK259798	Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	03/04/2002	SK259797	pond in Longshaw Estate	0	0	1
Picus viridis	Green Woodpecker	28/07/1993	SK258798	Woodlands on Longshaw Estate	0	0	1
Alauda arvensis	Skylark	27/04/2009	SK2581	Burbage Moor	0	0	1
Alauda arvensis	Skylark	07/04/1997	SK267797	Longshaw Estate	0	0	1
Alauda arvensis	Skylark	02/05/2002	SK268798	grass-moor & heathland areas of Longshaw Estate south to Grouse Inn (Jubilee)	0	0	1
Alauda arvensis	Skylark	20/10/1985	SK28Q	BURBAGE MOOR	0	0	1
Alauda arvensis	Skylark	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Alauda arvensis	Skylark	19/12/1988	SK2782	BURBAGE MOOR	0	0	1
Alauda arvensis	Skylark	01/01/1989	SK2782	BURBAGE MOOR	0	0	1
Alauda arvensis	Skylark	11/05/1996	SK253822	Hathersage Moor	0	0	1
Alauda arvensis	Skylark	14/06/1997	SK271809	HOUNDKIRK MOOR	0	0	1
Alauda arvensis	Skylark	20/05/1999	SK245810	Hathersage Moor	0	0	1
Alauda arvensis	Skylark	22/06/1990	SK264813	BURBAGE MOOR	0	0	1
Alauda arvensis	Skylark	20/09/1992	SK2782	BURBAGE MOOR	0	0	1
Alauda arvensis	Skylark	24/04/1993	SK28L	Stanage (Derbyshire part)	0	0	1
Alauda arvensis	Skylark	05/06/1993	SK277818	HOUNDKIRK MOOR	0	0	1
Alauda arvensis	Skylark	06/04/2002	SK245810	Hathersage Moor	0	0	1
Alauda arvensis	Skylark	27/04/2010	SK2780	Nell Croft & Stony Ridge	0	0	1
Turdus merula	Blackbird	06/05/2007	SK2579	Padley Wood	0	0	1
Turdus merula	Blackbird	27/04/2007	SK2579	Padley Wood	0	0	1
Turdus merula	Blackbird	17/03/2011	SK2580		0	0	1
Turdus merula	Blackbird	15/02/2011	SK2579	Padley Gorge	0	0	1
Turdus merula	Blackbird	22/02/2011	SK2579	Padley Gorge	0	0	1
Turdus merula	Blackbird	05/05/2007	SK2579	Longshaw Estate	0	0	1
Turdus merula	Blackbird	06/02/2007	SK2579	Padley Wood	0	0	1
Turdus merula	Blackbird	22/04/2007	SK2579	Padley Wood	0	0	1
Pyrrhula pyrrhula	Bullfinch	05/05/2007	SK2579	Longshaw Estate	0	0	1
Prunella modularis	Dunnock	05/05/2007	SK2579	Longshaw Estate	0	0	1
Prunella modularis	Dunnock	06/06/2011	SK2579	Padley Gorge	0	0	1

Prunella modularis	Dunnock	28/04/2011	SK2579	Padley Gorge	0	0	1
Prunella modularis	Dunnock	17/03/2011	SK2681	Burbage Moor	0	0	1
Regulus regulus	Goldcrest	22/04/2007	SK2579	Padley Wood	0	0	1
Regulus regulus	Goldcrest	27/04/2007	SK2579	Padley Wood	0	0	1
Regulus regulus	Goldcrest	05/05/2007	SK2579	Longshaw Estate	0	0	1
Regulus regulus	Goldcrest	06/06/2011	SK2579	Padley Gorge	0	0	1
Carduelis carduelis	Goldfinch	05/05/2007	SK2579	Longshaw Estate	0	0	1
Carduelis carduelis	Goldfinch	06/06/2011	SK2579	Padley Gorge	0	0	1
Carduelis carduelis	Goldfinch	17/03/2011	SK2580		0	0	1
Carduelis carduelis	Goldfinch	15/02/2011	SK2579	Padley Gorge	0	0	1
Motacilla cinerea	Grey Wagtail	23/07/2001	SK262807	Bridge carrying A625 over Burbage Brook	0	0	1
Motacilla cinerea	Grey Wagtail	10/11/2001	SK256796	Burbage Brook,in Padley Wood	0	0	1
Motacilla cinerea	Grey Wagtail	21/03/2002	SK258803	Burbage Brook, S of A625	0	0	1
Motacilla cinerea	Grey Wagtail	13/04/2002	SK255795	Burbage Brook,in Padley Wood	0	0	1
Motacilla cinerea	Grey Wagtail	06/06/2002	SK258802	Burbage Brook, S of A625	0	0	1
Motacilla cinerea	Grey Wagtail	26/07/2002	SK2681	Burbage Brook Yorks	0	0	1
Motacilla cinerea	Grey Wagtail	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Motacilla cinerea	Grey Wagtail	05/06/1996	SK257799	Burbage Brook, S of A625	0	0	1
Motacilla cinerea	Grey Wagtail	27/08/1997	SK261807	Bridge carrying A625 over Burbage Brook	0	0	1
Motacilla cinerea	Grey Wagtail	13/05/1992	SK2579	Burbage Brook, S of A625	0	0	1
Motacilla cinerea	Grey Wagtail	17/04/1993	SK2580	Burbage Brook, S of A625	0	0	1
Motacilla cinerea	Grey Wagtail	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Motacilla cinerea	Grey Wagtail	20/05/2008	SK258799	Longshaw Estate	0	0	1
Motacilla cinerea	Grey Wagtail	29/04/2007	SK2579	Padley Wood	0	0	1
Motacilla cinerea	Grey Wagtail	06/05/2007	SK2579	Padley Wood	0	0	1
Motacilla cinerea	Grey Wagtail	12/05/2007	SK2579	Padley Wood	0	0	1
Delichon urbicum	House Martin	08/09/2011	SK2582	Stanage Edge	0	0	1
Carduelis cannabina	Linnet	31/05/2009	SK2579	Burbage Brook	0	0	1
Anthus pratensis	Meadow Pipit	22/02/2011	SK2480		0	0	1
Anthus pratensis	Meadow Pipit	08/09/2011	SK2582	Stanage Edge	0	0	1
Anthus pratensis	Meadow Pipit	31/03/2007	SK2682	Burbage Brook, N of A625	0	0	1
Anthus pratensis	Meadow Pipit	31/03/2007	SK2681	Toad's Mouth	0	0	1
Anthus pratensis	Meadow Pipit	05/05/2007	SK2579	Longshaw Estate	0	0	1
Anthus pratensis	Meadow Pipit	26/04/2011	SK2581	Burbage Moor	0	0	1
Anthus pratensis	Meadow Pipit	06/06/2011	SK2579	Padley Gorge	0	0	1
Anthus pratensis	Meadow Pipit	17/03/2011	SK2580		0	0	1
Anthus pratensis	Meadow Pipit	01/06/2007	SK2579	Padley Wood	0	0	1
Anthus pratensis	Meadow Pipit	27/04/2007	SK2579	Padley Wood	0	0	1
Anthus pratensis	Meadow Pipit	27/04/2009	SK2581	Burbage Moor	0	0	1

Anthus pratensis	Meadow Pipit	16/09/2006	SK2782	Burbage Moor	0	0	1
Anthus pratensis	Meadow Pipit	24/04/2007	SK2581	Burbage Moor	0	0	1
Anthus pratensis	Meadow Pipit	06/05/2007	SK2579	Padley Wood	0	0	1
Anthus pratensis	Meadow Pipit	23/05/2012	SK267817	Burbage Moor (Ox Stones Valley)	0	0	1
Anthus pratensis	Meadow Pipit	23/05/2012	SK2681	Burbage Moor (Ox Stones Valley)	0	0	1
Anthus pratensis	Meadow Pipit	30/05/2000	SK265813	Burbage Brook Yorks	0	0	1
Anthus pratensis	Meadow Pipit	26/05/2001	SK265813	Burbage Brook Yorks	0	0	1
Anthus pratensis	Meadow Pipit	23/05/2012	SK268818	Burbage Moor (Ox Stones Valley)	0	0	1
Anthus pratensis	Meadow Pipit	23/05/2012	SK268818	Burbage Moor (Ox Stones Valley)	0	0	1
Anthus pratensis	Meadow Pipit	15/03/2003	SK265813	Burbage Brook Yorks	0	0	1
Anthus pratensis	Meadow Pipit	27/04/2010	SK2580	Hathersage Moor	0	0	1
Anthus pratensis	Meadow Pipit	22/06/1990	SK264813	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	26/09/1992	SK256819	Higger Tor	0	0	1
Anthus pratensis	Meadow Pipit	05/08/2011	SK2580	Hathersage Moor	0	0	1
Anthus pratensis	Meadow Pipit	17/05/2012	SK2780	Nell Croft & Stony Ridge	0	0	1
Anthus pratensis	Meadow Pipit	22/10/1994	SK273817	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	07/01/1995	SK264803	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	28/04/1996	SK244823	Hathersage Moor	0	0	1
Anthus pratensis	Meadow Pipit	28/04/1996	SK253822	Hathersage Moor	0	0	1
Anthus pratensis	Meadow Pipit	29/03/2002	SK264809	Burbage Brook Yorks	0	0	1
Anthus pratensis	Meadow Pipit	26/07/2002	SK2681	Burbage Brook Yorks	0	0	1
Anthus pratensis	Meadow Pipit	31/03/1998	SK265813	Burbage Brook Yorks	0	0	1
Anthus pratensis	Meadow Pipit	01/08/1998	SK278818	HOUNDKIRK MOOR	0	0	1
Anthus pratensis	Meadow Pipit	25/06/1989	SK2681	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	25/06/1989	SK2682	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	05/06/1993	SK277818	HOUNDKIRK MOOR	0	0	1
Anthus pratensis	Meadow Pipit	22/10/1994	SK270815	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	17/06/1995	SK28R	HOUNDKIRK MOOR	0	0	1
Anthus pratensis	Meadow Pipit	10/09/1995	SK277817	HOUNDKIRK MOOR	0	0	1
Anthus pratensis	Meadow Pipit	04/11/1995	SK270813	Burbage rocks, Burbage Moor	0	0	1
Anthus pratensis	Meadow Pipit	30/03/1996	SK244811	Hathersage Moor	0	0	1
Anthus pratensis	Meadow Pipit	29/03/1997	SK275825	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	30/08/1997	SK265827	Burbage rocks, Burbage Moor	0	0	1
Anthus pratensis	Meadow Pipit	29/03/2006	SK267812	Burbage Moor	0	0	1
Anthus pratensis	Meadow Pipit	03/05/2006	SK266824	Callow Bank, Hathersage	0	0	1
Anthus pratensis	Meadow Pipit	23/05/2012	SK268818	Burbage Moor (Ox Stones Valley)	0	0	1
Anthus pratensis	Meadow Pipit	23/05/2012	SK260820	Burbage Moor (Ox Stones Valley)	0	0	1
Anthus pratensis	Meadow Pipit	01/05/2010	SK2780	Nell Croft & Stony Ridge	0	0	1
Anthus pratensis	Meadow Pipit	27/04/2010	SK2681	BURBAGE MOOR	0	0	1

Anthus pratensis	Meadow Pipit	09/09/2009	SK275806	HOUNDKIRK MOOR	0	0	1
Anthus pratensis	Meadow Pipit	01/01/1987	SK264813	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	19/12/1988	SK2782	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	25/06/1989	SK2581	BURBAGE MOOR	0	0	1
Anthus pratensis	Meadow Pipit	25/06/1989	SK2582	BURBAGE MOOR	0	0	1
Turdus viscivorus	Mistle Thrush	22/04/2007	SK2579	Padley Wood	0	0	1
Turdus viscivorus	Mistle Thrush	06/05/2007	SK2579	Padley Wood	0	0	1
Turdus viscivorus	Mistle Thrush	06/06/2011	SK2579	Padley Gorge	0	0	1
Turdus viscivorus	Mistle Thrush	17/03/2011	SK2580		0	0	1
Turdus viscivorus	Mistle Thrush	15/02/2011	SK2579	Padley Gorge	0	0	1
Turdus viscivorus	Mistle Thrush	01/06/2007	SK2579	Padley Wood	0	0	1
Turdus viscivorus	Mistle Thrush	27/04/2009	SK2581	Burbage Moor	0	0	1
Turdus viscivorus	Mistle Thrush	31/03/2007	SK2682	Burbage Brook, N of A625	0	0	1
Turdus viscivorus	Mistle Thrush	31/03/2007	SK2681	Toad's Mouth	0	0	1
Turdus viscivorus	Mistle Thrush	05/05/2007	SK2579	Longshaw Estate	0	0	1
Turdus viscivorus	Mistle Thrush	28/04/2011	SK2579	Padley Gorge	0	0	1
Turdus viscivorus	Mistle Thrush	25/09/1996	SK265798	trees by Longshaw Lodge	0	0	1
Turdus viscivorus	Mistle Thrush	15/05/2002	SK266799	Longshaw Estate	0	0	1
Turdus viscivorus	Mistle Thrush	26/03/2004	SK266800	Longshaw Estate	0	0	1
Turdus viscivorus	Mistle Thrush	00/01/1900	SK2782	HOUNDKIRK MOOR	0	0	1
Turdus viscivorus	Mistle Thrush	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Turdus viscivorus	Mistle Thrush	20/05/1999	SK242812	Hathersage Moor	0	0	1
Turdus viscivorus	Mistle Thrush	24/08/2000	SK265813	Burbage Brook Yorks	0	0	1
Turdus viscivorus	Mistle Thrush	03/09/2000	SK2682	BURBAGE MOOR	0	0	1
Turdus viscivorus	Mistle Thrush	10/05/2002	SK243813	Hathersage Moor	0	0	1
Turdus viscivorus	Mistle Thrush	23/05/2012	SK263814	Burbage Plantation	0	0	1
Phoenicurus phoenicurus	Redstart	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Phoenicurus phoenicurus	Common Redstart	15/06/2008	SK251800	Surprise View and Car Park	0	0	1
Phoenicurus phoenicurus	Redstart	16/04/1997	SK265798	Longshaw Estate	0	0	1
Phoenicurus phoenicurus	Redstart	12/05/1999	SK2579	Longshaw Estate	0	0	1
Phoenicurus phoenicurus	Redstart	13/06/1999	SK2579	Woodlands on Longshaw Estate	0	0	1
Phoenicurus phoenicurus	Redstart	16/04/2002	SK263804	Longshaw Estate	0	0	1
Phoenicurus phoenicurus	Redstart	02/05/2002	SK261806	trees by Longshaw Lodge	0	0	1
Phoenicurus phoenicurus	Common Redstart	20/05/2005	SK2579	Yarncliff Wood	0	0	1
Phoenicurus phoenicurus	Redstart	02/05/2002	SK266799	trees by Longshaw Lodge	0	0	1
Phoenicurus phoenicurus	Redstart	02/05/2002	SK266803	trees by Longshaw Lodge	0	0	1
Phoenicurus phoenicurus	Redstart	26/05/2002	SK257795	Woodlands on Longshaw Estate	0	0	1
Phoenicurus phoenicurus	Redstart	26/05/2002	SK257800	Woodlands on Longshaw Estate	0	0	1

Phoenicurus phoenicurus	Redstart	26/04/1989	SK2579	Longshaw Estate	0	0	1
Phoenicurus phoenicurus	Redstart	22/06/1989	SK2579	Longshaw Estate	0	0	1
Phoenicurus phoenicurus	Redstart	12/05/2007	SK2579	Padley Wood	0	0	1
Phoenicurus phoenicurus	Redstart	28/04/2011	SK2579	Padley Gorge	0	0	1
Phoenicurus phoenicurus	Redstart	06/06/2011	SK2579	Padley Gorge	0	0	1
Phoenicurus phoenicurus	Redstart	27/04/2011	SK2579	Padley Gorge	0	0	1
Phoenicurus phoenicurus	Redstart	20/05/2011	SK2579	Longshaw Estate	0	0	1
Phoenicurus phoenicurus	Redstart	03/05/2009	SK2579	Padley Wood	0	0	1
Phoenicurus phoenicurus	Redstart	05/05/2007	SK2579	Longshaw Estate	0	0	1
Phoenicurus phoenicurus	Redstart	22/04/2007	SK2579	Padley Wood	0	0	1
Phoenicurus phoenicurus	Redstart	29/04/2007	SK2579	Padley Wood	0	0	1
Phoenicurus phoenicurus	Redstart	06/05/2007	SK2579	Padley Wood	0	0	1
Phoenicurus phoenicurus	Redstart	27/04/2007	SK2579	Padley Wood	0	0	1
Turdus philomelos	Song Thrush	14/05/2006	SK267799	Longshaw Estate	0	0	1
Turdus philomelos	Song Thrush	22/10/1994	SK264810	BURBAGE MOOR	0	0	1
Turdus philomelos	Song Thrush	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Turdus philomelos	Song Thrush	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Turdus philomelos	Song Thrush	05/03/2013	SK263803	Longshaw National Trust	0	0	1
Turdus philomelos	Song Thrush	05/03/2013	SK266801	Longshaw National Trust	0	0	1
Turdus philomelos	Song Thrush	19/04/2009	SK2579	Padley Wood	0	0	1
Turdus philomelos	Song Thrush	27/04/2009	SK2581	Burbage Moor	0	0	1
Turdus philomelos	Song Thrush	20/05/2008	SK264799	Longshaw Estate	0	0	1
Turdus philomelos	Song Thrush	24/02/2001	SK264802	trees by Longshaw Lodge	0	0	1
Turdus philomelos	Song Thrush	26/03/2004	SK266800	Longshaw Estate	0	0	1
Turdus philomelos	Song Thrush	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Turdus philomelos	Song Thrush	24/04/2007	SK2581	Burbage Moor	0	0	1
Turdus philomelos	Song Thrush	05/05/2007	SK2579	Longshaw Estate	0	0	1
Turdus philomelos	Song Thrush	28/04/2011	SK2579	Padley Gorge	0	0	1
Turdus philomelos	Song Thrush	06/06/2011	SK2579	Padley Gorge	0	0	1
Turdus philomelos	Song Thrush	17/03/2011	SK2580		0	0	1
Turdus philomelos	Song Thrush	22/04/2007	SK2579	Padley Wood	0	0	1
Turdus philomelos	Song Thrush	06/05/2007	SK2579	Padley Wood	0	0	1
Turdus philomelos	Song Thrush	27/04/2007	SK2579	Padley Wood	0	0	1
Turdus philomelos	Song Thrush	14/05/2006	SK267799	Longshaw Estate	0	0	1
Turdus philomelos	Song Thrush	22/10/1994	SK264810	BURBAGE MOOR	0	0	1
Turdus philomelos	Song Thrush	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Turdus philomelos	Song Thrush	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Turdus philomelos	Song Thrush	05/03/2013	SK263803	Longshaw National Trust	0	0	1
Turdus philomelos	Song Thrush	05/03/2013	SK266801	Longshaw National Trust	0	0	1

Turdus philomelos	Song Thrush	19/04/2009	SK2579	Padley Wood	0	0	1
Turdus philomelos	Song Thrush	27/04/2009	SK2581	Burbage Moor	0	0	1
Turdus philomelos	Song Thrush	20/05/2008	SK264799	Longshaw Estate	0	0	1
Turdus philomelos	Song Thrush	24/02/2001	SK264802	trees by Longshaw Lodge	0	0	1
Turdus philomelos	Song Thrush	26/03/2004	SK266800	Longshaw Estate	0	0	1
Turdus philomelos	Song Thrush	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Sturnus vulgaris	Starling	05/05/2007	SK2579	Longshaw Estate	0	0	1
Saxicola torquata	Stonechat	27/04/2010	SK264810	BURBAGE MOOR	0	0	1
Saxicola torquata	Stonechat	23/05/2012	SK260824	Burbage Moor (Ox Stones Valley)	0	0	1
Saxicola torquata	Stonechat	25/02/2007	SK251820	Callow Bank	0	0	1
Saxicola torquata	Stonechat	12/07/2013	SK256806	Hathersage Moor	0	0	1
Saxicola torquata	Stonechat	12/01/2003	SK254802	Hathersage Moor	0	0	1
Saxicola torquata	Stonechat	12/03/2003	SK265813	Burbage Brook Yorks	0	0	1
Saxicola torquata	Stonechat	15/03/2003	SK265813	Burbage Brook Yorks	0	0	1
Saxicola torquata	Stonechat	26/04/2008	SK262810	Burbage Brook Yorks	0	0	1
Saxicola torquata	Stonechat	24/06/1990	SK262820	Burbage Brook Yorks	0	0	1
Saxicola torquata	Stonechat	24/06/1990	SK2782	BURBAGE MOOR	0	0	1
Saxicola torquata	Stonechat	27/03/2001	SK28R	Burbage Brook Yorks	0	0	1
Saxicola torquata	Stonechat	12/06/2002	SK2681	Burbage Brook Yorks	0	0	1
Saxicola torquata	Stonechat	03/10/2012	SK267802	Nell Croft & Stony Ridge	0	0	1
Saxicola torquata	Stonechat	06/11/2007	SK260807	Toad's Mouth	0	0	1
Saxicola torquata	Stonechat	09/03/2008	SK255803	Surprise View and Car Park	0	0	1
Saxicola torquata	Stonechat	17/02/2008	SK255803	Surprise View and Car Park	0	0	1
Saxicola torquata	Stonechat	12/07/2008	SK251800	Surprise View and Car Park	0	0	1
Saxicola torquata	Stonechat	11/01/2009	SK251800	Surprise View and Car Park	0	0	1
Saxicola torquata	Stonechat	00/01/1900	SK2782	HOUNDKIRK MOOR	0	0	1
Saxicola torquata	Stonechat	18/06/2007	SK255803	Hathersage Moor	0	0	1
Saxicola torquata	Stonechat	17/08/2007	SK256810	Carl Wark, Hathersage Moor	0	0	1
Saxicola torquata	Stonechat	01/05/2007	SK2581	Hathersage Moor	0	0	1
Saxicola torquata	Stonechat	23/05/2011	SK2579	Longshaw Estate	0	0	1
Saxicola torquata	Stonechat	07/05/2011	SK2579	Longshaw Estate	0	0	1
Saxicola torquata	Stonechat	24/04/2007	SK2581	Burbage Moor	0	0	1
Saxicola torquata	Stonechat	29/04/2007	SK2680	Burbage Moor	0	0	1
Saxicola torquata	Stonechat	28/03/2007	SK2682	Burbage Moor	0	0	1
Saxicola torquata	Stonechat	28/03/2007	SK2682	Burbage Moor	0	0	1
Saxicola torquata	Stonechat	13/04/2007	SK2579	Padley Wood	0	0	1
Saxicola torquata	Stonechat	31/03/2007	SK2682	Burbage Brook, N of A625	0	0	1
Saxicola torquata	Stonechat	03/05/2007	SK2581	Higger Tor, Hathersage Moor	0	0	1
Saxicola torquata	Stonechat	26/04/2011	SK2581	Burbage Moor	0	0	1

Saxicola torquata	Stonechat	06/06/2011	SK2579	Padley Gorge	0	0	1
Saxicola torquata	Stonechat	29/04/2007	SK2579	Padley Wood	0	0	1
Saxicola torquata	Stonechat	01/06/2007	SK2579	Padley Wood	0	0	1
Saxicola torquata	Stonechat	06/05/2007	SK2579	Padley Wood	0	0	1
Saxicola torquata	Stonechat	27/04/2007	SK2579	Padley Wood	0	0	1
Saxicola torquata	Stonechat	27/04/2009	SK2581	Burbage Moor	0	0	1
Hirundo rustica	Swallow	05/05/2007	SK2579	Longshaw Estate	0	0	1
Hirundo rustica	Swallow	13/04/2007	SK2579	Padley Wood	0	0	1
Hirundo rustica	Swallow	01/06/2007	SK2579	Padley Wood	0	0	1
Hirundo rustica	Swallow	06/05/2007	SK2579	Padley Wood	0	0	1
Hirundo rustica	Swallow	27/04/2007	SK2579	Padley Wood	0	0	1
Hirundo rustica	Swallow	12/05/2007	SK2579	Padley Wood	0	0	1
Hirundo rustica	Swallow	30/04/1994	SK258801	BURBAGE MOOR	0	0	1
Hirundo rustica	Swallow	01/07/2001	SK275815	HOUNDKIRK MOOR	0	0	1
Hirundo rustica	Swallow	17/08/2001	SK251831	Stanage Edge	0	0	1
Hirundo rustica	Swallow	07/04/2010	SK2782	HOUNDKIRK MOOR	0	0	1
Hirundo rustica	Swallow	08/09/2011	SK2582	Stanage Edge	0	0	1
Hirundo rustica	Swallow	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Hirundo rustica	Barn Swallow	27/07/2008	SK251800	Surprise View and Car Park	0	0	1
Hirundo rustica	Barn Swallow	18/07/2000	SK260796	pond in Longshaw Estate	0	0	1
Parus montanus	Willow Tit	27/12/2006	SK2680	Burbage Brook, S of A625	0	0	1
Phylloscopus trochilus	Willow Warbler	08/04/2011	SK2579	Padley Gorge	0	0	1
Phylloscopus trochilus	Willow Warbler	24/04/2007	SK2581	Burbage Moor	0	0	1
Phylloscopus trochilus	Willow Warbler	13/04/2007	SK2579	Padley Wood	0	0	1
Phylloscopus trochilus	Willow Warbler	22/04/2007	SK2579	Padley Wood	0	0	1
Phylloscopus trochilus	Willow Warbler	29/04/2007	SK2579	Padley Wood	0	0	1
Phylloscopus trochilus	Willow Warbler	01/06/2007	SK2579	Padley Wood	0	0	1
Phylloscopus trochilus	Willow Warbler	06/05/2007	SK2579	Padley Wood	0	0	1
Phylloscopus trochilus	Willow Warbler	06/06/2011	SK2579	Padley Gorge	0	0	1
Phylloscopus trochilus	Willow Warbler	11/04/2012	SK2579	Padley Gorge	0	0	1
Phylloscopus trochilus	Willow Warbler	27/04/2007	SK2579	Padley Wood	0	0	1
Phylloscopus trochilus	Willow Warbler	12/05/2007	SK2579	Padley Wood	0	0	1
Phylloscopus trochilus	Willow Warbler	19/04/2009	SK2579	Padley Wood	0	0	1
Phylloscopus trochilus	Willow Warbler	27/04/2009	SK2581	Burbage Moor	0	0	1
Phylloscopus trochilus	Willow Warbler	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Phylloscopus trochilus	Willow Warbler	17/06/1995	SK262807	HOUNDKIRK MOOR	0	0	1
Phylloscopus trochilus	Willow Warbler	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Phylloscopus trochilus	Willow Warbler	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Phylloscopus trochilus	Willow Warbler	27/04/2010	SK2580	Hathersage Moor	0	0	1

Phylloscopus trochilus	Willow Warbler	27/04/2010	SK263806	BURBAGE MOOR	0	0	1
Phylloscopus trochilus	Willow Warbler	03/05/2006	SK266824	Callow Bank, Hathersage	0	0	1
Phylloscopus trochilus	Willow Warbler	27/04/2010	SK2681	BURBAGE MOOR	0	0	1
Phylloscopus trochilus	Willow Warbler	05/08/2011	SK262807	BURBAGE MOOR	0	0	1
Phylloscopus trochilus	Willow Warbler	23/05/2012	SK261822	Burbage Plantation	0	0	1
Phylloscopus trochilus	Willow Warbler	23/05/2012	SK267817	Burbage Moor (Ox Stones Valley)	0	0	1
Phylloscopus trochilus	Willow Warbler	23/05/2012	SK266815	Burbage Moor (Ox Stones Valley)	0	0	1
Phylloscopus trochilus	Willow Warbler	01/05/2013	SK266803	Burbage Moor	0	0	1
Scolopax rusticola	Woodcock	02/05/2009	SK2480	Woodland E of R Derwent between Hathersage & Grindleford	0	0	1
Anser brachyrhynchus	Pink-footed Goose	21/01/2010	SK2781	Burbage Moor	0	0	1
Anser brachyrhynchus	Pink-footed Goose	07/01/2010	SK265795	Longshaw Estate	0	0	1
Parus palustris	Marsh Tit	23/07/2001	SK28Q	Burbage Brook, S of A625	0	0	1
Turdus merula	Common Blackbird	14/05/2005	SK2579	Padley Wood	0	0	1
Turdus merula	Blackbird	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Turdus merula	Blackbird	23/05/2012	SK265817	Burbage Plantation	0	0	1
Turdus merula	Blackbird	23/05/2012	SK261816	Burbage Plantation	0	0	1
Turdus merula	Blackbird	11/09/1999	SK265797	Longshaw Estate	0	0	1
Turdus merula	Blackbird	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Turdus merula	Blackbird	01/07/1996	SK2480	Millstone Edge	0	0	1
Turdus merula	Blackbird	24/06/1990	SK262820	Burbage Brook Yorks	0	0	1
Turdus merula	Blackbird	24/06/1990	SK2782	BURBAGE MOOR	0	0	1
Turdus merula	Blackbird	22/10/1994	SK265812	BURBAGE MOOR	0	0	1
Turdus merula	Blackbird	27/11/2005	SK2579	Padley Wood	0	0	1
Regulus regulus	Goldcrest	03/04/2002	SK267801	trees by Longshaw Lodge	0	0	1
Regulus regulus	Goldcrest	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Regulus regulus	Goldcrest	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Regulus regulus	Goldcrest	01/07/2000	SK2580	BURBAGE MOOR	0	0	1
Regulus regulus	Goldcrest	18/09/2011	SK263818	Burbage Plantation	0	0	1
Regulus regulus	Goldcrest	23/05/2012	SK260822	Burbage Plantation	0	0	1
Regulus regulus	Goldcrest	06/02/2014	SK263819	Burbage Plantation	0	0	1
Prunella modularis	Dunnock	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Prunella modularis	Dunnock	04/11/1995	SK263807	Burbage Brook Yorks	0	0	1
Prunella modularis	Dunnock	01/07/1996	SK2480	Millstone Edge	0	0	1
Prunella modularis	Dunnock	22/10/1994	SK265804	BURBAGE MOOR	0	0	1
Sturnus vulgaris	Starling	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Sturnus vulgaris	Starling	02/10/1999	SK253832	Stanage (Derbyshire part)	0	0	1
Sturnus vulgaris	Starling	05/08/2011	SK2780	Nell Croft & Stony Ridge	0	0	1

Carduelis carduelis	Goldfinch	17/04/2007	SK265795	Longshaw Estate	0	0	1
Carduelis carduelis	Goldfinch	06/06/2002	SK265802	Longshaw Estate	0	0	1
Carduelis carduelis	Goldfinch	09/09/2009	SK275806	HOUNDKIRK MOOR	0	0	1
Carduelis carduelis	Goldfinch	03/04/2002	SK265803	Burbage Brook, S of A625	0	0	1
Carduelis carduelis	Goldfinch	10/05/2002	SK244814	Hathersage Moor	0	0	1
Carduelis cannabina	Linnet	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Pyrrhula pyrrhula	Bullfinch	16/06/1997	SK262806	Burbage Brook Yorks	0	0	1
Anas crecca	Teal	06/12/1995	SK261797	pond in Longshaw Estate	0	0	1
Anas crecca	Teal	13/11/2001	SK260797	pond in Longshaw Estate	0	0	1
Anas crecca	Teal	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Asio flammeus	Short-Eared Owl	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Asio flammeus	Short-Eared Owl	02/02/1992	SK2782	BURBAGE MOOR	0	0	1
Asio flammeus	Short-Eared Owl	02/02/1992	SK2782	BURBAGE MOOR	0	0	1
Asio flammeus	Short-Eared Owl	22/06/2000	SK254818	Higger Tor	0	0	1
Asio flammeus	Short-Eared Owl	24/06/2001	SK2581	Higger Tor	0	0	1
Asio flammeus	Short-Eared Owl	09/05/2002	SK246822	Mitchell Field	0	0	1
Asio flammeus	Short-Eared Owl	10/05/2002	SK246822	Mitchell Field	0	0	1
Asio flammeus	Short-Eared Owl	11/03/2012	SK273803	Nell Croft & Stony Ridge	0	0	1
Asio flammeus	Short-Eared Owl	13/07/1994	SK2780	Nell Croft & Stony Ridge	0	0	1
Lymnocryptes minimus	Jack Snipe	19/12/1988	SK2782	BURBAGE MOOR	0	0	1
Circus aeruginosus	Marsh Harrier	15/05/1997	SK28R	Hallam Moors SSSI	0	0	1
Circus cyaneus	Hen Harrier	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Circus cyaneus	Hen Harrier	02/02/1992	SK2782	BURBAGE MOOR	0	0	1
Circus cyaneus	Hen Harrier	25/04/2000	SK265811	Burbage Brook Yorks	0	0	1
Circus cyaneus	Hen Harrier	10/03/2007	SK2580	Hathersage Moor	0	0	1
Carduelis flavirostris	Twite	20/05/1978	SK2682	BURBAGE MOOR	0	0	1
Carduelis flavirostris	Twite	16/05/1982	SK2682	BURBAGE MOOR	0	0	1
Carduelis flavirostris	Twite	01/01/1987	SK2782	BURBAGE MOOR	0	0	1
Carduelis flavirostris	Twite	01/01/1988	SK2782	BURBAGE MOOR	0	0	1
Carduelis flavirostris	Twite	01/03/1998	SK2782	BURBAGE MOOR	0	0	1
Carduelis flavirostris	Twite	08/10/1990	SK266813	Burbage Brook Yorks	0	0	1
Carduelis flavirostris	Twite	02/02/1992	SK2782	BURBAGE MOOR	0	0	1

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