

**Carn Brea,  
Illogan,  
Cornwall**

**HEATH Management Assessment**



**Historic Environment Service Projects**

Cornwall County Council

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## **Carn Brea, Illogan**

**Extent:** 74.003 ha

**Ownership:**

**Occupiers:**

This Management Assessment summarises the known archaeological and historic features within the study area and gives additional information on the historic background. The second part provides general guidance on managing heathland for the historic environment.

The assessment is part of the historic environment element of the West Cornwall HEATH project and has been produced by the Historic Environment Service (Projects) of Cornwall County Council.

### **Summary and statement of significance**

Carn Brea is a particularly prominent and distinctive hill in the west Cornwall landscape and is also one of Cornwall's most important archaeological areas; the latter status is reflected by the designation of a substantial part (although by no means all of the area of significance) as a Scheduled Monument. Some archaeological investigation – both survey and excavation – has been carried out but there are significant elements of the site which remain poorly understood, both in terms of the chronology and form of activity and of the nature of the archaeological resource in areas where vegetation has prevented close scrutiny. With improved management in future, further survey should be a high priority.

The area is particularly important for prehistoric activity. Finds of distinctive types of worked flint indicate activity on the hill during the Mesolithic period (*c* 8,000-4,000 BC) but from early in the Neolithic (*c* 3700) a 'tor enclosure' was constructed on Carn Brea, with massive stone ramparts enclosing a large area around the eastern summit and possibly also the western. This enclosure probably combined functions as a settlement, trading place, ceremonial and ritual focus and a defensive site. Excavations in the 1970s recovered much useful information but the full extent of the Neolithic occupation is unknown and there is still much to find out about the site. Relatively few tor enclosures are known and Carn Brea is of both national and international importance.

Occupation of the tor enclosure appears to have ceased about 3300 BC and little is known of activity on and around Carn Brea during the middle and later Neolithic or during the Bronze Age. For the latter period (*c* 2,500 – 800 BC) a few flints of characteristic Early Bronze Age types have been recovered from the summit area and a Late Bronze Age hoard of metalwork is also known to have been found on the hill. During the succeeding Iron Age the Neolithic enclosure appears to have been re-used and probably extended as a hillfort; late nineteenth century excavations recovered Iron Age material in the vicinity of the hut circles within the summit enclosure. Some Roman-period material has also been identified and it is possible that occupation of the enclosed area continued. Coin hoards of both Iron Age and Roman date may represent a continuing tradition of making ritual deposits of metal objects on the hill.

In the medieval period part of Carn Brea was enclosed as a deer park by the Bassett family of Tehidy; the castle, first recorded late in the fifteenth century, was probably primarily a hunting lodge within the deer park. Deer parks were important as much for

the display of status by their owners as for recreation or for the venison they supplied. A probable pillow mound – an artificial burrow for rabbits - on the summit suggests that the park was also used as a rabbit warren. The western end of the hill, outside the deer park, was divided into a number of large blocks, with access from the enclosed land below the hill by lanes and funnel-shaped droves. These features, probably medieval or early post medieval, reflect continuing use of the rough ground for grazing by the settlements on the surrounding lower ground. The fringes of this area were partly enclosed for smallholdings or as expansions of the adjacent land in the post medieval period.

The post-medieval history of the hill has largely been shaped by industrial activity, principally mining but also quarrying, and many of the most visible remains in the study area are associated with these activities. The Listed Dunstanville monument, as well as being an important landmark, also maintains the history of the hill as a place where status was displayed in physical form.

## **Background**

**Geology** (based on Geological Survey of Great Britain, 2004)

Bedrock in the study area is predominantly coarse-grained granite of the Carnmenellis intrusion. Two dykes of felsite intrude within the western part of the area. Small areas of Mylor Slate Formation hornfelsed slate and siltstone occur to the NE and SE.

**Soils** (based on Soil Survey data, 2004)

Soils within the study area are loam over granite, described as ‘well-drained humose gritty loamy soils, occasionally with thin ironpan’.

**Modern vegetation** (based on ERCISS 1995 landcover)

The study area is a mosaic dominated by the heath / bracken / unimproved grassland and heathland (both comprising dwarf shrub heath), with further areas recorded as bracken / scrub (broadleaved / mixed / yew woodland); scrub (broadleaved / mixed / yew woodland) and bracken (bracken).

## **Historic environment designations**

**Scheduled Monuments** (based on GIS dataset English Heritage, 2004)

A substantial proportion (22 ha) of the eastern part of the study area is a Scheduled Monument (Co 79), under the name Carn Brea Castle.

**Listed Buildings** (based on GIS dataset English Heritage, 2004)

There are two Listed Buildings within the study area:

- Carn Brea castle
- Dunstanville Memorial

## Historical Summary

**Place-names** (based on Institute of Cornish Studies place-name index)

Carn Brea is first recorded in 1348, as *Carnbree*; the name derives from Cornish *carn*, 'rock-pile, tor', and *bre*, 'hill' (Padel, 1985, 30, 38-9)

**Vegetation history** (based on c 1880 and c 1907 OS maps)

Vegetation depicted on the 1st and 2nd edition 1:2500 Ordnance Survey maps was almost entirely intermixed rough pasture and furze. The 1st edition (c 1880) showed a few small enclosed fields under grass or arable around what is likely to have been a mid nineteenth century smallholding on the south-west flank of the ridge; these are shown as rough pasture on the 2nd edition map of c 1907, however, suggesting that the holding had been abandoned. A single enclosed field to the west of the disused quarry on the north side of the study area is shown as grass or arable on the OS 2nd edition.

### Folklore

Redding (1842, 193) noted that a large rock on the summit, having 'five perpendicular indentations that divide it into nearly equal parts, is called the giant's hand . . . the country people say that the body lies beneath the hill, which was flung upon it, and the hand, thus protruded, time has changed into stone.' The giant was also said to be able to stride from Carn Brea to St Agnes Beacon at one step. Redding (*ibid.*) also noted Carn Brea as the site of a battle between the devil and the Cornish saints.

Tangye (1981, 26-32) records other folklore and folklife material associated with Carn Brea. These include a Carn Brea giant whose great foe was the giant Bolster of St Agnes Beacon; surface stone on Carn Brea was described as the missiles hurled by Bolster. The Carn Brea giant is also said to have gathered stones in readiness for these fights, resulting in the concentrations of rocks at and around the castle, monument, 'Tortoise Rock' (see below) and at Tregajorran Carn, at the west end of the ridge. Natural rock formations were also identified as various body parts of the defeated Bolster, including the Giant's Head (or Face), situated at SW 6870 4094.

Other features on the hill are also identified with the giant, including natural formations known as the Giant's Couch, Giant's Cradle (probably a logging or logan stone) and Giant's Crocks and Kettles; there is also a Giant's Well (shown on the 1st edn OS 1:2500 map of c 1880 at approximately SW 6859 4092). A circular worked and perforated stone of granite, possibly a roughout for a millstone, was discovered in 1750 and was subsequently known as the Giant's Wheel (Tangye, 1981, 30). Tangye also suggests that the rock with a number of natural solution hollows known as the Giant's Crocks and Kettles is that referred to by Hunt (I, 187) as the 'Sacrificing Rock' (*ibid.*). He also notes a rock recorded by William Borlase in the mid eighteenth century as a Druid 'Seat of Judgement' and a natural formation known as the 'Tortoise Rock' because of its shape in profile (*ibid.*, 31).

The 'Sliding' or 'Sliding Rock' (SW 6857 4087) has been worn smooth by use of its sloping surface as a slide (*ibid.*). A 'Smugglers' Cave', first noted in 1866, is probably an earlier mine working (*ibid.*, 49), but an earlier account noted a cave on the hill in which a book in an unknown language had been found (*ibid.*). Tangye also notes a tradition of a tunnel running between the castle and St Uny's church, Redruth (*ibid.*). The 'House of Water', known also as the 'Bottomless Pit', was shown on the 1st edn OS 1:2500 map of c 1880 (at SW 6862 4096); it is a former mine working filled by a spring and subsequently tapped to provide water for industrial activity to the north of Carn Brea ridge (*ibid.*, 52-3).

Carn Brea also has legendary associations with John of Gaunt (1340-99), said to be so large that he could 'stride from the Castle to Tuckingmill stile' (*ibid.*). Tangye also records former beliefs that the prehistoric hut circles on the summit were built by miners in the Tudor period and that the hill was the burial place of the father of Richard Trevithick (*ibid.*)

The hill was formerly used in summer for open air services by the congregation of Carnkie Primitive Methodist chapel and was also the site of a popular gathering on bank holidays and summer early closing days in Redruth (*ibid.*, 8-9, 66). When the foundation stone of the Dunstanville monument was laid in 1836 the crowd of 30,000, led by bands and 1000-1200 miners, was described as making the hill resemble a 'mountain of flesh' (*ibid.*, 45) and large numbers are also said to have visited excavations carried out on the summit by Thurstan Peter in the late nineteenth century (*ibid.*, 44). Bonfires were lit on the hill on national occasions and at midsummer (*ibid.*, 63-4). Crowds also witnessed a mock battle enacted on Carn Brea by the Duke of Cornwall's Rifle Volunteers in 1881; the hill was used for target practice and training during the second half of the nineteenth century and by the Home Guard during WWII (*ibid.*, 50-1). In the twentieth century the castle was the venue for the Boxing Day meet of the Four Burrows Hunt (*ibid.*, 66).

Tangye also noted traditions that Carn Brea was formerly wooded (*ibid.*, 33-5) and includes useful references to the historic use of the hill for grazing, cutting turf and the 'ferny harvest' of bracken for animal bedding, and for the collection of 'hurts' (whortleberries or bilberries) (*ibid.*, 30, 62).

### **Early maps (Norden c1580, Gascoyne c1695, Martyn 1748, 1809 OS First Edition)**

Norden shows Carn Brea in stylised profile and does not label it. He does, however, place a symbol representing a mineral working on the hill shape, suggesting some late sixteenth century mining activity on the hill. Gascoyne similarly represents the hill in stylised form but includes a depiction of a structure on the summit labelled 'Castle Carn Bray'. Martyn's map also shows a profile of the hill but attempts to give an impression of its visual character by showing three summits along its length. That to the east is surmounted by a structure labelled 'Castle Carn Brea'. The OS 1st edition uses hachuring to depict the elongated Carn Brea ridge. It shows the deer park boundary and an apparent large attached enclosure to the west, the latter possibly only representing the extent of the rough ground to the west of the main summit area of the hill. The prehistoric fortifications are depicted on the eastern part of the ridge, including a double circuit around the central summit. A barrow is shown to the west of this within the deer park and a group of three on the western end of the Carn Brea ridge.

### **Tithe survey (c1840)**

Unlike most tithe apportionments for Cornish parishes, that for Illogan does not include descriptions of land use. However, it is clear that the largest part of the study area was held in substantial parcels by farm settlements on the lower ground around the hill, and would have provided them with resources in the form of rough grazing, fuel, animal feed and bedding, and moorstone. The whole of the eastern portion, within the former deer park boundary, was divided between Barncoose, to the north, and Carn Brea to the north east. The western part of the study area was mostly divided between Tregajorran and Bosleake, although small parcels were also attached to a number of smallholdings along the N-S road between them.

### **Historic Landscape Characterisation**

Almost the whole of the study area has been characterised as Upland Rough Ground (Cornwall County Council 1996). This has the longest history of human interference of any landscape type. Its principal attributes - impoverished soil supporting heath/scrub vegetation - are a product of prehistoric human intervention, maintained through medieval and early modern land use systems. Highly important remains of prehistoric and medieval settlements and ceremonial and ritual monuments often survive in rough ground.

A narrow strip approximately 500m in length on the north side of the study area, in the area of the former quarry, is characterised as Industrial, disused.

## Archaeological components

The terms used to describe sites in the following table are those used in the Cornwall Historic Environment Record. A glossary of terms and a timeline appear at the end of this section.

GAZ	SITE ID	SM NO	SITE TYPE	PERIOD	FORM	IMPORTANCE	DESCRIPTION
1	18163	79	ENCLOSURE	Prehistoric	EXTANT	SCHEDULED	Carn Brea is a multi-phase site with evidence for activity ranging from the Mesolithic to the post-medieval period.
2	18163.41	79	ENCLOSURE	Prehistoric	EXTANT	SCHEDULED	Carn Brea's central and east summits are enclosed by two near-continuous ramparts. These originate in the Neolithic but may have been extended or refurbished during the Iron Age.
3	18163.71	79/B	CASTLE	Medieval	EXTANT	SCHEDULED	Carn Brea castle, first mentioned in 1478, was used as a hunting lodge and may have contained a chapel.
4	18163.1		LITHIC SCATTER	Mesolithic	ARTEFACT	SCHEDULED	A microlith, five blades, a scraper and two other pieces have been found on Carn Brea.
5	18163.23		SETTLEMENT	Neolithic	BUILDING	SCHEDULED	Lean-to Neolithic structures were found against the ramparts of the eastern enclosure at Carn Brea.
6	18163.32	79	FINDSPOT	Bronze Age	ARTEFACT	NATIONAL	A Late Bronze Age socketed axe was found 'west of the monument' at Carn Brea.
7	18163.34	79	LITHIC SCATTER	Bronze Age	ARTEFACT	SCHEDULED	Two damaged barbed-and-tanged arrowheads found during Mercer's excavations on Carn Brea suggest use of the hill in the Early Bronze Age.
8	18163.45		FINDSPOT	Prehistoric	ARTEFACT	NATIONAL	Granite saddle quern from an unknown location on Carn Brea donated by Thurstan Peter to the RIC.
9	18163.59		FINDSPOT	Romano-British	ARTEFACT	NATIONAL	Romano-British bronze fibulae, tweezers ring and brooch were obtained by metal-detectors from a 'tor west of Truro, very probably Carn Brea.
10	18163.21	79	SETTLEMENT	Neolithic	SITE OF	SCHEDULED	Traces of structures on the eastern summit of Carn Brea may represent occupation prior to the construction of the tor enclosure.
11	18163.42	79	SETTLEMENT	Iron Age	EXTANT	SCHEDULED	Twelve hut circles of Iron Age date are situated on the saddle between the central and east summits of Carn Brea; a much greater number is shown in the central area on the 1895 survey of Carn Brea by Sampson Hill.
12	18163.51	79	OCCUPATION SITE	Romano-British	EXTANT	SCHEDULED	A small amount of Roman material suggests continuing occupation of Carn Brea hill into the RB period.



GAZ	SITE ID	SM NO	SITE TYPE	PERIOD	FORM	IMPORTANCE	DESCRIPTION
13	18163.25	79	FIELD SYSTEM	Prehistoric	EXTANT	SCHEDULED	Field systems excavated on the southern slopes of Carn Brea were interpreted by Mercer as being Neolithic in origin.
14	18163.43	79	FIELD SYSTEM	Prehistoric	EXTANT	SCHEDULED	A field system defined by low banks or alignments of boulders on the northern slopes of Carn Brea.
15	18163.22	79	TOR ENCLOSURE	Neolithic	EXTANT	SCHEDULED	Twin tor enclosures linked by double ramparts were constructed on the summit of Carn Brea in the early Neolithic period.
16	18163.24	79	HEARTH	Neolithic	SITE OF	SCHEDULED	Group of hearths found on S side of eastern summit of Carn Brea, outside the Neolithic defences.
17	18163.31	79	FINDSPOT	Bronze Age	ARTEFACT	NATIONAL	A Bronze Age hoard including two socketed axes was found in 1744 on Carn Brea, west of the monument.
18	18163.47		COIN HOARD	Iron Age	ARTEFACT	SCHEDULED	A hoard of Gallo-Belgic and British gold coins was found on the ridge of Carn Brea in 1749. A Numidian bronze coin was found in 1896.
19	18163.53		COIN HOARD	Romano-British	ARTEFACT	NATIONAL	A hoard of Roman copper coins, a small bronze animal head and a perforated bronze lid were discovered in July 1749 at the foot of Carn Brea.
20	18163.55		COIN HOARD	Romano-British	ARTEFACT	SCHEDULED	A coin hoard was found near the east end of Carn Brea in 1744, the coins dated to the 2nd to 4th centuries AD.
21	18163.82	79	WELL	PM	EXTANT	SCHEDULED	A well is sited below the north rampart of Carn Brea.
22	18163.83	79	PILLOW MOUND	Medieval	EXTANT	SCHEDULED	Low mound of earth and stone, possible pillow mound (artificial rabbit warren).
23	18163.84	79	COMMEMORATIVE MONUMENT	Post-Medieval	EXTANT	SCHEDULED	Monument to Lord de Dunstanville and Basset, begun in 1836 and completed the following year.
24	18163.85		FOLKLORE SITE	Post-Medieval	DOCUMENTARY	SCHEDULED	Carn Brea is associated with a giant, and various natural features on the summit are said to represent his dismembered remains.
25	54520		QUARRY	Post-Medieval	EXTANT	LOCAL	'Old quarry' shown on 2nd edn OS 1:2500 map (c 1907); does not appear on 1st edn (c 1880).
26	54521		QUARRY	Post-Medieval	EXTANT	LOCAL	Small quarry shown on OS 1st edn 1:2500 map (c 1880).
27	54527		FARMSTEAD	Post-Medieval	SITE OF	LOCAL	Probable house and group of irregular fields dating from between 1840 (not on tithe map) and 1st edn OS 1:2500 (c 1880). Building shown unroofed and fields as croft in c 1907 (OS 2nd edn).
28	54528		FIELD BOUNDARY	Historic	EXTANT	LOCAL	A field boundary is visible as an indistinct low earth bank on air photographs.
29	54529		FIELD BOUNDARY	Historic	EXTANT	LOCAL	Two field boundaries are visible as low earth banks on air photographs
30	54530		EXTRACTIVE PIT	Post-Medieval	EXTANT	COUNTY	Extensive lines of lodeback pits along the northern slopes of Carn Brea are visible on air photographs.

GAZ	SITE ID	SM NO	SITE TYPE	PERIOD	FORM	IMPORTANCE	DESCRIPTION
31	54531		QUARRY	Modern	EXTANT	LOCAL	Quarry and associated spoil tip visible on air photographs; not shown on 2nd edn OS 1:2500 map (c 1907).
32	54535		FIELD BOUNDARY	Historic	EXTANT	LOCAL	Three field boundaries on the NE slopes of Carn Brea are visible as stony banks on air photographs.
33	54536		ADIT	Post-Medieval	EXTANT	SCHEDULED	A large adit known as the 'House of Water' is visible on air photographs.
34	54537		QUARRY	Post-Medieval	EXTANT	SCHEDULED	Carn Brea quarry was opened in 1884 to provide granite for Redruth viaduct.
35	54538		RAILWAY	Post-Medieval	SITE OF	COUNTY	A branch of the West Cornwall Railway serving Carn Brea quarry, built in mid 1880s.
36	54539		QUARRY	Modern	EXTANT	COUNTY	Linear quarry approx 300m in length shown on OS 1st edn 1:2500 map (c 1880). Tangye (1981, 56) notes that the quarry is on a dyke of blue elvan.
37	54540		FIELD BOUNDARY	Historic	EXTANT	SCHEDULED	Two field boundaries are visible as low stony banks on air photographs.
38	54542		STONE WORKING SITE	Post-Medieval	EXTANT	SCHEDULED	Numerous small pits covering the whole of Carn Brea are visible on air photographs.
39	165609		LITHIC SCATTER	Neolithic	ARTEFACT	NATIONAL	Lithic scatter recovered during field walking by Ian Blackmore in February 1996 included 1 micro-blade; 1 spall or waste piece.
40	169085		LITHIC SCATTER	Mesolithic	ARTEFACT	NATIONAL	Lithic scatter recovered from an arable field at Carn Brea by Ian Blackmore in 1996.
41	171065		ARTEFACT SCATTER	Prehistoric	ARTEFACT	SCHEDULED	Quantity of prehistoric pottery recovered by Mr Berryman from "Carn Brea".
42			BOUNDARY STONES	Post-Medieval	DOCUMENTARY	COUNTY	OS 1st edn 1:2500 map (c 1880) shows six boundary stones over a distance of approx 180 m along a NW-SE boundary.
43			CHIMNEY	Post-Medieval	DOCUMENTARY	COUNTY	Chimney marked on 1st edn OS 1:2500 map (c 1880).
44			RIFLE RANGE	Post-Medieval	DOCUMENTARY	COUNTY	Volunteer rifle range marked on OS 1st edn 1:2500 map (c 1880), extending 800 yards NE-SW to butts on the northern slope of Carn Brea. Firing positions are shown at the 200 yd and 500 yd marks.
45			MINE	Post-Medieval	DOCUMENTARY	SCHEDULED	Extensive complex of structures (including engine houses, chimneys, shafts and buddles), spoil tips, enclosures and other features shown on OS 1st edn 1:2500 map (c 1880), marked as South Carnbrea Mine (tin, disused).
46			SHAFT	Post-Medieval	DOCUMENTARY	SCHEDULED	Shaft shown on OS 1st edn 1:2500 map (c 1880).
47			SHAFT	Post-Medieval	DOCUMENTARY	SCHEDULED	Shafts marked on OS 1st edn 1:2500 map (c 1880).

GAZ	SITE ID	SM NO	SITE TYPE	PERIOD	FORM	IMPORTANCE	DESCRIPTION
48			CHIMNEY	Post-Medieval	DOCUMENTARY	COUNTY	Chimney with flue shown on OS 1st edn 1:2500 map (c 1880).
49			SHAFT	Post-Medieval	DOCUMENTARY	SCHEDULED	Shaft shown on OS 1st edn 1:2500 map (c 1880).
50			SHAFT	Post-Medieval	DOCUMENTARY	SCHEDULED	Shaft with spoil tip shown on OS 1st edn 1:2500 map (c 1880).
51			BUILDING	Post-Medieval	DOCUMENTARY	SCHEDULED	Building and small enclosures shown on OS 1st edn 1:2500 map (c 1880). Identified on survey 1895 by Sampson Hill as the 'account house' for the adjacent mine.
52			SPOIL HEAP	Post-Medieval	DOCUMENTARY	LOCAL	Spoil heap shown on OS 1st edn 1:2500 map (c 1880).
53			EMBANKMENT	Post-Medieval	DOCUMENTARY	COUNTY	A straight embankment approximately 330m long shown on OS 1st edn 1:2500 map (c 1880). This predates the opening of Carn Brea quarry, the branch line serving which subsequently followed this route.
54			MOUND	Prehistoric	DOCUMENTARY	SCHEDULED	Mound shown on the OS 1st edn 1:2500 map (c 1880), apparently on the line of the northern rampart of the hillfort or tor enclosure.
55			WELL	Historic	DOCUMENTARY	SCHEDULED	A well with paths approaching it from the E and S shown on OS 1st edn 1:2500 map (c 1880).
56			SHAFT	Post-Medieval	DOCUMENTARY	SCHEDULED	A rectangular structure shown on the OS 1st edn 1:2500 map (c 1880) is likely to be the opening of a steeply-inclined mine working known as the 'Smuggler's Cave'.
57			BUILDING	Post-Medieval	DOCUMENTARY	SCHEDULED	Rectangular structure of unknown function shown on OS 1st edn 1:2500 map (c 1880).
58			BUILDING	Modern	DOCUMENTARY	LOCAL	Rectangular structure intersecting boundary between enclosed fields and open moor to E.
59			TRAMWAY	Post-Medieval	DOCUMENTARY	COUNTY	Tramway shown running around S side of Carnbrea Mine complex on OS 1st edn 1:2500 map (c 1880).
60			SHAFT	Post-Medieval	DOCUMENTARY	COUNTY	'New Shaft' marked on OS 1st edn 1:2500 map (c 1880).
61			MINE	Post-Medieval	DOCUMENTARY	COUNTY	Large building, part of Carnbrea Mine complex, shown on OS 1st edn 1:2500 map (c 1880).
62			SHAFT	Post-Medieval	DOCUMENTARY	COUNTY	'Old Shaft' shown on OS 2nd edn 1:2500 map (c 1907).
63			SPOIL HEAP	Post-Medieval	DOCUMENTARY	LOCAL	Spoil heap, presumably associated with a shaft to the S, shown on OS 1st edn 1:2500 map (c 1880).
64			SHAFT	Post-Medieval	DOCUMENTARY	SCHEDULED	'Old shaft' marked on OS 2nd edn 1:2500 map (c 1907).

GAZ	SITE ID	SM NO	SITE TYPE	PERIOD	FORM	IMPORTANCE	DESCRIPTION
65			SHAFT	Post-Medieval	DOCUMENTARY	SCHEDULED	'Old shaft' shown on OS 2nd edn 1:2500 map (c 1907).
66			STANDING STONE	Prehistoric	DOCUMENTARY	SCHEDULED	'Stone' marked on 1st edn OS 1:2500 map (c 1880), marked as 'large upright stone' on 1895 survey by Sampson Hill.
67			LEAT	Post-Medieval	DOCUMENTARY	SCHEDULED	A 'water course', presumably a leat serving adjacent mining activity, is shown cutting the prehistoric defences on Sampson Hill's survey of 1895.
68			PARK PALE	Medieval	DOCUMENTARY	NATIONAL	Curvilinear boundary of the medieval deer park shown on tithe and later maps curving around the western end of Carn Brea.
69			TRACK	Post-Medieval	DOCUMENTARY	LOCAL	Track running from W end of Carn Brea towards the summit shown on OS 1st edn 1:2500 map (c 1880).
70			TRACK	Post-Medieval	DOCUMENTARY	LOCAL	Track running from W end of Carn Brea rough ground to summit shown on OS 1st edn 1:2500 map (c 1880).
71			FIELD SYSTEM	Post-Medieval	DOCUMENTARY	LOCAL	Cluster of fields defined by broadly rectilinear boundaries shown on OS 1st edn 1:2500 map (c 1880); depicted as rough pasture. This may represent the process of allotting defined areas of former commons to individual holdings as croft, or reclamation and improvement of rough ground.
72			TRACK	Post-Medieval	DOCUMENTARY	LOCAL	Track shown on OS 1st edn 1:2500 map (c 1880) leading onto open rough ground from enclosed fields associated with nineteenth-century smallholding on SW slopes of Carn Brea.
73			TRACK	Post-Medieval	DOCUMENTARY	LOCAL	Track shown on OS 1st edn 1:2500 map (c 1880) linking Carnbrea Mine complex with cluster of shafts to the south of the hill.
74			TRACK	Post-Medieval	DOCUMENTARY	LOCAL	Track shown on OS 1st edn 1:2500 map (c 1880) linking South Carnbrea Mine complex with mine count house to W and lane running S to Carnkie area.
75			TRACK	Post-Medieval	DOCUMENTARY	SCHEDULED	Track shown on OS 1st edn 1:2500 map (c 1880) running N-S across Carn Brea ridge.
76			TRACK	Post-Medieval	DOCUMENTARY	LOCAL	Track shown on OS 1st edn 1:2500 map (c 1880) running to Giant's Well from N.
77			LITHIC SCATTER	Prehistoric	DOCUMENTARY	SCHEDULED	Survey of Carn Brea by Sampson Hill, 1895, marks 'many small flints picked up here on surface'.
78			HOLLOW WAY	Historic	DOCUMENTARY	SCHEDULED	Survey of Carn Brea by Sampson Hill (1895) shows 'pathway in trench' on the approach to the summit area through the two northern ramparts of the tor enclosure / hillfort

GAZ	SITE ID	SM NO	SITE TYPE	PERIOD	FORM	IMPORTANCE	DESCRIPTION
79			QUARRY	Modern	EXTANT	LOCAL	Two substantial pits plotted by NMP, possibly quarries like others nearby. Not shown on 2nd edn OS 1:2500 map (c 1907) so presumably later.
80			BOUNDARY	UX	EXTANT	LOCAL	Boundary plotted by NMP.
81			EXTRACTIVE PIT	Post-Medieval	EXTANT	COUNTY	Scatter of small pits plotted by NMP; may be prospecting pits or small-scale quarrying or moorstone working.
82			EXTRACTIVE PIT	Post-Medieval	EXTANT	COUNTY	Cluster of lodeback workings and prospecting pits plotted by NMP.
83			EXTRACTIVE PIT	Post-Medieval	EXTANT	COUNTY	Group of lodeback workings and prospecting pits plotted by NMP.
84			EXTRACTIVE PIT	Post-Medieval	EXTANT	SCHEDULED	Extensive area of lodeback and prospecting pits associated with South Carnbrea Mine.
85			FIELD SYSTEM	Medieval	DOCUMENTARY	COUNTY	The western end of the Carn Brea ridge is divided by boundaries into several substantial, broadly rectangular blocks, with access from the enclosed land outside by lanes and funnel-shaped droves.

## Bibliography

### Primary sources

- Gascoyne, J, 1699. *A map of the county of Cornwall, newly surveyed*, Exeter (facsimile reprint, Devon and Cornwall Record Society, Exeter, 1991)
- Geological Survey of Great Britain, 2004. *1:50,000 Map (digital transcription)*
- Hill, S, 1895. Map of Carn Brea (copy at HES)
- Institute of Cornish Studies, n.d. *Place-names index* (summary copy held by HES, Truro)
- Martyn, T, 1748. *New and accurate map of the county of Cornwall from actual survey* (1 in to 1 mile), (paper copy at HES)
- Norden, J, c 1580. *Speculi Britannia Pars: a topographical and historical description of Cornwall* (facsimile reproduction published as *John Norden's manuscript maps of Cornwall and its hundreds*, Exeter, 1972)
- Ordnance Survey, 1813 (surveyed c 1809). First edition, 1 in to 1 mile (paper copy at HES)
- Ordnance Survey, 1877. First edition 1:2500 map (licenced digital copy at HES)
- Ordnance Survey, 1906. Second edition 1:2500 map (licenced digital copy at HES)
- Ordnance Survey, 2003. *LandLine digital mapping at 1:2500*
- Soil Survey data, 2004. Prepared by National Soil Resources Institute Soil Systems Group, 2004. Data copyright (c) Cranfield University, 2004
- Tithe maps and apportionments, c 1840. *Parish of Illogan* (microfiche copies at HES)

### Secondary sources

- Cornwall County Council, 1996. *Cornwall: a landscape assessment 1994*, Truro (report by Landscape Design Associates in association with Cornwall Archaeological Unit)
- Hunt R, 1865. *Popular romances of the west of England, or the drolls, traditions, and superstitions of old Cornwall*, London, 2 vols
- Lawson-Jones, A, 1997. *Carn Brea South, Contract 10: an archaeological evaluation*, Truro (Cornwall Archaeological Unit)
- Mercer, R, 1972. The excavation of the Neolithic settlement site at Carn Brea, 1972: interim note, *Cornish Archaeology*, **11**, 5-8
- Mercer, R, 1981. Excavations at Carn Brea, Illogan, Cornwall, 1970-3: a Neolithic fortified complex of the third millennium BC, *Cornish Archaeology*, **20**, 1-204
- Padel, O, 1985. *Cornish place-name elements*, Nottingham
- Redding, C, 1842. *An illustrated itinerary of the county of Cornwall*, London
- Tangye, M, 1981. *Carn Brea: brief history and guide*, Redruth

## Abbreviations

HEATH	Heathland: Environment, Agriculture, Tourism and Heritage
HER	Cornwall and Isles of Scilly Historic Environment Record
HES	Historic Environment Service, Cornwall County Council
ICS	Institute of Cornish Studies
NMP	National Mapping Programme [air photograph transcription]
OS	Ordnance Survey

## Timeline

*The following are the periods referred to in the inventory of sites in the study area and the accompanying text.*

Prehistoric	before AD 43
Mesolithic	8000BC – 4000BC
Neolithic	4000BC – 2500BC
Bronze Age	2500BC – 800BC
Early Bronze Age	2500BC – 1500BC
Middle Bronze Age	1500BC – 1100BC
Late Bronze Age	1100BC – 800BC
Iron Age	800BC – AD43
Romano British	AD 43 – AD 410
Historic	Early Medieval to present
Early medieval	AD 410 – AD 1066
Medieval	AD 1066 – AD 1540
Post medieval	AD 1540 – present
19th century	AD 1800 – AD 1899
20th century	AD 1900 – AD 1999

## Glossary

*The following are specialist archaeological, industrial, dialect or other terms which may occur in the inventory of sites within the study area.*

**ADIT (n)** A level or shallowly sloping tunnel driven into the hillside in order to give access to a mine and used for drainage and sometimes for access and ore haulage. Also used in china-clay works and quarries to drain pits.

**BARROW (n)** An artificial mound of earth, turf and / or stone, usually circular or sub-circular, created for ceremonial or ritual purposes. Most date from the Bronze Age. In Cornwall some but by no means all barrows were used for burials. Most were created over a period of time in successive phases of construction and may include special deposits.

**BEAM-ENGINE (n)** A type of steam engine much used in Cornwall for pumping, winding, and treating ores on mines.

**BEAT-BURNING (vb)** The paring off of turf, its drying and then slow burning; the potash-rich ashes then being scattered on the ground as fertiliser prior to ploughing and cultivation.

**BLOWING HOUSE (n)** Structure containing a charcoal-burning furnace whose draught was provided by waterwheel-driven bellows. Used from the later medieval to the early nineteenth century for smelting tin.

**BUDDLE (n)** A tank or pit within which fine tin ore was separated from waste on the basis of its density.

**BURNING HOUSE (n)** A furnace in which tin ore was heated to drive off impurities such as arsenic.

**BURROW (n)** A dump of waste material from mining activity.

**CAIRN (n)** A barrow constructed primarily of stone.

**CALCINER (n)** A furnace and heating chamber in which ores were roasted to drive off impurities such as sulphur and arsenic.

**CAPSTAN (n)** A manually-operated winding drum, usually installed on a mine to raise pitwork from the shaft for maintenance or repair.

**CHAMBERED TOMB (n)** A Neolithic burial monument comprising a stone-built chamber which may originally have been within a mound of earth or stone. Often referred to as a 'quoit' in Cornwall.

**CHINA CLAY (n)** Powdery white mineral produced by the decomposition of feldspar in granite, a process known as kaolinisation.

**CIST (n)** Generally rectangular structure formed from stone slabs set on edge, and covered by one or more horizontal slabs or capstones; normally used for burial purposes. Often covered by a barrow or cairn

**CLEARANCE CAIRN (n)** Irregularly constructed mound of stones created by removal of stones from adjacent land for agricultural purposes.

**CLIFF CASTLE (n)** An Iron Age enclosure created by constructing one or more banks and ditches across the neck of a coastal promontory. The exposed position of many of these sites makes it unlikely that they were permanently occupied and some may have had political, social and ceremonial functions.

**COAXIAL FIELD SYSTEM (n)** A field system with one prevailing axis of orientation, in which most field boundaries are either aligned with this axis or run at right angles to it.

**COMMON (n)** Lands or resources owned by one person in which others have rights, usually including grazing and cutting of turf and furze for fuel.

**CORNISH HEDGE (n)** A stock-proof boundary having two battered stone faces and an inner core of earth and small stones.

**COUNT HOUSE (n)** The mine office and meeting place for adventurers (investors).

**DRESSING FLOOR(S) (n)**. The area of a mine on which ore was processed and concentrated.

**ENGINE HOUSE (n)** A building designed to contain a steam, gas, or oil engine on a mine or other works.



**EXTRACTIVE PIT (n)** Surface workings including shallow shafts, lodeback workings, openworks and quarrying.

**FIELD SYSTEM (n)** A group or complex of fields which appears to form a coherent whole.

**FINGER DUMP (n)** A linear dump of waste material from a mine or quarry, flat-topped to allow material to be barrowed or trammed along it.

**FLAT RODS (n)** Iron or timber rods used to transfer power from a steam engine or waterwheel to a remote location.

**HEDGE (n)** See CORNISH HEDGE

**HILLFORT (n)** An Iron Age enclosure with one or more circuits of substantial banks and ditches or stone ramparts. They are most often prominently sited on hilltops. There is often evidence of occupation from within them but their major functions may have been as communal meeting places and ceremonial centres.

**HISTORIC ENVIRONMENT (n)** The historic environment is our human habitat. It is all the physical evidence for past human activity (everything that people have built, made or created in the past), as well as its associations (both personal and community associations), that we can see, understand and feel today. It is a priceless, non-renewable asset.

This broad term is used to cover all aspects of historic and archaeological work including the recording, interpretation, conservation, presentation and management of historic buildings, townscapes, landscapes (their historic features, land-use and character) and not just archaeology, which has been typically understood as simply the buried remains of human activity.

**HISTORIC LANDSCAPE CHARACTER (n)** In 1994, Cornwall Archaeological Unit (now Cornwall County Council Historic Environment Service) carried out a map-based analysis of the historic landscape character of the whole county. This characterised the present landscape in terms of the historical processes that have shaped it and divided the county into a set series of historic landscape character types and zones. These include Upland and Coastal Rough Ground, Recently Enclosed Land (predominantly enclosed from medieval commons on Rough Ground) and Anciently Enclosed Land, the long-established agricultural and settlement landscape of Cornwall (Cornwall County Council, 1996).

**HOLLOW-WAY (n)** A lane or trackway which has, through intensive use or deliberate reduction of ground surface, become lower than the surface of the surrounding ground.

**HORSE WHIM (n)** Similar to a capstan, but in this case power supplied by a horse walking around a circular platform applied to an overhead cable drum; frequently used on Cornish mines for winding from small shafts.

**HUT CIRCLE (n)** A later prehistoric round house indicated by the presence of a low, roughly circular bank of turf, earth or stone, which formed the base of the walls.

**KERBED CAIRN (n)** A cairn with a visible circuit of substantial stones retaining its perimeter.

**LEAT (n)** Artificial watercourse, serving streamworks, mills, clayworks and processing floors. Often originally lined with stone, clay or wood. Usually has downhill bank.

**LIDDEN (n)** Cornish term for a small pool or pond, often found on rough ground and used as a place to shoot or trap wildfowl.

**LISTED BUILDING** When buildings are listed they are placed on statutory lists of buildings of '*special architectural or historic interest*' compiled by the Secretary of State for Culture, Media and Sport under the Planning (Listed Buildings and Conservation Areas) Act 1990, on advice from English Heritage. Listing ensures that the architectural and historic interest of the building is carefully considered before any alterations are agreed.

**LITHIC SCATTER (n)** A concentration of lithic artefacts (usually flint) recovered from the surface.

**LODE (n)** A linear area of mineralisation within the country rock.

**LODEBACK WORKING (n)** A series of shallow shafts dug onto the upper part of a mineral lode from the surface and providing access to a stope.

**LYNCHET (n)** A bank created by the mounding up of material at the lower side of a field caused by soil loosened by the plough gradually moving downslope. The resultant change in ground level may be increased by the corresponding removal of soil from the upper side of the adjacent field.

**MAGAZINE** (n) Small strongly built store containing explosives (gunpowder or dynamite); sometimes circular, sometimes with additional enclosing walls to contain accidental blast.

**MELLIOR STONE** (n) A large block of stone at the centre of a horse whim with a central hole which formed the bottom bearing for the vertical axle.

**MERRIMENT HOLES** (n) Drilled holes, often in some numbers, found in large stones or on rocky outcrops. They were created in the nineteenth century by miners and quarrymen and used for setting off small charges of gunpowder on holidays or other public occasions.

**MOORSTONE** (n) Cornish term for granite recovered from the surface or just under the surface of the ground.

**MOWHAY** (n) Enclosure on a farm where ricks of corn and hay were built.

**NATIONAL MAPPING PROGRAMME (NMP)** The National Mapping Programme is an English Heritage project whose aim is to 'map, describe, and classify all archaeological sites recorded by aerial photography in England to a consistent standard'. Cornwall's NMP began in 1994.

**OPENWORK** (n) A mineral extraction site open to the surface rather than underground; similar to a quarry. See also coffin.

**OUTFIELD** (n) An area outside the enclosed fields of a farm settlement cultivated only occasionally and sporadically, often only for one or two crops, and then reverting to rough ground.

**PEAT** (n) Brown or black altered vegetable matter, cut and harvested as fuel. Also known as turf.

**PROSPECTING PIT** (n) A small pit dug in order to test ground for the presence of economically-valuable minerals.

**RAB** (n) Granite-based gravel; periglacial head. Widely used for surfacing tracks and creating hard standings.

**RIDGE AND FURROW** (n) Long, parallel cultivation ridges created by medieval ploughing.

**RING CAIRN** (n) A form of Bronze Age ceremonial monument consisting of a low, wide, circular ring or bank of stones surrounding an open, roughly circular area. The inner and outer faces of the bank may be kerbed.

**ROUND** (n) A small settlement of the Iron Age and Romano-British period enclosed by a substantial bank and ditch.

**SCHEDULED MONUMENT** A scheduled monument is one designated by statute as a site of national importance, and is protected by current ancient monument legislation.

**SETT** (n) The legal boundary within which a mine or quarry could extract minerals.

**SHAFT** (n) A vertical or near-vertical mine tunnel, connecting to levels and stopes and used for pumping ventilation, access and haulage.

**SHOAD or SHODE** (n) Ore-bearing material removed from the parent tin lode by the action of water or weathering over a long period and collected together as a sub-surface deposit. Shoad was worked for its own value but was also used as an indicator of whether ore-bearing material might exist further upslope.

**STAMPS** (n) A mechanical device for crushing ore-bearing rock to a fine sand. The term was used from the later medieval to modern periods.

**STONE WORKING SITE** (n) A site where rough stone is shaped.

**STREAMWORK(S)** (n) A tin working exploiting ore weathered from lodes and using water to help to remove overburden and to separate the heavy cassiterite from the gravel and sand with which it was found. Characterised by extensive cuttings containing dumps of stent, often in patterns, and drainage gullies, together with associated leats and reservoirs.

**TITHE SURVEY** The tithe survey consists of a map and an accompanying apportionment book for each Cornish parish (ecclesiastical), based on a survey carried out in the late 1830s and early 1840s. The surveys were the result of the Tithe Commutation Act of 1836 which reformed the traditional system of local tithes (levies and payments to the church) into varying annual rent charges regulated on a national basis. The tithe surveys are the first systematic record of the landscape, ownership, field names, state of cultivation (land-use), and land value available for Cornwall. Each land parcel recorded on the map has a unique Tithe Apportionment (TA) number. The originals are publicly accessible (where not deteriorated) in the Cornwall Record Office.

TRAMWAY (n) A railway constructed to a lighter or more temporary standard than that accepted for 'main-line' routes. Often, though not always, powered by horses; on mines, small wagons were barred or pushed by hand.

TRIANGULATION / TRIG POINT (n) A purpose-built triangulation point used for the metrical survey of Britain carried out by the Ordnance Survey.

TURBARY (n) A common right to dig, dry and save turf (peat) for domestic consumption as fuel. Also used to describe an area where turf is cut either by commoners or by others (e.g., tinnerns) with rights to cut; a source of profit for medieval manors.

TURF (n) Cornish term for peat.

TURF STEAD (n) Post-medieval sub-rectangular and circular platforms, usually on the open moor, on which dried turf was stacked until it could be brought back to the homestead. They are defined by a shallow ditch (with an external upcast bank) dug for drainage and to protect the rick from grazing animals.

WHEELPIT (n) Structure built to house a waterwheel, often excavated and stone-lined, but sometimes freestanding.

WHIM (n) A winding machine used for hauling from a shaft; consists of a power source and a winding drum. See horse whim.

WHIM PLAT (n) The level and usually circular platform on which a horse whim was sited.

# Managing the historic environment on heathland and rough ground in west Cornwall

## Contents

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Appendix 1: useful contacts

Appendix 2: useful online publications

## Introduction

The following notes offer broad guidance on managing heathland in west Cornwall in ways which are beneficial not only for biodiversity and the natural environment but also for the *historic environment*. This term is used to define all aspects of the environment resulting from the interaction between people and places through time. Thus it includes everything that people have built, made and created in the past, including forms of land use and associated vegetation, together with their associations, personal and community, in the form of memories, stories and knowledge. The historic environment is a priceless asset which is non-renewable – we cannot construct a ‘new’ Bronze Age barrow, for example, lay out a ‘real’ medieval field system or create an original nineteenth-century engine house – and the broad principles of sustainability demand that we care for the historic environment just as carefully as we do our natural environment.

Such care extends beyond a simple desire not to actively damage or destroy known archaeological sites and monuments. In west Cornwall there is archaeological evidence that upland and coastal rough ground has been used for grazing since at least the Bronze Age; that is, for at least the last 3,500 years. This use played a major part in creating the distinctive historic landscape and accompanying semi-natural heathland vegetation made up of a mosaic of fine-leaved grasses, bare ground, heathers, bracken, furze and other scrub and trees. From an environmental viewpoint, positive management for Cornish heathland in the present is aimed at replicating the outcomes of past land management practices, particularly controlling bracken and furze scrub and encouraging the other communities. This form of management is also ‘good for archaeology’: reducing bracken and scrub means that vegetation damage to below-ground archaeological remains is avoided and that above-ground traces of the past are more easily visible.

## **1. The aims of managing heathland for the historic environment**

- To preserve archaeological and historic remains
- To maintain and enhance historic landscape character, including characteristic semi-natural vegetation
- Where appropriate, to increase the visibility of above-ground archaeological features
- To increase public access, appreciation and understanding
- Through the above, to achieve practical and economic benefits which contribute to sustaining the local economy

## **2. Grazing**

### **Increasing grazing levels to reduce scrub and bracken cover**

Root systems and woody stems can damage both buried archaeology and standing features: bracken has a particularly severe impact on below-ground remains. Dense vegetation creates difficult walking and riding conditions and conceals archaeological features. Tracking of animals through dense scrub can also cause significant surface erosion and fires, particularly where there is deep layer of litter, can severely damage archaeological remains and surface soil layers.

Re-introducing grazing or increasing grazing levels will have a beneficial effect in breaking up scrub cover and reducing bracken vigour, although the potential impact on any particularly sensitive archaeological remains or specific biodiversity interest should be assessed.

### **Reducing grazing levels**

Reductions in grazing may be required where over-stocking has led to significant damage to ground surfaces, biodiversity and archaeology. Stocking rates may need to be reduced or other controls put in place to prevent further damage. Stopping grazing to allow recovery of over-grazed areas can, however, permit woody species, bracken, etc, to become established within archaeologically sensitive areas, creating subsequent problems.

### **Stockproof boundaries**

Creation of stockproof boundaries on areas to be grazed may require repair of existing boundaries, the building of new hedges or walls or installation of new fencing.

Where there is open access to heathland areas the creation or repair of stockproof boundaries may require provision of new stiles or other means for walkers to cross them at convenient intervals. These should resemble existing stiles in the area.

### **Hedges and walls**

Where new hedges, walls or banks are to be created, they should generally be sited away from remains of earlier boundaries and other features. The effect of inserting a new hedge or other boundary on adjacent archaeological remains and patterns of features should be considered: does it confuse or obscure the historic pattern, making it less coherent and understandable? Is there another location where this could be avoided?

Where an existing or former boundary is to be re-used, it may be necessary to take advice on an appropriate approach. Some heathland boundaries in west Cornwall date from the medieval period, the Iron Age or even the Bronze Age: disturbance to a

boundary which it is suspected is early should be avoided as far as possible. If a boundary is required in the same location a wire fence running alongside may be preferable.

On later boundaries repairs to make them stockproof should use traditional forms of patching - preferably based on techniques which can be seen in the boundary itself - and re-use stone from the boundary itself where possible. Full-scale restoration (taking down and rebuilding an entire length of wall or hedge) should be resisted as this can remove historic character and information, as well as diminishing the ecological value of the boundary.

It is particularly important that hedgers and wallers do not source stone or earth fill from other archaeological remains, including ruined boundaries.

**NB.** Some Cornish hedges and earth banks – specifically those where a row of bushes grows along the top of the boundary – may be subject to the Hedgerow Regulations 1997. For hedges which come under these regulations, actions which constitute removal, in whole or in part, require formal notification to the local planning authority in the form of a ‘Hedgerow Removal Notice’; informal consultation in advance of a notification is advisable (see contact details for District Councils in appendix 1).

### **Fences**

New fence lines should preferably follow existing or ruined boundaries, leaving the historic pattern clear and understandable.

If installation of a high tensile fence involves trenching to keep lower strands clear of the ground then particular care should be taken where the fence lies near to archaeological remains. If such trenching could have an impact on such remains the fence should ideally be re-routed. Alternatively, archaeological recording may be necessary before and / or during the work.

### **Gates and gateways**

Gates should be located in existing breaks in boundaries wherever possible in order to avoid disturbing historic structures and to maintain the coherence of historic land use patterns. Where there are existing gateposts they should be reused. New gates should be of the correct width for the opening in which they hang and of appropriate design and materials, similar to traditional gates in the area.

Where a gateway is needed and there is no existing break, the terminals on either side of the new break should be finished in a form which closely resembles those on gateways in similar historic boundaries in the vicinity.

**NB.** Where there is a possibility that the boundary in which a new break is to be made is medieval or earlier, archaeological advice should be sought in advance (Historic Environment Service: see appendix 1).

### **Water supplies**

Natural water sources on rough ground are likely to have been the focus of human activity over a long period. Where historic springs or wells are to be used to water grazing stock, any associated structures (walling, steps, paving, etc) may need consolidating to avoid damage from trampling. Archaeological advice should be taken in advance of grazing introduction.

New water troughs should be sited away from archaeological and historic features and located in positions where the development of new stock paths to access them and of poaching immediately around them will not have a negative impact.

Pipeline trenches should avoid known archaeological remains and pipes should be tunnelled underneath rather than cut through any boundaries they cross.

Care should be taken that any wet areas created by leakage or spills do not create problems from erosion or poaching.

### **Supplementary feeding**

Supplementary feeding of stock on rough ground is rarely beneficial to wider environmental interests and is not permitted under most agri-environment schemes. If considered necessary, however, supplementary feeding sites and mineral licks should be sited away from known archaeological features and, to avoid poaching and erosion around feeding sites, and on tracks to them, should not be kept in the same locations over long periods.

### **Agricultural access**

Routes for agricultural vehicles engaged in stock inspection and other activities should be considered carefully in terms of their potential impact on typical heathland features such as prehistoric boundaries, clearance cairns and medieval cultivation ridges. Use of vehicles should be particularly avoided in wet seasons if it is likely to compact or churn up surfaces over or around known archaeological features. Driving at random across open areas, away from established tracks, is unwelcome because of the potential for damage.

## **3. Scrub reduction**

### **Manual**

Manual clearance methods using hand or power tools should always be used where archaeological elements are known to be present which might be damaged by vehicle-mounted methods.

### **Mechanical**

Mechanical methods enable larger areas to be tackled, with resulting benefits for the visibility of historic features and understanding of historic landscape character, as well as cost-effective natural environment benefits. Mechanical treatments should be restricted to areas with no known sensitive archaeological remains, however, as tractors and flails could easily cause damage or disturbance.

### **Root grubbing**

Roots should not be grubbed out on areas of known archaeological remains. In areas where there is a high incidence of historic remains (including much of the rough land in west Cornwall) grubbing should ideally only be done after the site has been checked to ensure that archaeology which may be damaged by the operation is not present.

### **Spraying**

Manual spraying is often the most appropriate technique for vegetation reduction on small-scale operations. It is essential where there is a risk to known archaeological remains from carrier vehicles and where application from the air is not an option.

### **Fire**

Burning is often seen as the main 'traditional' method of scrub reduction on heathland. However, in the past grazing and harvesting of furze, bracken and other useful materials would have kept vegetation low and burning would have been seen as destructive of a valuable resource. There may have been times, however, when limited burning was undertaken to refresh grazing or clear ground for temporary cultivation.

Use of fire within modern heathland management can sometimes be useful (to remove build-up of vegetation litter or create areas of bare ground, for example), but demands careful planning and control to avoid damage to historic features and areas that it was not intended to treat. Where scrub is dense, with a significant layer of surface 'litter', fires may burn so intensely that there is damage to surface features (heat spalling of stones, for example), or the surface is opened up to erosion. Peaty soils and root mats can themselves burn, lowering the surface level of the soil, creating a further risk of erosion and exposing archaeological remains which were previously protected within the soil.

Where firebreaks are required on heathland they can be positioned in order to increase the visibility of archaeological features.

**NB.** Firebreaks should only be created by manual or mechanical removal of vegetation, however: they should not be bulldozed or scraped because of the risk of damage to buried and surface archaeology.

### **Disposal of removed vegetation**

Where scrub is to be cut the options of burning the arisings on site, chipping and removing or mulching and removing must be carefully considered: a balance must be struck between potential damage to features and surfaces from tractor movements across possibly sensitive areas, plus the costs of disposing of the chip or mulch, as against the possible impact of burning material on site.

Brash fires should be carefully sited, well away from known archaeological features, and kept small. It is preferable to re-use established bonfire sites where reasonably possible so that damage is not multiplied across an area. Sheets of corrugated iron have been used successfully as bases for fires and should be considered near archaeological sites where there is the possibility of buried remains.

## **4. Habitat creation**

### **Soil surface exposure**

*including litter stripping, 'back' burning, bare-ground creation, disturbance (harrowing, perturbing) and deeper disturbance or inversion (ploughing, scrapes, stump removal).*

Ground disturbance techniques are frequently used in heathland re-creation programmes. On Recently Enclosed Land (that is, land enclosed in the nineteenth and twentieth centuries), the re-creation of heathland is likely to enhance the broader historic landscape character of the area and is generally to be welcomed. However, the potential impact on both archaeological remains and historic landscape character of surface disturbance techniques should be carefully considered (for example, the openness, smoothness, sense of enclosure, etc, of a particular area). The creation of new earthworks and landforms may also have an impact on the ease with which the historic landscape can be 'read' and understood.

Any mechanical disturbance of the soil or measures taken to remove vegetation and the litter layer may damage or expose archaeological deposits or buried structures. Such works should not be undertaken lightly and only after archaeological assessment of the area in which the disturbance is proposed. Clearly, however, the potential impact on archaeology is likely to be greater on sites where previous disturbance is minor than on improved land where there has been a sustained period of deep ploughing

Where disturbance is carried out, a post-disturbance visit by an archaeologist is advisable to record features which might have been revealed and recover scatters of



flints or other artefacts which have been disturbed; this is strongly advised where the more invasive techniques have been used such as ploughing, soil removal or scraping. In general, both on Recently Enclosed Land and on rough ground, an approach to habitat restoration based on allowing time for reversion rather than through significant physical disturbance is strongly preferable. In general, heathland restoration methods based on deep soil disturbance and the creation of earthworks is to be discouraged.

An alternative approach to topsoil stripping in heathland restoration is de-acidification, most commonly undertaken by dressing with sulphur and lightly ploughing or rotavating it into the surface. This approach is likely to be substantially less damaging to archaeology than stripping but specific archaeological advice should be sought before applying it to any particular area.

### **Former industrial sites**

Where it is proposed to reinstate heathland on industrial sites (for example, former mining or quarry sites), care should be taken that associated works such as surface preparation do not damage or obscure archaeological features. These may include elements such as working floors and spoil heaps, the shape, position and content of which may all be significant for a full understanding of the site.

### **Creation of pools and water features**

Liddens (from Cornish *lyn*, 'pool') and fowling pools are historic features of some areas of coastal rough ground, particularly around south-west Penwith, and many areas of upland rough ground preserve the remains of water management systems related to streamworking, mining, ore processing and other industrial activities. For obvious topographic and water-supply reasons, the same or adjacent sites may be attractive for creating new open water features. Where such features are proposed, care should be taken that the remains of earlier structures, together with associated components such as leats, dams, sluices, hides, etc, are not damaged or obscured. Where it is desired to reinstate an historic feature such as a fowling pool, archaeological and environmental assessment, including surveys/recording, should take place prior to any works being undertaken; a watching brief on the work may also be appropriate to record any archaeological features or deposits which are exposed.

Springs and watercourses within rough ground are likely to have been the focus for human activity over a long period and any actions having an impact on these should be considered in terms of their possible archaeological implications.

## **5. Positive management of archaeological remains**

### **Consolidation and repair of structures**

Measures to repair or consolidate standing structures will enhance their visibility and comprehensibility to interested visitors and should also aid their long-term survival. Where interventions of this kind are envisaged, however, it is important that archaeological advice is sought well in advance and that archaeological recording (drawings, photographs, etc) is carried out on the remains *before work begins*.

Repairs and consolidation should use methods and materials appropriate to the particular structure, based on what is identified by the recording work carried out in advance.

**NB.** Restoration (that is, substantial reconstruction) of historic buildings is not generally favoured unless there is clear documentary evidence of their previous form (for example, historic photographs).

## **Safety works**

Many areas of rough ground include extensive remains of former mining and quarrying activity. Open, collapsing or partially blocked shafts, surface workings, adits, open quarry pits and other features represent major potential hazards to visitors and stock.

Some of these features may be identified from maps or documents, but field survey will often find much greater numbers. Even after survey, additional scrub clearance, a major fire or ground disturbance will often reveal previously unknown and unsuspected hazards. Ongoing survey and careful plotting are therefore important, coupled with appropriate mine and health and safety assessments to establish which shafts or other features are considered to be safety risks.

The best approach to safety works will vary according to the form and the location and accessibility of shafts and other features. The primary aim is to ensure that in achieving appropriate safety levels on sites, archaeological remains, historic landscape character and ecological value are not unnecessarily compromised. A range of possible measures are available but in many cases secure fences and built hedges, which have minimal impact on remains and landscape character, are considered adequate safety provisions.

Cornwall County Council Historic Environment Service has developed a set of principles for dealing appropriately with dangerous shafts and similar features and these are available in the guidance laid out in the Cornish Mining World Heritage Site Management Plan (see appendix 2).

## **Vegetation control**

### **Targeted scrub reduction (see above)**

This has a beneficial impact in terms of reducing root damage and the potential for fire damage to standing and buried remains, and also in increasing the visibility of the remains for public interest.

Careful positioning of firebreaks can open up archaeological remains currently obscured by scrub. Hand clearance may be necessary in the immediate area of archaeological features to avoid damage.

### **Bracken control**

Recent research on Dartmoor has shown the very severe impact which bracken has on buried archaeological deposits. Buried features such as the floor deposits in prehistoric roundhouses can be badly disturbed and effectively destroyed for archaeological purposes by the development of a dense mat of rhizomes.

Bracken is most often treated by spraying and this is in most instances preferable to mechanical methods such as rolling or flailing, where the presence of mechanical devices and tractors may itself be damaging to surface remains. However, bracken spraying can be a problem for archaeological and ecological interest where it is carried out on steep slopes or thin soils. Total removal of the bracken canopy can result in bare soil which is quickly eroded. An alternative approach may be preferable on steep slopes, thin soils, loose soils such as sand and where there is no vegetation layer below the bracken. In some locations of this kind mechanical control by hand or machine may be preferable

### **Japanese knotweed removal**

Japanese knotweed is highly invasive and its powerful root growth can threaten archaeological features. Control methods on sites with standing historic features or potential for buried archaeology should not involve ground disturbance measures such as grubbing-up.

**NB.** Advice on outbreaks of Japanese knotweed is available through Cornwall County Council's Living Environment Service (see appendix 1).

### **Crocospia removal**

The most successful approach to eradication of *Crocospia* (Montbretia) has been found to be systematic manual digging out of the corms and removal from site. This is clearly not appropriate on or in the vicinity of known archaeological sites and advice should be sought in advance for any location where this approach is being considered. Herbicide treatment offers a less damaging alternative.

### **Animal disturbance**

Animal burrowing in archaeological sites can disturb buried deposits and should be discouraged (within the relevant legislation) where it may affect important remains.

Poaching and erosion of surfaces around standing features caused by animals using them as shelter or as scratching aids may damage sub-surface deposits and can also destabilise the adjacent structures. This is most often a consequence of over-stocking but can be made worse by visitor erosion at particular 'honeypot' sites such as standing stones or stone circles. Potential counter-measures include reductions in stocking levels, stock exclusion and, in extreme cases, creating protective surfaces within the erosion hollows (see below).

### **Footpaths and vehicle tracks**

Paths and tracks which pass over or close to archaeological remains can beneficially be re-routed away from sensitive remains unless the risk of damage has been assessed and found to be within acceptable limits. Care should be taken, however, that new routes do not themselves impact on other sites or features.

Where a heavily-used path crosses an earthwork feature such as a barrow or hillfort rampart, and there is no practical alternative route, further erosion can be avoided by installing a pitched stone surface or, in extreme cases, a wooden walkway and / or steps to carry walkers over the feature. In such cases a balance is required between protecting buried surfaces from erosion and the visual intrusiveness of the possible remedial measures.

Where access is being increased, historic routes for paths should be re-used unless use is likely to be very heavy and may then cause significant damage to the evidence for the former routes such as hollow-ways.

### **Visitor pressure**

As with animals, the concentration of erosion in particular places arising from large numbers of visitors can be damaging to surfaces and the stability of monuments. Seeking co-operation from visitors through appropriate signage may have an effect but other measures such as temporary barriers or covering eroded areas with pegged-down cut blackthorn, furze, etc, to enable vegetation to regenerate may also be appropriate.

In some instances, however, repairs to erosion hollows will be necessary to resist further stock and visitor damage, protect buried archaeological layers and stabilise the adjacent structure. For monuments such as standing stones, stone circles and stone crosses, this has been successfully achieved through careful removal of loose material from the eroded area and infilling with a layer of carefully set stones, sand and rab prior to re-turfing. Considerable expertise has been developed with such interventions in Cornwall and advice is available through the Historic Environment Service (appendix 1).

**NB.** For works of this kind it is essential that archaeological advice is taken at the planning stage and that appropriate archaeological recording is carried out. For

Scheduled sites, Scheduled Monument Consent *must* be sought in advance of any works (see below).

### **Soil improvement**

Inputs of chemical fertilisers and similar materials are unlikely to be beneficial in maintaining or enhancing rough ground environments, and should be avoided on those grounds. They may also cause damage to buried archaeological deposits, so it is even more important that they should be avoided in areas where buried archaeology is known or suspected.

### **Scheduled Monuments and Listed Buildings**

Scheduled Monuments and Listed Buildings within the area of this Management Assessment are noted earlier in this document. Special conditions are likely to apply to any proposed works on these sites and consultation in advance is *essential*.

Works on **Scheduled Monuments** require Scheduled Monument Consent, which must be obtained in advance and in writing from the Secretary of State for Culture, Media and Sport. ‘Works’ may be above or below ground level and are defined as ‘demolishing, destroying, damaging, removing, repairing, altering, adding to, flooding or tipping material onto the monument’. ‘Works’ includes operations such as tree planting and the digging of holes. Full advice is available from English Heritage (contact details in appendix 1).

**NB.** The Historic Environment Service (appendix 1) operates a Scheduled Monument Management scheme which may be able to aid positive works on Scheduled Monuments in heathland areas.

For **Listed Buildings** of Grade II any proposed works which may have an impact on them *or on their setting* should be discussed in advance with the Conservation Officer of the relevant local authority (appendix 1). For structures listed Grade II\* and Grade I, contact should also be made with the regional office of English Heritage (appendix 1).

### **Reporting casual finds and new discoveries**

Casual finds of artefacts – for example, flints and other worked stone, or sherds of pottery – can make a significant difference to our understanding of heathland areas if they are properly recorded and reported. The same is true of earthwork features or built structures revealed by increased grazing or fire. Locations should always be recorded as precisely as possible.

The initial point of contact for reporting such finds is the Historic Environment Service (appendix 1).

### **Metal detecting**

Best practice guidance on metal detecting is that it should only be carried out over ploughsoil (that is, surfaces which have been disturbed and are *currently* in cultivation); even in ploughsoil objects should not be removed from depths greater than 300mm (12 inches) so that intact buried deposits are not disturbed. Heathland is, by definition, not in cultivation and metal detecting should therefore not be carried out there.

Detecting should never take place on known archaeological sites other than as part of a carefully planned research project and should always be accompanied by a parallel process aimed at recovering non-metallic objects such as pottery, flint and other worked stone.

Metal detecting must only take place with the permission of the relevant landowners or authorities, whether on private or public land; detectorists who do not obtain permission in advance could be charged with a criminal offence and sued for damages. ‘Finds’ made by metal detecting are legally the property of the landowner and it is highly advisable that detectorists are required to sign a written undertaking in

advance. It is an offence for anyone to use a metal detector on a Scheduled Monument without the written consent of the Secretary of State for Culture, Media and Sport, and there are restrictions on detecting on other areas such as Sites of Special Scientific Interest (SSSIs), land under Stewardship agreements and National Trust properties.

All metal detecting finds of potential archaeological interest should be reported with details of where they were found. In most instances this will be through the Portable Antiquities Scheme, the Historic Environment Service or a museum (appendix 1). There are particular legal requirements for reporting items defined as 'treasure'.

### **Further archaeological investigation**

The assessment of the historic environment in this document represents current knowledge of the study area. Further investigation could significantly increase that knowledge, thereby enabling improved management and better interpretation to present and future generations. There are a variety of methods of investigation – what is appropriate in any particular case will depend principally on what is already known and the type of area in question.

**Ground survey** on heathland has been very effective in identifying archaeological features and in deriving from them a story of past human activity there. Many areas remain unsurveyed, however, and in many others the density of vegetation at the time of the initial survey means that it is highly probable that features were not found or their extent only partly traced.

Surveys carried out immediately after heathland fires often identify a wide range of previously unknown archaeology. Similarly, when vegetation has been reduced by scrub clearance or increased grazing, previously unknown features may be revealed. Once revealed, however, they may be vulnerable to disturbance and it is important that they are identified and recorded quickly so that appropriate management can be applied.

Advice on archaeological investigation and recording is available from the Historic Environment Service (appendix 1).

## **6. Access**

### **Increasing access**

Increased access to heathland is usually welcome because of the benefits for visitor understanding and appreciation. At the same time, increases in access may place greater pressure on archaeological resources, damage ecological interests and have an impact on the tranquillity and remoteness which are crucial elements of the historic character of most heathland landscapes. There may also be increases in associated management costs: maintaining paths, providing parking, providing interpretation, etc. Increases in access may potentially require re-routing of some paths to avoid damage to known archaeological features.

### **Health and safety**

Many heathland areas accommodate remains of former mines and quarries. Where access is to be increased it is strongly advisable that a survey is carried out to assess potential health and safety issues and identify appropriate measures (see above).

### **Reducing access**

Heathland is generally perceived as having open access (even where legally this may not be the case). Restrictions on access are unlikely to gain public acceptance other than where temporarily required to allow eroded areas to recover or to minimise disturbance during nesting / breeding seasons. Reductions may be achieved through

signage and temporary barriers, or by pegging cut vegetation such as furze and blackthorn over areas to be protected. Temporary closures of parking areas may also be effective in reducing numbers of visitors.

### **Off-road vehicles**

Uncontrolled use of rough ground by 4-wheel drive vehicles, motorbikes and quad bikes is likely to cause damage to archaeological and historic features and to natural habitats. It also often has a visual impact through scarring of the ground surface and reduces tranquillity and the potential for quiet enjoyment. Signs explaining the potential for damage and requesting that off-road vehicles do not use heathland areas may have some effect but physical barriers at access points may also be required. Use of rough ground for such activities is often unlawful and the involvement of the police should be considered.

Mountain bikes can have a significant impact on already eroded surfaces and may also be subject to legal restriction on heathland areas. Again, signage at access points may have a beneficial effect.

### **Horse riding**

Horse riding should be discouraged over known archaeological sites, including the relatively slight features often found on open rough ground such as clearance cairns and prehistoric field boundaries, because of the potential for damage. Frequent horse traffic on paths can cut up surfaces and produce significant erosion and hollowing; where this may have an impact on adjacent archaeology it should be carefully monitored and alternative routes provided if necessary. Alternatively, it may be necessary to restrict access or to repair erosion hollows and install new surfaces.

### **Parking**

In general, vehicle parking on or adjacent to rough ground should be discouraged, primarily on the grounds of the risk of erosion but also because of the associated visual intrusion and negative impact on the open and remote landscape character of such areas. In reality, however, there is often significant pressure for parking, often informal and opportunistic, for access by walkers and other visitors.

Parking is often in former extractive sites such as the rab pits or small-scale quarries which occur frequently on or close to roads through rough ground; similarly, parking often occurs at historic access points onto rough ground - places where tracks and paths leave roads. There is a risk that the historic form of such sites may be damaged but on balance these opportunistic provisions are likely to be preferable to more intrusive forms of parking provision.

Encroachment of formal and informal parking onto rough ground (at coastal cliff-top sites, for example, or alongside roads passing through areas of heath) should generally be resisted. Where it is thought necessary to make new provision, careful assessment of the area proposed for parking should be undertaken to ensure that historic features will not be damaged or lost.

Where new parking facilities are provided, it is often necessary to create boundaries which prevent vehicle access onto the surrounding rough ground. Here, traditional forms of boundary such as stone-faced hedges or earth banks are to be preferred to the use of features such as bollards, 'dragon's teeth' or wire fencing. For surfacing, traditional techniques such as the use of rammed rab are preferable to tarmac, concrete or similar materials.

Soft landscaping may be used to soften the impact of parking areas; selection of species should be based on the characteristic natural vegetation of the area. A balance needs to be struck between disguising the presence of parking areas and the need for them to be visible to provide security for parked vehicles and individuals using them.

## **7. Interpretation**

Interpretation is important both to provide information which aids visitor understanding and appreciation (on the details of particular monuments and landscapes, for example) *and* to discourage unwanted behaviour such as lighting fires, digging holes, metal detecting or removing stones.

In respect of encouraging responsible behaviour, the message 'don't change the place, let the place change you', based on the 'Sacred Sites Charter' promoted by the Ancient Sacred Landscape Network (ASLaN) (appendix 1), is worth promoting much more widely to visitors to heathland.

### **Forms of interpretation**

Careful thought needs to be given to what forms of interpretation are appropriate for any particular archaeological site or landscape. Leaflets may be preferred to interpretation boards in that they are 'portable' and therefore more easily used by visitors on site; they can also easily be amended and updated and offer more space for text and visual material and can be produced in versions aimed at different interest levels and learning age groups. Leaflets can cause litter, however, and there are obvious problems with making them available at remote sites: stocks could be made available through local commercial outlets and accommodation, or from 'dispensers' at major access points, but these will need to be topped up periodically. Some visitors will be willing to download and print interpretative material from the internet prior to their visit.

Where interpretation boards are provided they should be sited sympathetically so as not to visually intrude on the features being interpreted. Care should be taken to avoid any possible damage to buried archaeological features when installing boards and also that they do not become focal points for surface erosion.

## **8. Management plans**

Long-term management of heathland is undoubtedly best undertaken through the creation of a specific management plan for each separate area of rough ground. Historic Environment Action Plans (HEAPs) will be appropriate for many heathland areas. These plans should be flexible and dynamic working documents, regularly updated, which take account of the various aspects of a site (agricultural use, amenity, archaeology, wildlife, access, etc). They are compiled and maintained with input from the various groups with potential interests in it (landowners / managers, agri-environment advisors, historic and natural environment specialists, rights of way officers, etc). Among the components of the document should be the following:

1. What is known about the site (for example, historic and natural environment features, land-use history, etc)
2. What is important about it and the resulting objectives for management
3. What issues there are, threats, forces for change, etc
4. What actions would address those issues
5. An integrated action plan which sets out how the objectives are to be achieved.

Plans will include specific prescriptions for management – grazing levels, target areas for 'scrub-bashing', access improvements, interpretation, etc – together with timescales and dependencies. Where multiple bodies are involved in management it will also set out who is responsible for undertaking each action. The plan should also indicate any restrictions consequent on Scheduled Monument or Listed Building status or other designations such as a Site of Special Scientific Interest (SSSI). The document may

also set out an agenda for further research, including further archaeological investigation.

Advice on compiling management or Historic Environment Action Plans is available through several agri-environment schemes and through the Historic Environment Service (appendix 1).

**NB.** A management plan is a crucial factor in planning and carrying out beneficial and coherent long-term conservation and enhancement of an area but can also be useful in applications for grants and in assessing priorities for action or expenditure.

## 9. Monitoring success

It is important that heathland under management is monitored to ensure that all aspects of management are appropriate and are having a beneficial effect. At the simplest level such monitoring can be in the form of a series of specific questions: some examples relating to the historic environment are listed below. In many cases a photographic record of particular sites and features taken at regular intervals and from a fixed point can be useful in assessing change or stability over time.

*Questions on management of the historic environment:*

- Has there been any deterioration in the condition of historic and archaeological features during the preceding period (one year, three years, five years, etc)?
- Has soil depth been maintained in areas of high archaeological potential?
- Has the visibility of archaeological features increased due to reduction in vegetation cover?
- Has there been a reduction of cover by vegetation types particularly damaging to archaeology (e.g., bracken and woody shrubs such as blackthorn)?
- Have eroded areas on or close to monuments begun to re-vegetate?
- Is interpretation material available and is it used by visitors?
- Does there seem to be increased awareness among visitors of the archaeology and other historic aspects of the site?

The answers to questions such as these will help to reinforce existing management practice or to refine and amend it.

**NB.** Useful guidance on monitoring earthwork sites is included in *Managing Earthwork Monuments* (see under 'Farming and the historic environment' in appendix 1).



## Appendix 1: useful contacts

### ORGANISATION

#### **Cornish Mining World Heritage Site**

Historic Environment Service  
Kennall Building  
Old County Hall  
Station Road  
Truro TR1 3AY  
Tel: 01872 323603  
Email: [hes@cornwall.gov.uk](mailto:hes@cornwall.gov.uk)  
Website: [www.cornish-mining.org.uk](http://www.cornish-mining.org.uk)

Advice and information on the World Heritage Site and on conservation and presentation of mining and associated sites.

#### **Cornish Ancient Sites Protection Network (CASPN)**

Cornish Ancient Sites Protection Network  
PO Box 274  
Penzance TR19 7WW  
Email: [info@cornishancientsites.com](mailto:info@cornishancientsites.com)  
Website: [www.cornishancientsites.com](http://www.cornishancientsites.com)

CASPN aims to promote research and educational activities and work with local communities to foster a feeling of ownership of ancient sites and monuments. A volunteer monitoring scheme operates through CASPN, which also administers Friends of Cornwall's Ancient Sites (FOCAS), which undertakes vegetation clearance and other management tasks at monuments (see below).

#### **Cornwall Wildlife Trust**

Five Acres  
Allet  
Truro TR4 9DJ  
Tel: 01872 273939  
E-mail: [info@cornwt.demon.co.uk](mailto:info@cornwt.demon.co.uk)  
Website: [www.cornwallwildlifetrust.org.uk](http://www.cornwallwildlifetrust.org.uk)

Advice and information on the natural environment in Cornwall and Cornwall Wildlife Trust reserves.

#### **Department of Culture, Media and Sport**

2-4 Cockspur Street  
London SW1Y 5DH  
Tel: 020 7211 6200  
Email: [enquiries@culture.gov.uk](mailto:enquiries@culture.gov.uk)  
Website: [www.culture.gov.uk/](http://www.culture.gov.uk/)

Scheduled Monument consent (consent forms and relevant guidance notes can be downloaded from the DCMS website)

#### **Department of Environment, Food and Rural Affairs (Defra)**

2nd floor  
The Palace Building  
Truro TR1 2HE  
Tel: 01872 326270  
Email: [enquiries.southwest@defra.gsi.gov.uk](mailto:enquiries.southwest@defra.gsi.gov.uk)  
Website: [www.defra.gov.uk/rds/sw/default.htm](http://www.defra.gov.uk/rds/sw/default.htm)

**NB.** Some regional Defra functions - including the Rural Development Service and responsibility for Environmental Stewardship and Environmentally Sensitive Areas (ESAs) - have been transferred to a new government body, **Natural England** (see below).

**ORGANISATION**  
**District Council Conservation Officers**

*Carrick District Council*  
Carrick House  
Pydar Street  
Truro TR1 1EB  
Tel: 01872 224400  
E-mail: dev-control@carrick.gov.uk  
Website: www.carrick.gov.uk

Hedgerow removals and issues affecting Listed Buildings in Carrick.

*Kerrier District Council*  
Council Offices  
Dolcoath Avenue  
Camborne TR14 8SX  
Tel: 01209 614388  
Email: planning.control@kerrier.gov.uk

Hedgerow removals and issues affecting Listed Buildings in Kerrier.

*Penwith District Council*  
St Clare  
Penzance TR18 3QW  
Tel: 01736 362341  
E-mail: devcon@penwith.gov.uk  
Website: www.penwith.gov.uk

Hedgerow removals and issues affecting Listed Buildings in Penwith.

**English Heritage**

*National headquarters:*  
Fortress House  
23 Savile Row  
London W1X 2HE  
Tel: 020 7973 3000  
Website: www.english-heritage.org.uk

Policy-setting, advice and information on the historic environment within England.

*South-west regional office:*  
29 Queen's Square  
Bristol BS1 4ND  
Tel: 0117 975 0700  
E-mail: southwest@english-heritage.org.uk  
Website: www.english-heritage.org.uk

Policy, advice and information on the historic environment in south-west England. All matters concerning Scheduled Monuments in the region.

*Field Monument Warden:*  
c/o Historic Environment Service (see below)  
Tel: 01872 323603 / 01872 554237  
Email: hes@cornwall.gov.uk

All issues concerning day-to-day management of Scheduled Monuments in west Cornwall, reports of damage to monuments, etc, and the Scheduled Monument Management scheme.

**English Nature**

The former English Nature is now part of a new government body known as **Natural England** (see below).

**Farming and Wildlife Advisory Group (FWAG)**

*Cornwall FWAG*  
St Clement Building  
Old County Hall  
Truro TR1 3AY  
Tel: 01872 323600  
Email: info@fwag.org.uk  
Website: www.fwagcornwall.co.uk/

Advice on agri-environment schemes (including access), biodiversity action plans, etc.

## **ORGANISATION**

### **Friends of Cornwall's Ancient Sites (FOCAS)**

FOCAS

c/o Cornish Ancient Sites Protection Network  
PO Box 274

Penzance TR19 7WW

Email: [info@cornishancientsites.com](mailto:info@cornishancientsites.com)

Website: [www.cornishancientsites.com](http://www.cornishancientsites.com)

FOCAS provides volunteer help and support to aid in management of monuments, carrying out vegetation clearance and other tasks and monitoring threats and damage.

### **HEATH project**

*HEATH project team*

Trevint House

Strangways Terrace

Truro TR1 2PA

Tel: 01872 265710

Email: [cornwall@english-nature.org.uk](mailto:cornwall@english-nature.org.uk)

Website: [www.english-nature.org.uk](http://www.english-nature.org.uk)

Website (HEATH historic environment):

[www.cornwall.gov.uk/index.cfm?articleid=28957](http://www.cornwall.gov.uk/index.cfm?articleid=28957)

The HEATH project is a three-year partnership project (ending September 2007) aimed at improving management, understanding and interpretation of heathlands. It has over 50 project areas in west Cornwall and is working to re-introduce rough grazing on a number of these. The project is now led by Natural England and has partners and stakeholders in west Cornwall, Wales, Brittany, Normandy, and the Netherlands.

### **Historic Environment Service, Cornwall County Council**

Kennall Building

Old County Hall

Station Road

Truro TR1 3AY

Tel: 01872 323603

Email: [hes@cornwall.gov.uk](mailto:hes@cornwall.gov.uk)

Website:

[www.cornwall.gov.uk/index.cfm?articleid=296](http://www.cornwall.gov.uk/index.cfm?articleid=296)

Advice and information on the historic environment and its management; countryside advice service to landowners and others on management of the rural historic environment through agri-environment schemes. Runs the Scheduled Monument Management scheme. Undertakes surveys, management plans, watching briefs and excavation projects.

### **Living Environment Service, Cornwall County Council**

*Countryside Service*

St Clement Building

Old County Hall

Truro TR1 3AY

Tel: 01872 222000

E-mail: [accessteam@cornwall.gov.uk](mailto:accessteam@cornwall.gov.uk)

Website:

[www.cornwall.gov.uk/index.cfm?articleid=298](http://www.cornwall.gov.uk/index.cfm?articleid=298)

*Natural Environment Service*

St Clement Building

Old County Hall

Truro TR1 3AY

Tel: 01872 222000

E-mail: [forestry@cornwall.gov.uk](mailto:forestry@cornwall.gov.uk)

Website:

[www.cornwall.gov.uk/index.cfm?articleid=298](http://www.cornwall.gov.uk/index.cfm?articleid=298)

Advice and information on footpaths, bridleways, byways and the South West Coast Path, invasive vegetation (Japanese knotweed, ragwort, etc) and environmental enhancement projects.

Provides advice and information to the County Council and partner organisations on Cornwall's natural environment. Develops individual projects and programmes which contribute to nature conservation, often working government agencies, international partners and local community groups. Manages County Wildlife Sites.

## **ORGANISATION**

### **Museums**

*Helston Folk Museum*  
Old Butter Market  
Market Place  
Helston TR13 8TH  
Tel: 01326 564027  
E-mail: [helston.museum@kerrier.gov.uk](mailto:helston.museum@kerrier.gov.uk)  
Website:  
[www.kerrier.gov.uk/index.cfm?articleid=10702](http://www.kerrier.gov.uk/index.cfm?articleid=10702)

Advice on identifying and conserving archaeological finds; archaeological collections of items from the Lizard peninsula.

*Penlee House Museum and Gallery*  
Morrab Road  
Penzance TR18 4HE  
Tel: 01736 363625  
E-mail: [info@penleehouse.org.uk](mailto:info@penleehouse.org.uk)  
Website: [www.penleehouse.org.uk](http://www.penleehouse.org.uk)

Advice on identifying and conserving archaeological finds. Archaeological collections of items from west Penwith.

*Royal Cornwall Museum*  
River Street  
Truro TR1 2SJ  
Tel: 01872 272205  
Website: [www.royalcornwallmuseum.org.uk](http://www.royalcornwallmuseum.org.uk)

Advice on identifying and conserving archaeological finds. Large collections of archaeological material from Cornwall.

*Wayside Museum*  
Zennor  
St Ives TR26 3DA  
Tel: 01736 796945

Collection of archaeological and historic items from the Zennor area and elsewhere in west Cornwall

### **National Trust**

*Archaeologist, south-west region:*  
Killerton House  
Killerton  
Broadclyst EX5 3LE  
Tel: 01392 881691  
E-mail: [enquiries@thenationaltrust.org.uk](mailto:enquiries@thenationaltrust.org.uk)  
Website: [www.nationaltrust.org.uk/main](http://www.nationaltrust.org.uk/main)

Advice on archaeology and the historic environment on National Trust properties.

*Cornwall office:*  
Lanhydrock  
Bodmin  
PL30 4DE  
Tel: 01208 74281

Information about National Trust properties in Cornwall and contact details for local property managers and other staff.

## **ORGANISATION**

### **Natural England**

Trevint House  
Strangways Terrace  
Truro TR1 2PA  
Tel: 01872 265710  
Email: [cornwall@english-nature.org.uk](mailto:cornwall@english-nature.org.uk)  
Website: [www.english-nature.org.uk](http://www.english-nature.org.uk)

2nd floor  
The Palace Building  
Truro TR1 2HE  
Tel: 01872 326270  
Email: [enquiries.southwest@defra.gsi.gov.uk](mailto:enquiries.southwest@defra.gsi.gov.uk)  
Website: [www.defra.gov.uk/rds/sw/default.htm](http://www.defra.gov.uk/rds/sw/default.htm)

### **Portable Antiquities Scheme**

Finds Liaison Officer  
Royal Cornwall Museum  
River Street  
Truro TR1 2SJ  
Tel: 01872 272205, ext 219  
E-mail: [enquiries@royalcornwallmuseum.org.uk](mailto:enquiries@royalcornwallmuseum.org.uk)  
Website: [www.finds.org.uk](http://www.finds.org.uk)

### **Rural Development Service**

The former Rural Development Service is now part of a new government body known as **Natural England** (see above).

From October 2006, English Nature, the environment activities of the Rural Development Service (Defra) and the Countryside Agency's Landscape, Access and Recreation divisions were united in a new body called **Natural England**. Its function is 'to conserve and enhance the value and beauty of England's natural environment and promote access, recreation and public well-being for the benefit of today's and future generations'. Natural England's responsibilities include the Environmental Stewardship and Environmentally Sensitive Area (ESA) schemes, the HEATH project and designated wildlife areas (National Nature Reserves and Sites of Special Scientific Interest - SSSIs).

Advice and help on identifying, reporting and recording metal detecting finds. Promotes good practice in metal detecting.

## **Appendix 2: Useful online publications**

### **Cornish Mining World Heritage Site**

*Managing mining features on farmland: an introduction*

*Management Plan* (includes details of the principles which should be observed in safety works on industrial sites)

[www.cornish-mining.org.uk/pdf/downloads.htm](http://www.cornish-mining.org.uk/pdf/downloads.htm)

### **Farming and the historic environment**

*Managing earthwork monuments: a guidance manual for the care of archaeological earthworks under grassland management*

[www.helm.org.uk/server/show/category.9241](http://www.helm.org.uk/server/show/category.9241)

*Farming the historic landscape: caring for archaeological sites in grassland*

*Farming the historic landscape: caring for archaeological sites on arable land*

*Farming the historic landscape: caring for farm buildings*

*Farming the historic landscape: an introduction for farm advisers*

*Farming the historic landscape: entry level stewardship*

*Outstanding beauty, outstanding heritage: AONBs and the historic environment*

[www.helm.org.uk/server/show/nav.8224](http://www.helm.org.uk/server/show/nav.8224)

### **Metal detecting and surface finds**

*Code of practice for responsible metal detecting in England and Wales:*

[www.finds.org.uk/documents/CofP1.pdf](http://www.finds.org.uk/documents/CofP1.pdf)

*Our portable past: statement of English Heritage policy and good practice for portable antiquities / surface collected material in the context of field archaeology and survey programmes (including the use of metal-detectors):*

[www.helm.org.uk/upload/pdf/Our-Portable-Past.pdf](http://www.helm.org.uk/upload/pdf/Our-Portable-Past.pdf)

### **Sacred Sites Charter:**

Ancient Sacred Landscape Network (ASLaN):

[www.geniuslocimusic.com/aslan.htm](http://www.geniuslocimusic.com/aslan.htm)

### **Scheduled Monuments**

*Scheduled Monuments: a guide for owners and occupiers*, English Heritage, 2004:

[www.english-heritage.org.uk/upload/pdf/scheduled%20monuments\\_web.pdf](http://www.english-heritage.org.uk/upload/pdf/scheduled%20monuments_web.pdf)

(The Scheduled Monument Consent application form is available online from the Department of Culture, Media and Sport (DCMS) website: [www.culture.gov.uk](http://www.culture.gov.uk))


### **Vegetation damage to archaeology**

Gerrard, S, 2002. Archaeological sites: threat of bracken, *Conservation Bulletin* [English Heritage], **42**, 58-9

[www.english-heritage.org.uk/upload/pdf/58\\_archaeological\\_sites\\_-\\_threat\\_of\\_bracken.pdf](http://www.english-heritage.org.uk/upload/pdf/58_archaeological_sites_-_threat_of_bracken.pdf)









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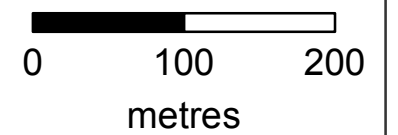
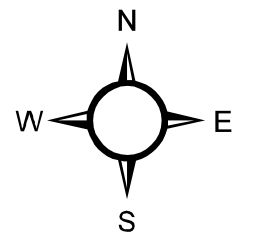
**Historic Environment Service (Projects)**

 Kennall Building, Old County Hall,  
Station Road, Truro, Cornwall, TR1 3AY  
tel: 01872 323603 fax: 01872 323811  
email: hes@cornwall.gov.uk

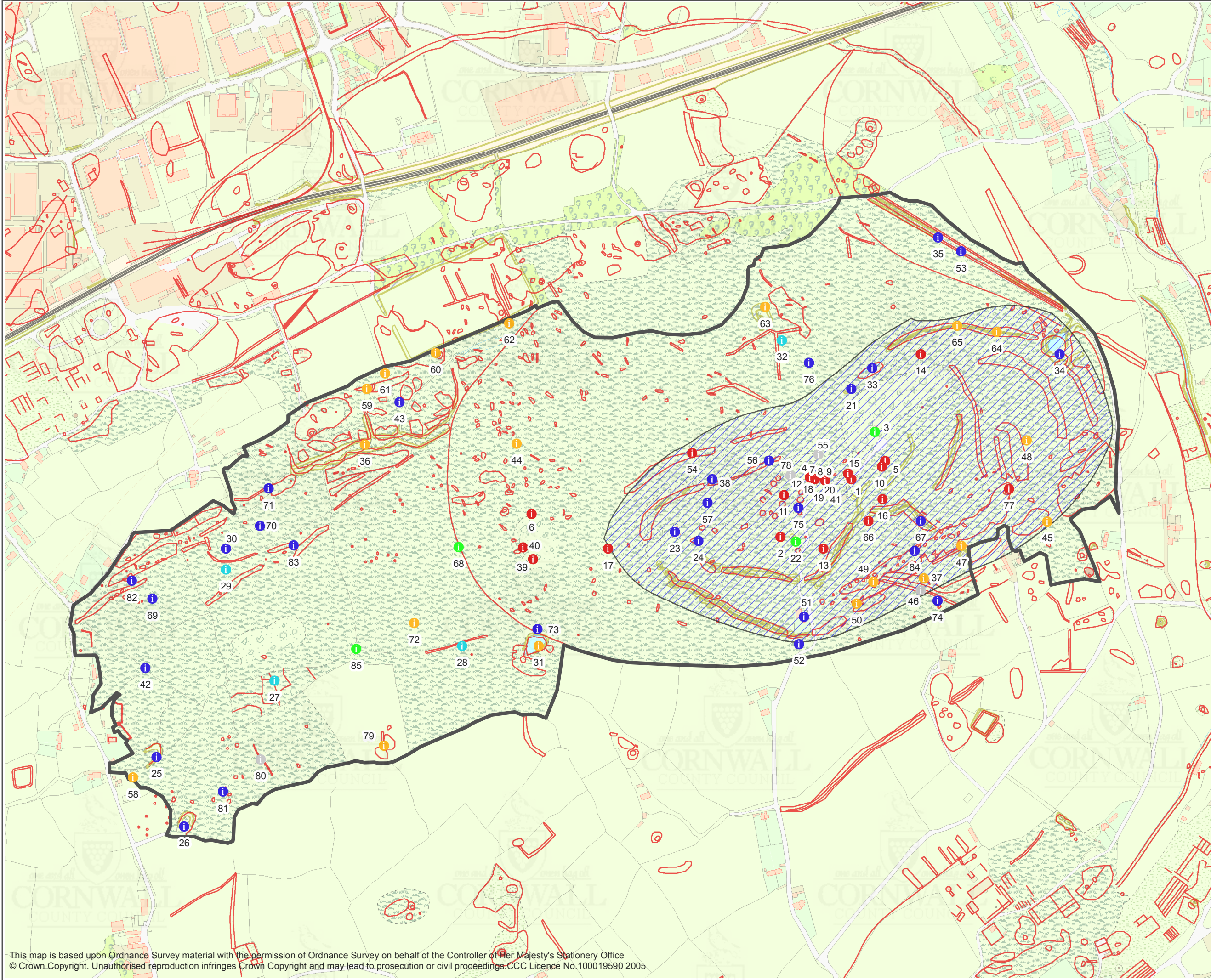
**HEATH PROJECT  
Carn Brea,  
Illogan**

**KEY**

-  Unknown
-  Prehistoric
-  Medieval
-  Post-medieval
-  Modern (incl. WWII)
-  Features plotted from air photographs by the National Mapping Programme
-  Scheduled Monument (based on EH GIS data)
-  HEATH project area



September 2006



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