

RESEARCH REPORT SERIES no. 3-2014

WARBSTOW BURY WARBSTOW

ARCHAEOLOGICAL SURVEY REPORT

Zoe Edwards



ASSESSMENT



ENGLISH HERITAGE

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Research Report Series 3-2014

**WARBSTOW BURY
WARBSTOW
CORNWALL**

ARCHAEOLOGICAL SURVEY REPORT

Zoe Edwards

NGR: SX 2013 9074

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ISSN 2046-9799 (Print)

ISSN 2046-9802 (Online)

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SUMMARY

Warbstow Bury is a multivallate hillfort in Warbstow, north Cornwall. It affords substantial views overlooking north Cornwall and the coast, and is one of the largest and best preserved hillforts in the county. The findings of this survey and investigation indicate that, in contrast to previous belief, the middle of three ramparts was most likely the first phase of construction. This is now lost in the east where it is overlain by the impressive inner rampart. There are entrances at the south-east and north-west which are thought to be original, although later modified. An inturned entrance on the south-east suggests controlled entry, although no evidence of the activities which took place within the hillfort in the Iron Age could be determined from the earthworks. It is possible that this phase of construction included facing the inner rampart with quartz, and enhancing the outer rampart with stone walling. However the stone wall may have been added when the ramparts were used as field boundaries in the 19th and 20th centuries.

An internal long mound has been interpreted as a pillow mound, as opposed to the burial place of King Arthur or Warbstow Giant as folklore suggests. This, and other slight earthworks which may relate to a beacon for Queen Victoria's 1887 jubilee, overlie slight ridge and furrow in the interior. During the Second World War, two sentry boxes were terraced into the inner rampart where the Warbstow Home Guard could watch over the landscape for enemy aircraft.

CONTRIBUTORS

The earthwork survey was carried out by Zoe Edwards, Elaine Jamieson, and Mark Bowden; Sharon Soutar provided assistance with the illustrations. Ann Preston-Jones provided useful contacts and background information for the project, and Peter Herring provided additional detail on the history of the landscape. Thanks also to Luke Griffin and English Heritage Archive Services Team for providing the required aerial photographs.

ACKNOWLEDGEMENTS

English Heritage would like to acknowledge Mike Lewis of Warbstow, for providing background information and for discussing the site with local resident George Rundle, to whom we are also grateful for providing intriguing detail of the recent history of the site. We would also like to thank Graeme Kirkham, Jane Powning and Emma Trevarthan of the Cornwall and Scilly Isles HER; Jennie Hancock of the Cornwall Record Office; Toby Driver of the RCHAMW; and Pillbox Study Group Co-ordinator and Forum Moderator John Hellis.

ARCHIVE LOCATION

The project archive is held at:
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DATE OF SURVEY AND RESEARCH

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INTRODUCTION

Warbstow Bury is one of the largest and best preserved multivallate hillforts of the Cornish Iron Age; covering 8ha on a spur overlooking Warbstow village, north Cornwall. The large ramparts would have dominated the landscape which is scattered with burial monuments of the Bronze Age on ridges far into the distance. A long mound within the ramparts is surrounded in myth, like many others in the area, with Tintagel close enough to impose tales of King Arthur's burial on the hillfort. Today the hillfort is accessible to the public and is surrounded by small, dispersed villages, farms and farmland, much of which originated in the medieval and post-medieval periods.

An in-depth survey and investigation has been conducted at Warbstow Bury in order to improve the understanding of the history of the site, and therefore provide better guidance on its management so that it can be preserved for the study and enjoyment of many more in the future. This report presents the desk-based investigation, survey, and findings of the project.

Location and topography

Warbstow Bury hillfort is situated within the parish of Warbstow on a north-east facing spur overlooking Warbstow village, in the Launceston district of north Cornwall. It is centred at approximately SX 2013 9074 where the land is under pasture and scrub. The spur protrudes from higher ground which peaks just over half a kilometre to the south-west of the hillfort, at 240m above OD. The south-western edge of the ramparts is at 235m above OD, decreasing gradually to 225m at the edge of the spur on the north-east.

The opposite side of the hill descends more steeply towards Tredarrup, blocking any view of the hillfort from the west. Other small dispersed settlements of medieval origin across Warbstow were in view of the hillfort. The remaining land surrounding these villages is predominantly agricultural and grassland, with the boundary between Warbstow and Jacobstow situated where woodland meets the River Ottery in the north-east. A number of streams and springs flow towards the river from the area, and it would appear that one originates at the northern side of the hillfort itself. Other springs issue to the north and south of the hillfort. Many of these meet the river near Canworthy Water, where some of the streams have been modified to form mill leats.

The hillfort is freely accessible to the public with a car park on the south-eastern side, just off the main road from the village at Warbstow Cross. A gate opens to a footpath which then splits into two routes – one of which crosses the centre of the hillfort, through what appears to be an original entrance, while the other leads around the ramparts on the eastern side to take full advantage of the panoramic views over Warbstow and beyond. A number of footpaths and roads converge close to the hillfort on the south-east.

The sea is visible to the north and north-east of Warbstow Bury. On a clear day, the island of Lundy can be seen beyond the NATO Satellite dish installation site (formerly a Second World War Military airfield) on the headland at Lower Sharpnose Point in Morwenstow.

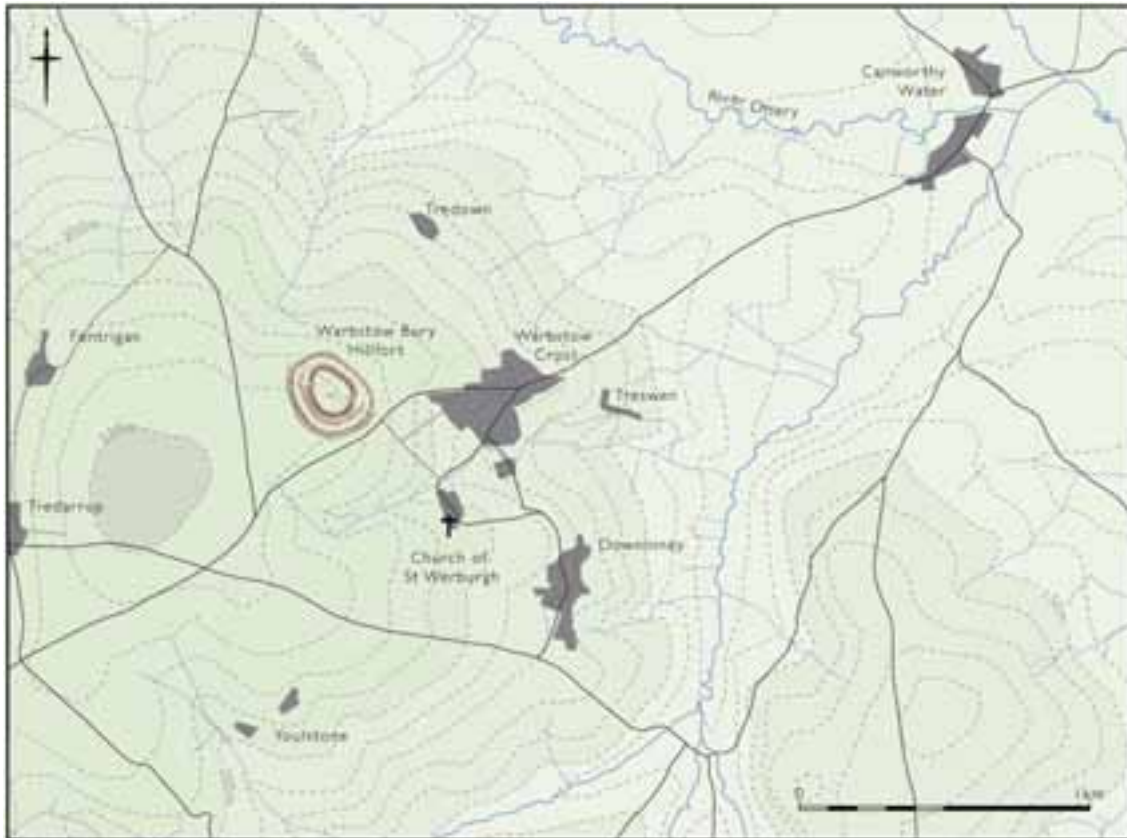


Fig 1: Warbstow Bury Hillfort and its surrounding landscape. The extents of villages and smaller settlements mentioned in the text are shown in grey and water courses in blue. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™. Crown Copyright and database right 2014. All rights reserved. Ordnance Survey License Number 100024900.

Geology and vegetation

Warbstow Bury sits on the mudstones and siltstones of the Boscastle Formation and is surrounded by other formations of sandstones, slates and some quartzite within c5km (British Geological Survey sheet number 323). Cornwall is generally understood to have acidic soils which result in poor survival of iron artefacts and organic remains. At Warbstow, the soils are freely draining, slightly acidic loamy soils (as indicated by NSRI Soilscales mapping).

Sheep graze on the hillfort where the bracken, brambles and gorse are not too impenetrable. Gorse cover is extensive on the ramparts, with bracken in the ditches and

covering around half of the interior in a wide circuit following the edges of the inner rampart. Trees are growing on some sheltered areas of the ramparts and the more level areas of the hillfort are mown.



Fig 2: The south-western side of the inner ramparts, looking north-west from the gap between the circuits, where the vegetation is particularly obstructive. Photograph by Mark Bowden © English Heritage

A HLF (Heritage Lottery Funded) project is underway to tackle the vegetation on the hillfort, and it was noticeable at the time of survey (October 2013) that this process had made a significant difference in some areas.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The surrounding landscape

There is no evidence of activity in the area before the Bronze Age, when it is most likely that the round barrows on the ridges and high points surrounding Warbstow Bury were constructed. Many of these are situated on ridges to the north and east of the hillfort, and would have been in view from the hillfort if vegetation did not block the line of sight.

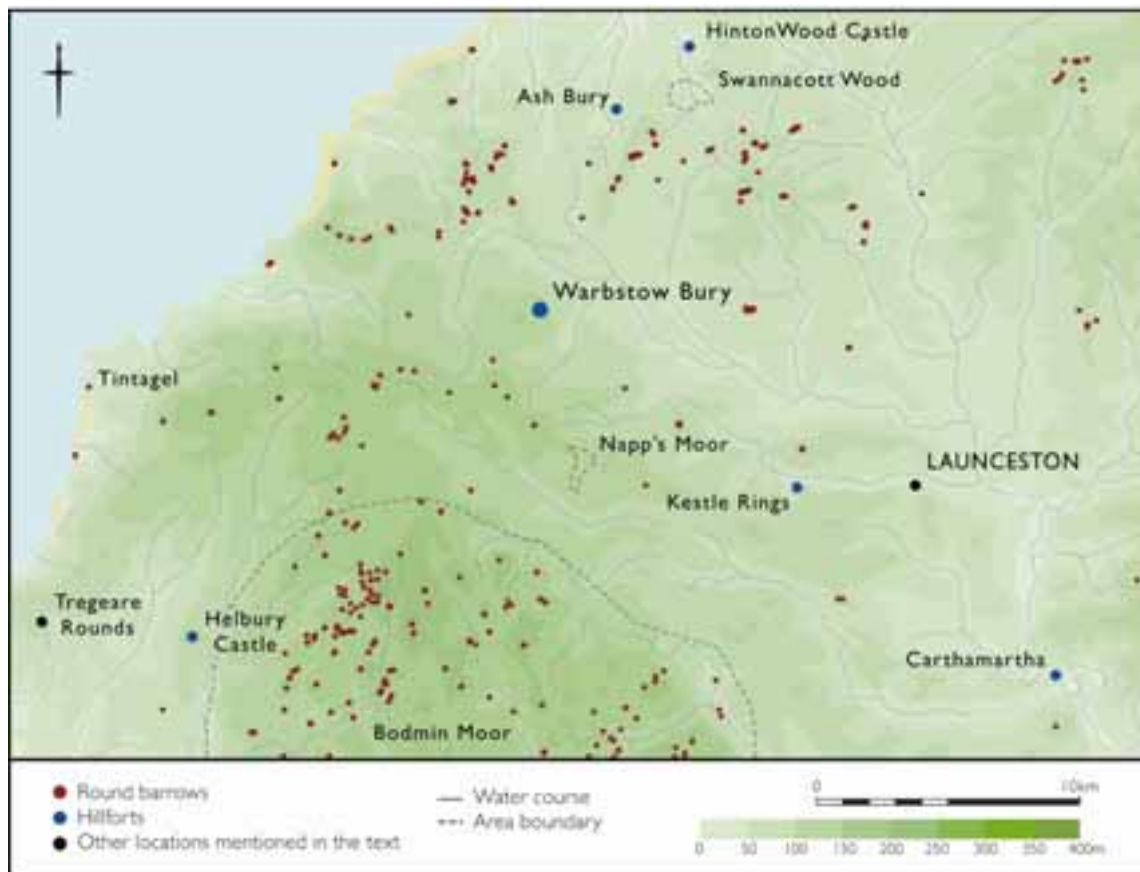


Fig 3: The wider landscape surrounding Warbstow Bury. Location data for the monuments is sourced from the NRHE and the Historic Environment Record, Cornwall Council. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™. Crown Copyright and database right 2014. All rights reserved. Ordnance Survey License Number 100024900.

c7km to the north-north-east of Warbstow Bury are Ash Bury Camp and its nearby rounds (Cornish Iron Age settlement enclosures). Additional earthwork remains of rounds are recorded in Swannacott Wood, north-east of Ash Bury, and more are noted further to the north close to the hillfort of Hilton Wood Castle.

The prefix *'tre'* implies the location of a medieval farming estate, the boundaries of which may have already existed for centuries (Padel 1985, 223). Examples of these place names are abundant in this area, and can be seen around Warbstow Bury (Fig 1), and Ash Bury. The *'tre'* prefix is also seen frequently on Bodmin Moor, c7km south of Warbstow, a place which is well known to have been settled throughout later prehistory (Johnson & Rose 1994), which implies that the boundaries of the *'tre'* settlements may have originated during this time. Settlements with this prefix are known to have been in use by at least as early as the 7th century. It is clear that some of these settlement locations went out of use in the medieval and post-medieval periods, which is demonstrated by the many earthwork remains of hamlets and villages, such as those at Trenchreek and Trelay (St Gennys parish) within 6km of Warbstow Bury.

The position of hillforts and rounds would have been chosen in mind of many necessities, including the availability of local resources and land for pasture and farming. While evidence of prehistoric field systems survives well on Bodmin Moor in association with contemporary settlements, no evidence of Iron Age field systems appear to survive near Warbstow due to later farming and development. The only recorded material evidence of Iron Age activity in the area is the Youlstone Bowl, a decorated Bronze Bowl found in the grounds of Youlstone Farm which Hencken (1932, 111-2) suggests has been influenced by Roman art, but crafted by a native Briton.

There is much discussion on the topic of Bronze Age tin mining in Cornwall, although evidence is yet to be found. However, there is no doubt that the Romans would have been interested in the resources that Cornwall had to offer, which by the Iron Age would have been heavily weighted by tin. Roman presence in Cornwall was minimal in comparison to the rest of southern Britain, with just three small villas being the likely result of isolated native Romanisation. There is little evidence of conflict, and the nearest known points of Roman authority west of *Isca Dumnoniorum* (Exeter) were three small forts – Nanstallon, Calstock, and Restormel (Hartgroves and Smith 2008). There is a suggestion of Roman trade at Tintagel (c16.5km west of Warbstow) where a Roman milestone dating to the third century AD was found in the churchyard, and another of the same date was discovered in Trethevey c2.5km to the north-east (Weatherhill 1985, 86). It is possible that a minor Roman Road lead to Tintagel where tin and other resources could be exported to the continent by sea, and imports could be received. It is here that the early medieval legends tell that King Arthur was conceived and reigned, a story which remained popular belief until the results of 20th-century excavations provided an alternative interpretation based upon an early Christian monastic site (Barrowman *et al* 2007). Occupation at the site has since been proven, based on finds of pottery fragments (much of which was imported from the Mediterranean) dating to the late Roman and early post-Roman through to the medieval period (*ibid*).

Medieval settlement in Warbstow is evident from at least the 13th century when there is a record for the Church of Sancta Werburga of likely Norman origin (Pearce 1978, 74). The later church becomes the church of St Werburgha (name meaning 'powerful

protection' (Bannister 1869, 145)) and its parish eventually takes the name Warbstow (from Warberstowe – 'Holy place of St Waerburh (Orme 2000, 253)). 'Stow' is also interpreted as a pre-Norman ecclesiastical place name (Edwards 1996, 49) providing further dating for the first phase of the chapel or church in Warbstow. A hollow way from Warbstow Bury links the church and surrounding settlement to the high ground which would have provided a route to move livestock for grazing in the summer months.

Ridge and furrow has survived as earthworks in some of the fields in Warbstow, which may have been ploughed by the inhabitants of the dispersed villages and associated manor houses at Downinney and Fentriggan within a kilometre of the hillfort.

Cartographic evidence

Warbstow Bury, or 'Warbstow Barrow', is depicted in the OS Map of 1803-1807 (Ordnance Survey sheet 28, Cornwall Record Office reference FS/3/901/29/3) as a set of four sub-circular, unbroken, concentric rings in an unenclosed area of land. This is a rough interpretation of the site rather than an accurate representation of the earthworks at the time. The names of the dispersed settlements have minor variations from the present day, including Downeny in place of Downinney, and 'Kenworthy Water' in place of Canworthy Water. These are a few of the many place names which change once again on the tithe map (Cornwall Record Office TM/246) (Fig 4).

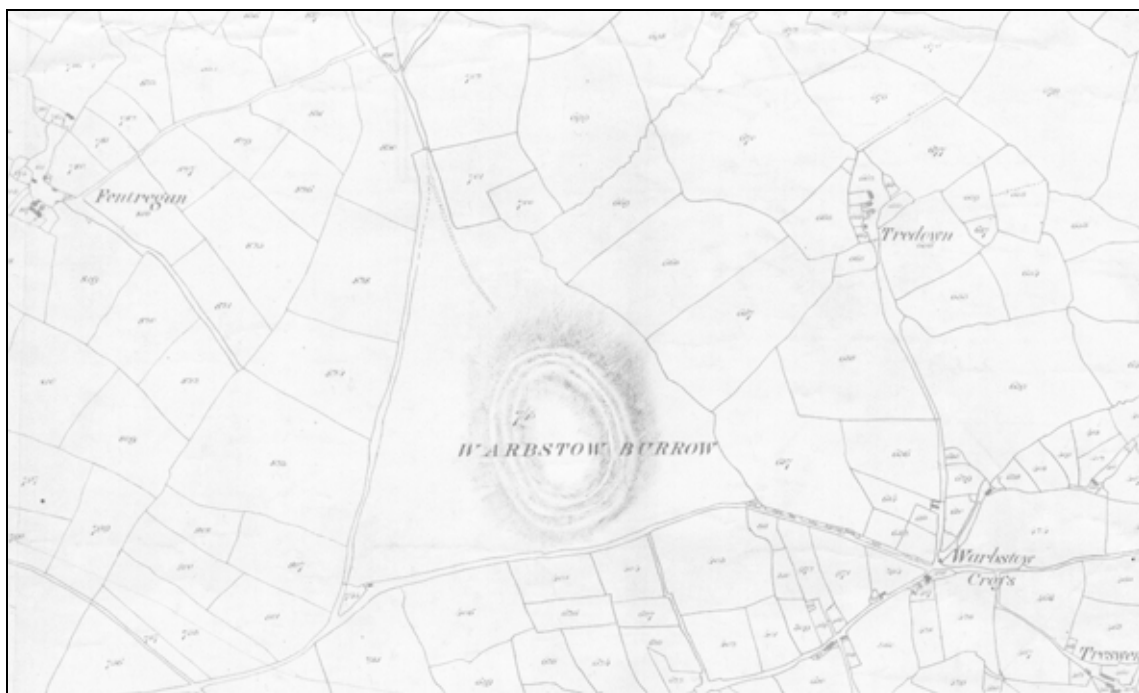


Fig 4: 1841 tithe map of Warbstow, showing Warbstow Bury hillfort ('Warbstow Burrow'). Cornwall Record Office, TM/246.

Interestingly, the area now known as Warbstow which encompasses the church to the south of Warbstow Bury is labelled 'Churchtown' on the 1841 tithe map. The settlements at Fentregan (now Fentrigan) and 'Youltons' (now Youlstone) are also present on the tithe map. While the settlement sizes have grown since the 19th century, and field systems have altered in some cases, the landscape remains relatively unchanged.

The apportionment (Cornwall Record Office, TA/246) shows that 61 acres of land (743) which included and surrounded 'Warbstow Burrows' was owned by the Reverend Charles Sweet, and occupied by Edward Uglow – the owner of the Fentrigan estate. Charles Sweet also rented a small neighbouring holding to the south-west of the hillfort to Edward Uglow (744), which, like 743, was under arable at this time.

The First Edition OS Map of the area (1889, 1:10560) shows that the western and south-eastern ramparts of the hillfort may have been used as field boundaries, and in some places these survive as earthwork banks leading toward, and onto, the outer hillfort rampart.

Past research

There has not been as much previous research at Warbstow Bury hillfort as might be expected of one of the largest and best preserved hillforts in Cornwall. There are no published accounts of any intrusive exploration at this site, and no geophysical survey has been conducted. There is however a number of past survey plans; most of which were produced between 1814 and 1976 (Lysons & Lysons 1814, ccxlix; Forde-Johnston 1976, 173; Peter 1902, 107-119; EH Archive plans SW29SW 1). A watching brief was carried out by Exeter Archaeology in 2002 on the south-eastern side of the road along the south side of the hillfort during the extension of a water pipeline (HER document reference ER527). There were no archaeological features recorded, and few finds. None of these dated to before the 17th century or caused any change to the previous understanding of the history of Warbstow.

More recently, an aerial photographic assessment of the area was conducted as part of the National Mapping Programme (NMP). The results of this reflected most of what has been recorded in the previous surveys and has provided additional information on the use of the surrounding environment, the majority of which appears to relate to the agricultural landscape of medieval and post-medieval Warbstow. It also shows a possible trackway leading westward from the hillfort.

Conservation

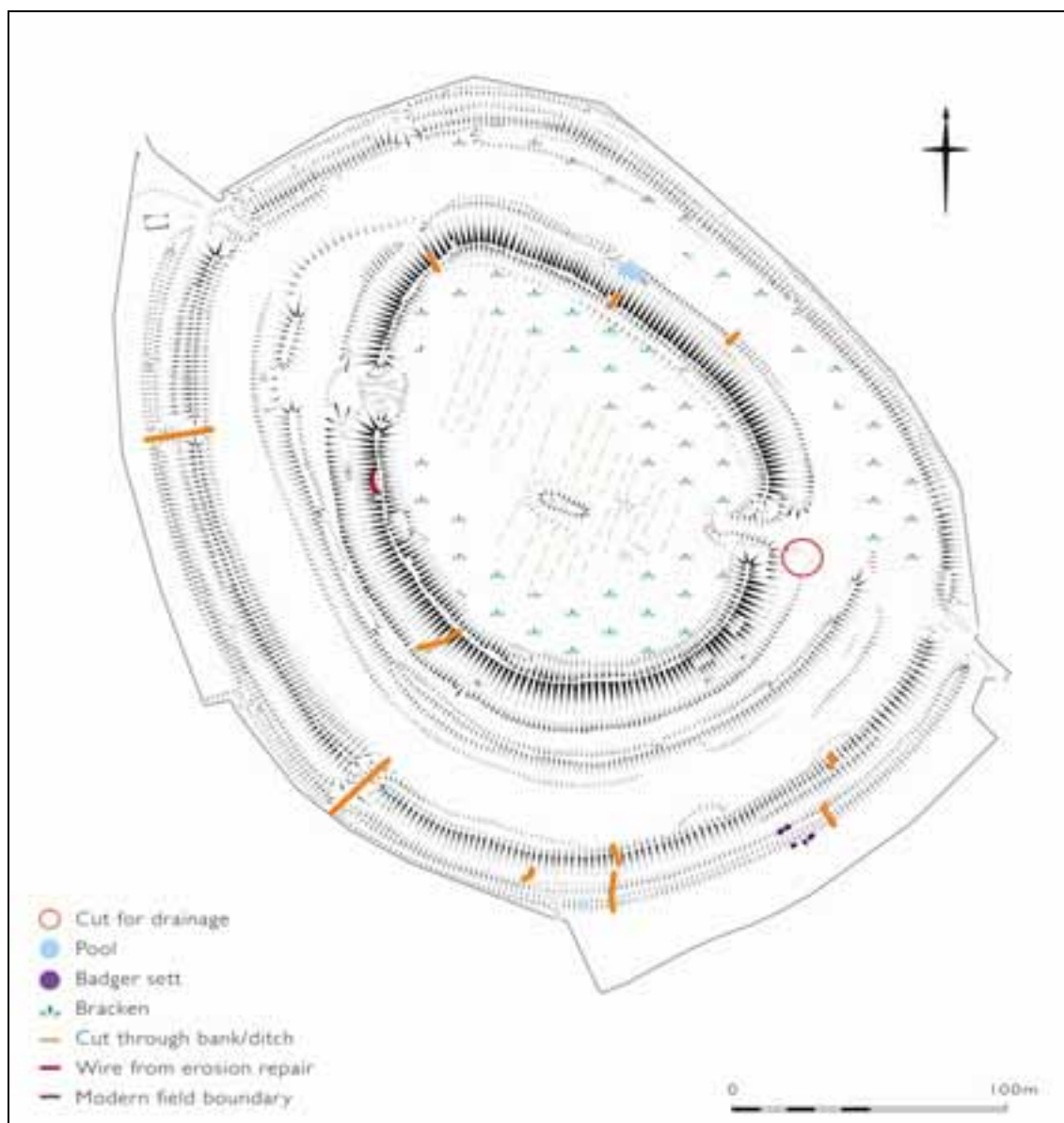


Fig 5: Conservation issues at Warbstow Bury hillfort. Shown at 1:2500, reduced from original survey drawing at 1:1000.

Warbstow Bury hillfort is a Scheduled Ancient Monument (number 1006710) and appears on the 2013 Heritage at Risk register as a monument in declining condition, with major localised problems caused principally by scrub and tree growth (English Heritage 2013, 41). Warbstow Bury nevertheless still remains one of the best preserved hillforts in Cornwall. The HLF project to remove intrusive vegetation from the site is hoped to improve the future condition of the monument and aid interpretation, as more of the earthworks become visible once again.

Other intrusion risks include the sheep scrapes and tracks through the ramparts, and holes in the ramparts dug by badgers and rabbits. It would appear that in some cases, stones and rubble from the earthworks have been placed in the sheep scrapes to prevent further damage.



Fig 6: Sheep scrape at the western entrance of the inner rampart filled with stone to prevent further damage. Photograph by Mark Bowden © English Heritage

Consideration must also be made for footpath erosion, as there have been two footpaths leading through the hillfort since at least the time of the First Edition OS Map (1889, 1:10560). These routes do not appear to have eroded significantly. The tops of the inner rampart have suffered some erosion, but much of it is no longer easily accessible due to vegetation cover. The erosion is much less common on the narrower top of the outer rampart. The top of the broad middle rampart does not show any sign of visitor erosion, whereas the top of the inner rampart is narrow, which may be due in part to the edges falling away as a result of livestock. Fig 5 shows the paths eroded through the banks and ditches for access, some of which may be of considerable antiquity. Some have been made wide enough to accommodate a vehicle, while others would not allow more than a single sheep to pass.

After a period of rainfall, the path from the car park to the outer rampart entrance becomes a stream of water which appears to originate from the inner rampart ditch, where there may have been alterations to allow water to escape (Fig 5 & Fig 8). This is causing some erosion which is undoubtedly contributed to by walkers on the footpath.

A previous effort to improve conservation at the site was put forward to the North Cornwall District Council by the Cornwall Archaeology Unit in 1987 (HER document reference 114204), which provided the necessary details for a management plan to be produced by the council in the following year. The erosion caused by cattle and sheep was to be repaired, fences on the ramparts were to be removed, and cattle were to be banned from grazing on the site, while a number of other erosion prevention methods were to be put in place. Many of these tasks were completed by 1990 (HER document reference 113815), as is evident from the visible wire erosion repair on the inner rampart.

THE EARTHWORKS AND STRUCTURES AT WARBSTOW BURY

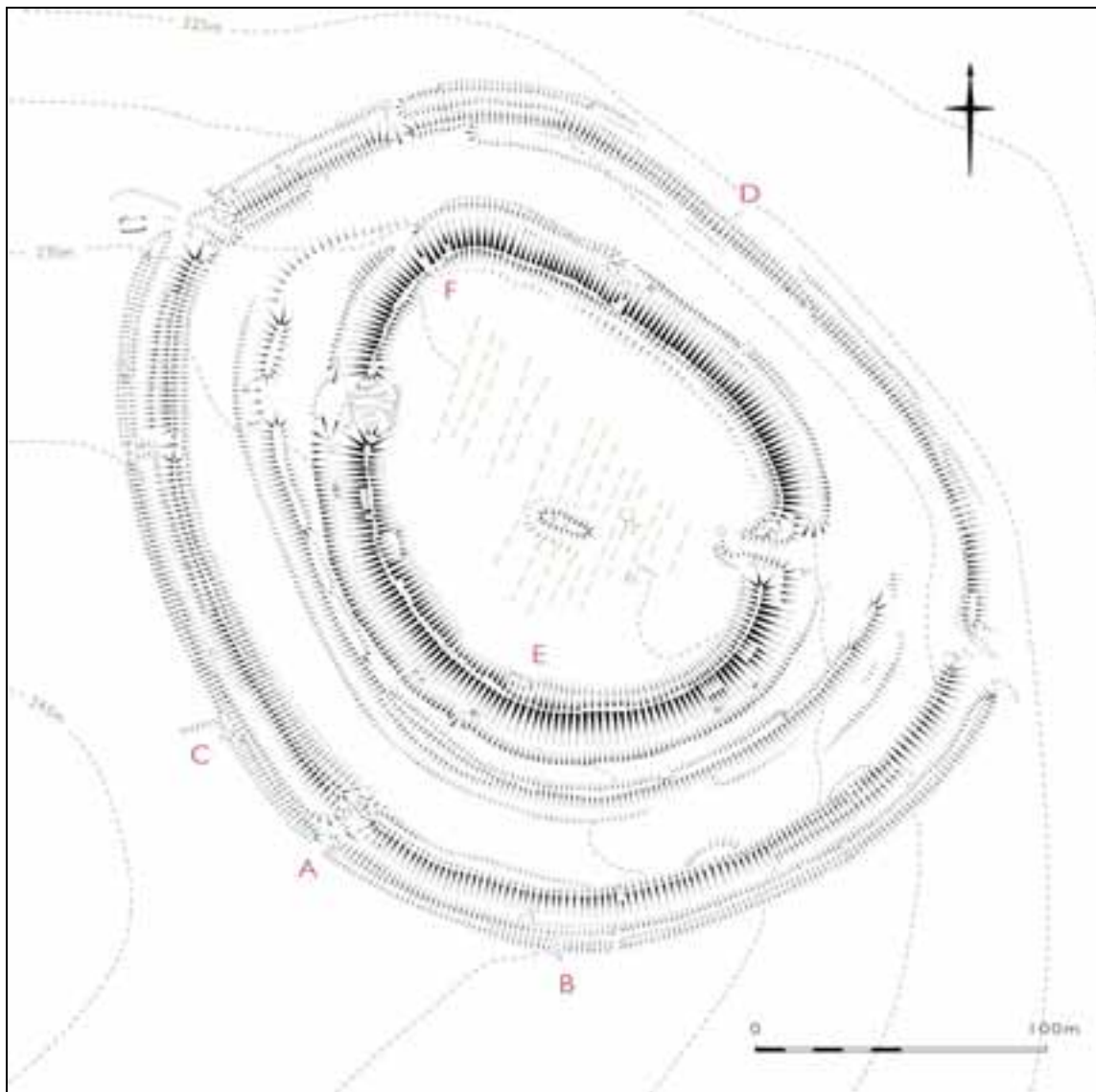


Fig 7: Earthwork survey plan of Warbstow Bury hillfort. Shown at 1:2500, reduced from original survey drawing at 1:1000. Height Data: Licensed to English Heritage for PGA, through Next Perspectives™.

The earthworks at Warbstow Bury form a sub-circular enclosure defining an area of c8ha, comprising two rampart circuits with an additional partial circuit in the space between. The two main existing entrances are located at the north-west and south-east of the site, and are slightly staggered between ramparts. Interior features include a long mound, smaller earthwork mounds partly hidden by bracken, and the slight remains of ridge and furrow ploughing. There is also a small platform terraced into the inner rampart on the southern side which may relate to small anomalies noted from 1946 aerial photographs. In addition, a ruined stone-walled building survives just beyond the north-western entrance.

The ramparts

The outer rampart consists of a bank and ditch with a counterscarp bank, and the inner rampart consists of an impressive bank and ditch circuit, with a smaller, interrupted counterscarp bank on the north-east facing side. The partial middle circuit survives on the western side, but the earthworks are not as impressive as the other ramparts.

The outer rampart

The footpath from the car park leads past the counterscarp bank of the outer rampart. At this point, it appears only to be present on the west, where a slight rise then merges into the bank c6.5m from the fence line. The gradient of the slope and bank can be seen in Fig 8.



Fig 8: The site entrance from the south-east. The footpath from the car park leads towards the existing entrance to the hillfort, with the counterscarp bank to the outer rampart on the left. Note also the water flowing from the interior down the footpath. Photograph by Mark Bowden © English Heritage

The counterscarp bank is, for the most part, continuous along the south-western side. Beyond the north-western entrance it exists only as smaller, interrupted sections of bank before it is no longer traceable where it meets the line of the current field boundary. If the counterscarp bank once existed as a full circuit, it may be that this no longer survives as it has been lost to ploughing. The height of the counterscarp bank is approximately 1-2m above the ground surface.

There are some intrusions to the outer counterscarp bank which include the pathways of livestock (and possibly visitors) crossing the ramparts, which have been recorded at four points along the south-western side (Fig 5). Each of these corresponds to a nearby pathway eroded through the respective ditch-slope and bank. At one point in particular (A, Fig 7), there is pathway up to 5.25m wide, with a remaining gatepost on the outside of the rampart. The pathway here is relatively well flattened in comparison to other routes, and has clearly been a significant route of entry to the hillfort from the south-west in recent centuries. The current and former field boundary is present further north on the rampart, which is followed by another cut into the outer rampart. This is much less substantial, but it may be that these were the entry routes to the two adjacent fields.



Fig 9: Pathway and gatepost at the south-western side of the outer rampart. Photograph by Mark Bowden © English Heritage

A similar gatepost is present near the south-eastern entrance to the site, which is situated against a stone wall and is likely to relate to the use of the north and south-eastern ramparts as field boundaries in the 19th-20th centuries (1st ed 1889 OS Map I:10560). An eroded pathway (closely in line with the main north-western entrance on the interior rampart) is a maximum of 2.7m in width, while the other two are minimal in comparison and only provide enough room for single-file animals or pedestrians to pass. Other significant intrusions are the badger holes in the south (see Fig 5).

There are two linear banks protruding from the counterscarp bank for 6.8m and 8.8m (B&C, Fig 7), the longer of which (B) appears to be part of a bank which continues along the top of the counterscarp for 22.2m. At this point it runs into the inner edge of the counterscarp bank. The other (C) is situated close to a slight upward slope outside the

rampart and heading north. Both of these banks appear to be aligned with the position of the current field boundaries, and are therefore likely to represent the former use of the ramparts as field boundaries, where they have been enhanced to be made suitable for this purpose. The former fence line continued onto the rampart causing considerable animal erosion in this area, before it was removed as part of the conservation management plan arranged by the Council on the advice of the Cornwall Archaeology Unit in the late 1980s (HER document reference 114204).

The smooth curve of the rampart's western side contrasts with the more linear form of the remainder of the circuit on the eastern side, which follows the natural topography more closely. On this side, there appear to be three straight sections. The longest section is the central stretch, with a smaller gap between the inner and outer ramparts along most of the eastern side which may relate to the phasing of the ramparts (discussed below).

The inner side of the rampart in the south has two almost semi-circular mounds protruding from beneath it. These slight earthworks may have been spoil piles intended for use in the construction of this rampart which were later flattened and spread when the full resource was not needed. It is also possible, however, that they are natural features.

Moving clockwise around the outer rampart from the mounds, a break in the slope forms and extends for 80m along the inside of the rampart, forming a berm of c2m width. Further east of this is the cut of the gatepost pathway (A, Fig 7; Fig 9), and the berm continuing beyond this is very minimal. These breaks of slope appear in several locations along the inner and outer circuits of the hillfort, but generally on the outward facing scarps only (Fig 8). These breaks and the small berms which they form provide clues to the construction of the ramparts, as the breaks appear to represent the former ground level, and therefore the starting points for the construction and of the banks and ditches.

The north-east facing outer rampart is considerably less impressive, with a smaller bank and no ditch for the majority of its length. However, at its northern extremity the ditch re-appears and the bank becomes as prominent as on the south-western side. On its outward facing side, the north-eastern bank descends steeply toward a break in slope, below which its gradient becomes less severe. An internal quarry cut c100m long is present in the north of the hillfort, extending c5m from the inner side of the outer rampart and gradually thinning towards the east. This also relates to the construction of the rampart.

In the south, the upper slope of the bank is almost vertical, which continues to be the case along most of the rampart on its eastern side. Sections of exposed stone walling close to the south-eastern entrance may provide an explanation for this. It is not possible to interpret whether this wall was part of the original construction of the outer rampart, part of a later phase involving other rampart modifications, or an individual phase unrelated to any other phase of construction on the site. However, it is in this area that

the First Edition OS Map (1889, 1:10560) shows the field boundary encompassing the existing rampart bank, which may have been enhanced by the addition of stone walling. A section of the outer counterscarp bank has been destroyed by ploughing in this area (D, Fig 7).



Fig 10: Section of exposed stone wall on the inner face of the outer rampart close to the south-east entrance. Photograph by Mark Bowden © English Heritage

The earthworks of both the inner and outer circuits are at their least substantial in the east and south-east. Higher ground to the west requires that the ramparts on this side need to be larger to be equally as defensively effective or as dominant as those to the east and south. The height of the bank measures between 1m and 4m from the ground level, with the partial ditch on the north-western side reaching a maximum depth of cl.5m.

The middle rampart

The earthwork of the middle rampart is less substantial and cannot be traced in the east or north-east of the hillfort. In the past this has been interpreted as a final phase of construction which was abandoned, leaving the middle circuit unfinished (Forde-Johnston 1976, 122). It shares most symmetry with the outer rampart in its plan form. The rampart is approximately 1.5m above the ground level for the extent of its circuit. There are eight points where there are relatively short drops in height or breaks along the rampart which

perhaps relate to the construction methods of the banks. Seven of these are only present on the inner side of the earthwork.

New interpretations regarding the middle circuit have been possible due to the recording of additional slight earthworks which continue from the previously recorded rampart ends. On the northern side, the remains of the rampart could be traced as a spread scarp curving round back towards the inner rampart for an additional 56m, while the equivalent earthwork on the south-east could not be followed for more than 8m, at which point it is no longer traceable beneath the bracken. The inner rampart therefore appears to overlie the former position of the middle circuit on the eastern side of the hillfort, indicating that the middle rampart in fact pre-dates the construction of the inner rampart. The similarities in form between the middle and outer ramparts supports this further, as it is likely that the middle rampart was the first phase at this site, and was followed by the outer rampart which was constructed to reflect the form of the rampart of the first phase. The continuation of the middle rampart on the southern side can be seen in some aerial photographs (Fig 11).



Fig 11: Warbstow Bury hillfort from the west, showing the continuation of the middle rampart beyond the entrances on the eastern side, and the external building with dislodged roof on the far left. CCR 5122/81 22-APR-1987 © Historic Environment Record, Cornwall Council.

The remaining middle rampart on the western and southern sides was slighted but not destroyed during the third phase, in which the inner rampart was constructed, implying a desire to maintain three ramparts on the western side of the hillfort. This phasing explains why the inner circuit does not mirror the form of the outer rampart. It is possible that the

eastern entrance through the middle rampart was situated in line with the inner rampart entrance, where the bank meets the bracken. This remains unclear because of the current vegetation. The relatively slight first phase of construction might be classified as a settlement enclosure pre-dating the hillfort. See Fig 12 for a phase plan.

The inner rampart

The ramparts of the inner circuit are by far the most substantial on the site. As is the case with the other ramparts, the earthworks of the inner rampart are at their largest on the western side, and the circuit is seamed with intrusive walk-ways used by sheep, and possibly also visitors. On this side, the bank reaches c4m high and the ditch reaches c3m deep. There are a number of breaks in slope indicating the former ground level as discussed previously. Other recent intrusions include sheep scrapes, and more regular, sub-circular cuts into the earthworks (generally no more than 3m in diameter) which may relate to the site's agricultural past, or to the phase of activity at the site during the Second World War (e.g. E, Fig 7).

There is a slight interrupted counterscarp on part of the north-eastern side of the inner rampart. There is no berm between the ditch top and the counterscarp, in contrast to the 2-4m gap on the outer rampart. Also on the north-eastern side is a sub-circular hollow in the ditch ('pool' Fig 5), which (like many of the deeper ditch areas) fills with water after a period of rainfall. Its shape would suggest that it was intended to hold water with its construction either contemporary with the prehistoric use of the hillfort, or more likely much later. It is also possible that it was constructed and used in the Iron Age, and has been re-cut for the same purpose since then.

The interior of the rampart is lined with an additional slope of slighter gradient than the main earthwork of the bank. This appears along most of the northern side, and around about half of the southern side. Its purpose remains uncertain, but if it was not part of the rampart's original construction it is possible that it is related to the medieval ploughing (discussed below).

Quartz blocks of various sizes have been noted across the site. They appear to be more prevalent in larger blocks in the ditch of the inner rampart, and can be seen at the top of the bank as part of the rampart where it has become eroded. While this is an uncommon feature, Warbstow Bury would not be the first hillfort which may have had quartz faced ramparts; the ramparts at Castell Grogwynion (Cardiganshire) display similar features to Warbstow Bury, suggesting the presence of a wall beneath the vegetation, and quartz blocks are scattered around the site (Driver 2013, 88). The meaning of the site name – 'Stronghold of white pebbles', provides a further indication of the former appearance of this site (*ibid*). Other Welsh hillfort sites in Cardiganshire show a preference for quartz, including Cnwc y Bugail where quartz blocks line the entrance way (CADW NPRN 302038), and Darren Camp where excavations revealed a quartz-flanked entrance (Driver 2013, 88). The nearest source of quartz to Warbstow Bury would have been at

Napp's Moor, almost 5km south of Warbstow Bury (OS MasterMap).

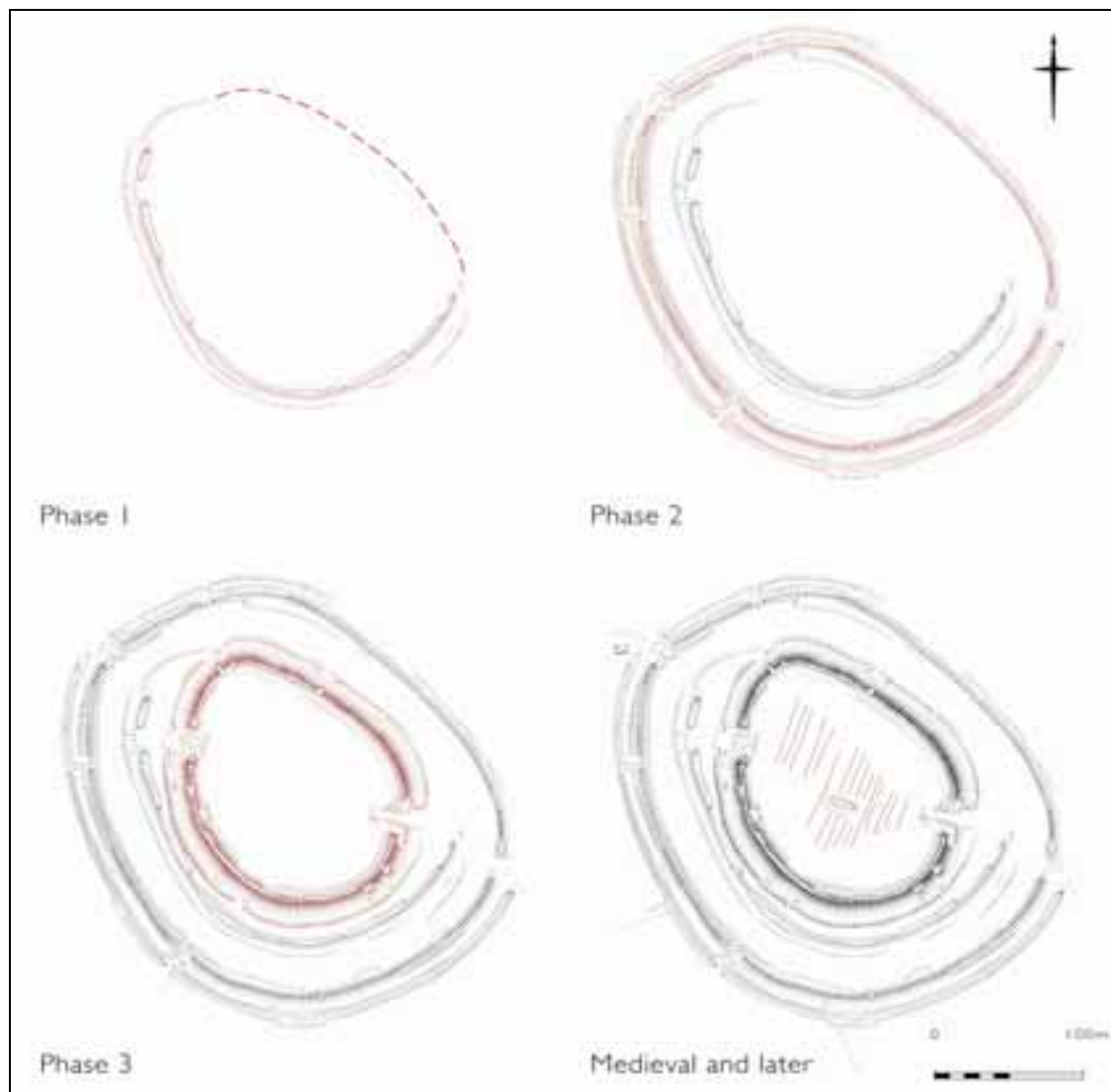


Fig 12: Phase plan of Warbstow Bury. The medieval and later phase shows the former field boundaries as dashed red lines extending from the earthworks. Shown at 1:5000, reduced from original survey drawing at 1:1000.

Entrances

There appear to be two likely original entrances to the hillfort through the outer and inner ramparts. These are slightly staggered between each rampart and have been subjected to later alteration which may have taken place in prehistory or later.

There is easy access to the hillfort from the car park at the hillfort's south-eastern outer rampart entrance. Visitors are guided past a stone wall which stretches across most of the

rampart gap, which is undoubtedly a more recent addition as opposed to an original component of the hillfort. This deliberate blocking of the entrance may relate to the medieval activities upon the hillfort, or later field systems which made use of the ramparts (both discussed later). The terminal of the western outer rampart is smooth and rounded at this point, indicating the reasonable likelihood that this is an original end to the rampart allowing for an entrance. The eastern rampart end is more complex, as the rampart reduces in size and becomes more vertical, with stone walling towards the entrance. While this does appear to curve round to reflect the angle of the entrance at its current position, it is less obvious where the original part of the rampart ends and the later modifications begin. However, the presence of a ditch terminal on the northern side of the entrance is highly suggestive that this was the site of an original entrance.

Once through the outer entrance, the least strenuous route to the centre of the hillfort is around the end of the middle rampart, which then places the visitor in perfect line with the entrance through the inner rampart. This provides additional evidence for the possible position of an entrance on the middle rampart. The entrance through the inner rampart is staggered to the north by approximately 18m from the outer rampart entrance on this side.

The banks and ditches of both sides of the inner rampart are smoothly rounded and symmetrical enough at this point to suggest that at least the majority of the remaining earthworks are original features. Curiously, there are stone-lined platforms on either side of the entrance which are now almost completely covered by turf. The platforms are possibly an original phase in the construction, with the upper part of the bank constructed on top of them, rather than being a result of later cuts into the rampart terminals. They may have had a function relating to the addition of gates or a gatehouse.

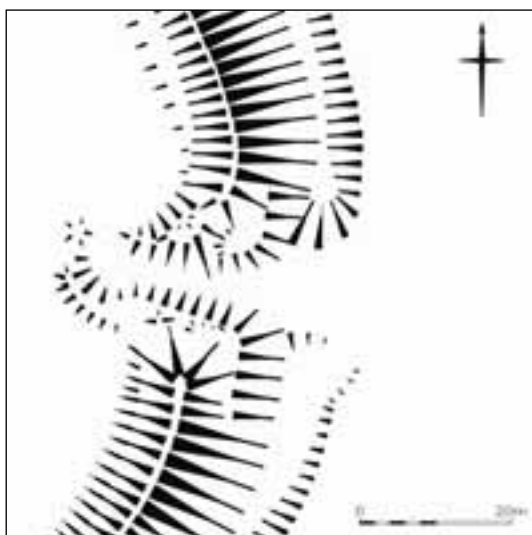


Fig 13: Survey plan showing the south-eastern inner entrance. 1:1000 scale.

The platform on the southern side of the entrance continues as a section of low bank beyond the extent of the rampart and into the interior of the hillfort, where it curves back

towards the eastern rampart, thereby significantly constricting access to the hillfort and guiding entrants to one side. The area of the interior that this bank guides incomers towards was covered by bracken at the time of survey, and no evidence of the nature of the activities taking place in this area of this hillfort could be determined. At its end point, the bank is no more than 0.5m high, and has presumably been flattened before additional erosion by later access aimed directly towards the centre of the hillfort. Banks of this form are rarely seen as an internal feature, with most earthwork extensions appearing as external entrance features. However, the earthworks at Hunter's Tor, Devon, show a similar attempt to control entry to the hillfort from the south-east (Newman, 2011, Fig 2.11).

The north-western entrance through the inner rampart shows clear signs of later disturbance, with several levelled sections cut into the edges of the rampart, and small mounds of unknown purpose which do not obstruct the entry of agricultural vehicles. A slight scarp is present on the exterior of the entrance which implies the former presence of a bank; although the ditch terminals do not present any defining features to suggest that the terminals were not original. The nature of the earthworks suggests that if this was an original entrance, it may have been blocked and re-opened, but it is also possible that this entrance was added later. The width of this entrance varies between 2-3m through the bank, with the causeway across the ditch being 10m wide.

The bank of the middle rampart has been broken directly opposite the north-western inner entrance. The gap measures 10m in width and shows that there has been heavy erosion by vehicles. About 34m north-north-east of here is the entrance through the outer rampart. The bank and ditch terminals of this are well rounded and appear likely to have been original, although the nature of the northern ditch terminal makes this more uncertain. It is possible that the variations here are due to later tampering to widen the gap for vehicles. The gap is 2.8m wide and lies close to a later platform (no more than 0.3m high) outside the hillfort on which stand the remains of stone-walled structure. The entrance is also close to the current fence line, with a gate into the adjacent field 33m to the north-west. It may be these earthworks which were recorded in the NMP and interpreted as a possible post-medieval trackway.

Interior features

There is ridge and furrow in the interior of the hillfort, in addition to the long mound. Additional features recorded as part of this survey include two mounds which do not survive well as earthworks, and a platform terraced into the western interior side of the inner rampart.

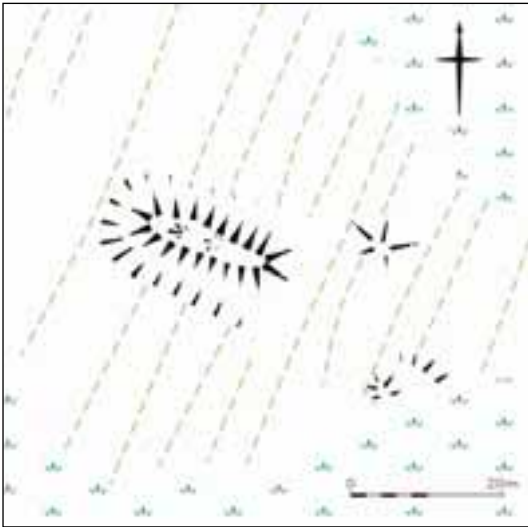


Fig 14: Survey plan of interior mounds. 1:1000 scale.

The long mound

The long mound is situated slightly to the west of the centre and is surrounded on three sides by a shallow ditch. The oblong earthwork measures $\approx 22.5\text{m}$ by 9m and its height varies between 0.5 and 1.0m . The ditch is no more than 0.2m deep and is barely traceable. Two sub-circular depressions have been recorded on the top of mound, both of $\approx 2\text{m}$ diameter, with one of these appearing to have a linear feature extending from it towards the edge of the mound. It is possible that these are the result of collapsed interior hollows relating to the function of the mound, or of later disturbance.

Folklore suggests that the long mound is a burial mound, having taken the name 'Giant's Grave', and less commonly 'King Arthur's Grave'. It is said that the Warbstow Giant was buried here after being defeated by the Giant of Beacon (HER PRN 2156.02). Other stories suggest that it is the burial place of King Arthur, including R. S. Hawker's poem of Warbstow Barrow (1832) which provides a suggestion for the ancient secrets of Arthur which the hillfort may hold.

However, the ridge and furrow underlies the long mound, providing conclusive evidence for a date later than early medieval, indicating that it is most likely to have been a pillow mound (or artificial rabbit warren) serving one of the nearby manor houses. This may provide a reason for the blocking of the south-eastern entrance. It is not unusual for pillow mounds to be constructed within hillforts; examples include two pillow mounds at Burhill hillfort, Gloucestershire (NRHE UID 328049), and five at Pilsdon Pen hillfort, Dorset (NRHE UID 193120). However, it is of significance that this is one of very few pillow mounds which were constructed within hillforts in Cornwall, another example being Largin Castle, Broadoak (NRHE UID 432647). The size of the pillow mound would suggest that it was constructed purely for personal use by one of the nearby manor houses (Fentriggan or Downinney) as opposed to commercial gain, which indicates a medieval rather than a later date.

Other internal features

Nine metres to the east of the long mound is the slight earthwork of a circular mound of 9m diameter. The earthwork rises only 0.1m-0.2m above the surface and has not been noted in any of the previous work on Warbstow Bury. A further two earthwork mounds are situated 10.5m to the south; these are more linear in form and are untraceable where they continue beneath the bracken. One survives only as a slight east-facing scarp, while the other is a linear bank. Each is a maximum of c0.3m high. All three of the interior mounds overly the ridge and furrow, providing useful phasing information. Some accounts suggest that Warbstow Bury was one of many sites of high ground chosen to display a commemorative beacon to Queen Victoria on her Jubilee in 1887 (Royal Cornwall Gazette 20/06/1887, 7), which may relate to these earthworks.

Fifteen furrows have been recorded in the interior of the hillfort. In the most part, they are 5-6m apart and survive only as very faint earthworks. The bracken in the south-western part of the interior covers more furrows, which can be seen continuing to the edge of the ramparts on aerial photographs (e.g. NMR 18579/1 12-OCT-1999). The minimal earthwork furrows may suggest little more than a single ploughing phase.

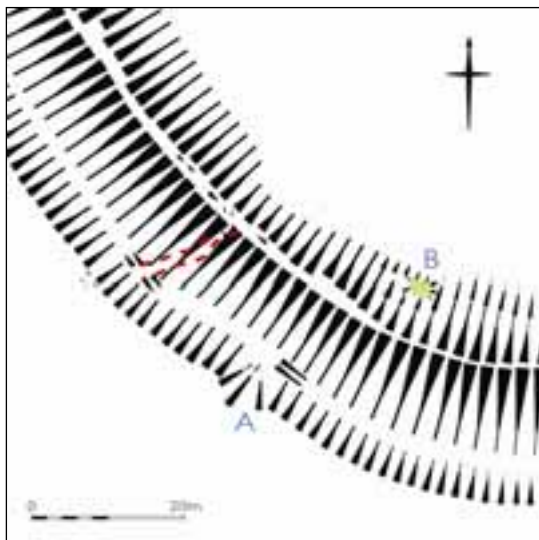


Fig 15: Survey plan of possible Second World War earthworks. 1:1000 scale.

RAF photographs (e.g. RAF/3G/TUD/UK/146 Vp4 5340-1 13-APR-1946) show a collapsing structure situated at the top of the inner rampart ditch in the south-west. This appears to be a concrete structure, which in later photographs has continued to collapse into the ditch, leaving what is now a slightly higher ditch bottom in this area, and a cut to the outer edge of the ditch (A, Fig 15).

It is just 5.9m west of a platform which has been terraced into the inner rampart on the interior side, with a cut through the rampart between them (shown as dashed red line, Fig 15). The rectangular platform, labelled B, Fig 15, measures 7.5m by 2.0m, with a small sub-rectangular depression cutting into its surface which is highlighted in green. From this

position, there is a good view of the north and east, as well as the coast at Lower Sharpnose Point – the former location of a Second World War Military Airfield.

It is reasonable to suggest that this platform was related to the small structure visible nearby, both of which have been constructed close to the substantial (but not original) entrance through the outer rampart with the stone gatepost (A, Fig 7), and are situated close to a cut in the inner rampart which would have allowed easy access between the two structures. However, this may be a later livestock track, and it is possible that the concrete structure may be related to the agricultural activities on the site.

A personal account offered by George Rundle (pers comm Mike Lewis via Ann Preston-Jones) reveals that during the Second World War there were two sentry posts on the hillfort; one in the north, and one in the south. It is likely that these features relate to the southern sentry post (E, Fig 7). A sub-rectangular cut into the northern part of the inner rampart may be explained by the position of the other sentry post (F, Fig 7).

Exterior features

Seventeen metres west of the north-west outer entrance are the remains of a stone-walled building. The surviving walls, no higher than 2m, are of stone resembling the type used for the wall at the south-east site entrance. Rubble from the walls surrounds the c5m by c8m building, which sits on a slight platform above the level of the footpath from the hillfort entrance.



Fig 16: The remains of the stone-walled building. Photograph by Mark Bowden © English Heritage

There are two symmetrical gaps in the centre of the shorter sides of the building, with hinges fastened into the adjacent stone, presumably to support doors, indicating that this

structure is likely to have been used to house livestock, feed, or farm vehicles. Aerial photographs show that the building was present in 1946 (RAF/3G/TUD/UK/146 Vp4 5340 13-APR-1946), but that the roof had become detached from the walls by 1987 (Fig 11).

Within the walls are fallen stones, corrugated iron sheets, and wire resembling that seen on the inner rampart side to maintain erosion. Corrugated iron sheets have also been noted at a few other locations across the site, in ditches and hidden in vegetation. These may be remains from one of the Second World War sentry posts although it is most likely that these are from agricultural buildings.

DISCUSSION AND CONCLUSION

The results of the survey and investigation of Warbstow Bury hillfort have provided a number of new insights into the site and its possible functions from prehistory to the Second World War.

Perhaps the most intriguing theory to be considered is the alternative chronology of the site which challenges previous interpretations. Forde-Johnston (1976) (among others) suggests that the form of the partial, middle rampart indicated that this was the final phase of construction at the hillfort, which was abandoned before the circuit could be completed. The new findings highlighted in this report show that the middle rampart in fact probably belongs to the first identifiable phase of activity on this site, in the form of a settlement enclosure or the very first phase of the hillfort. Indeed the shape of the ramparts mirrors the settlement earthworks at Tregeare Rounds, Pendoggett (see Forde-Johnston 1976, Fig 37), although on a very different scale.

Castle an Dinas hillfort in St Columb Major also shares a number of similarities with Warbstow Bury, including the smaller intermediate circuit. Wailes' excavation reports (1963; 1964; 1965) lead to the suggestion that the small circuit at Castle an Dinas was the earliest enclosure on the site, and Neolithic in date (HER PRN: 21602). However the results of a 2011 survey concluded that the form of this rampart (rampart 3) resembled an enclosure of late Bronze Age - early Iron Age date (Bishop 2011), though confirming that it was probably the earliest phase on the site. The similarities between the discussed circuits indicate that the middle rampart at Warbstow Bury may be of a similar date to that of rampart 3 at Castle an Dinas.

The construction of the inner rampart was much larger than its predecessor, and encompassed an entrance on the south-east with an internal work to control entry to the interior of the hillfort from the south-east, close to the road from Canworthy Water. It is possible that this phase also involved the strengthening of the outer ramparts by constructing a stone wall on the top of the bank. The position, the size of the ramparts, and the possibility that they were quartz-faced indicates that this site was meant to see, and be seen across the land to the south and east, and across the sea to the north. This would have encompassed a number of settlements and territorial boundaries, indicating that it was positioned to allow the observation and control of the landscape. If this was the purpose of Warbstow Bury in the Iron Age, it is reasonable to assume that its inhabitants held a position of status and power over those living in the surrounding settlements. This opposes the common theory that substantial hillfort ramparts were intended to defend the site, but in fact it is more likely that the ramparts were constructed to be what Cunliffe (1984, 30) describes as 'defensive characteristics for display, beyond the reasonable needs of defence'.

Although the view is not so extensive to the west, it is likely that most of the contemporary settlements, territorial boundaries, and water crossings in the wider

landscape would have been situated to the north-east around Canworthy Water, in view of the hillfort. This area is now populated by a village on the edge of Warbstow parish, where it meets the Warbstow exclave, and the parishes of Jacobstow and Tremaine. It is also where an unnamed stream, Exe Water and the River Ottery meet. It is likely that the hillfort was positioned to overlook Canworthy Water, as studies by Brown (2009, 198-9) have shown that 61 percent of hillforts situated around the Severn, Wye, and Usk Rivers were positioned to overlook river valleys, 10 percent to overlook river confluences, and 5 percent could have controlled an overland pass. Warbstow Bury would have been ideally situated to control these areas and the rivers which would have served as territorial boundaries with crossings to the wider landscape. It is clear that the River Ottery is a historical, or possibly ancient territorial boundary, as the *'tre'* place names are far more abundant to the south of the river than to the north. To the north, the River Neet is another boundary, with the prefix in use to the west of the river. In fact the few places which do not conform to this surround Ash Bury hillfort and the nearby settlement rounds. This is north-north-east of Warbstow Bury and the two hillforts would be inter-visible.

Hillforts are often placed in locations respecting or looking upon earlier monuments in the landscape, and Warbstow Bury is no exception. While its ramparts do not enclose any round barrows (in contrast to Old Winchester Hill hillfort, Hampshire, Eggardon Hill, Dorset, among many others), a large number of prehistoric round barrows line the surrounding high ground in the distance. It is likely in some cases that the ideal location for the hillfort coincides with the location of a round barrow on a hilltop, but in other cases it may be that there remains some respect for these monuments, perhaps being presumed to have been constructed by the ancestors of the hillfort builders (Bowden & McOmish 1987, 80).

After the abandonment of the hillfort, the site is unlikely to have been used frequently for anything more than the summertime grazing of sheep in the early medieval period, which would have been led to the uplands from Warbstow village via the hollow way originating at Church of St Werburgh. It was later in the medieval period that the interior of the hillfort was ploughed, perhaps just for one or two seasons, either to grow crops, or to prepare the land for the placement of a pillow mound. It may be that after a few years of poor crops due to bad weather and other factors, there was a change of land-use to more appropriate rabbit breeding.

The closest known medieval manor house sites are Downinney and Fentrigan; both c0.8km from Warbstow Bury as the crow flies. Downinney (or Donnenny) is situated south-east of the hillfort, with the most straightforward route to the hillfort being toward the church and onto the hollow way. Fentrigan (or Ventrigan) lies west of the hillfort just beyond the hill neighbouring Warbstow Bury. The Parliamentary Survey of the Duchy of Cornwall (Pounds 1984, 39) shows that the bounds of the manor would have encompassed the hillfort, as the land to the south and east extended to the road from Canworthy Water, which is very likely to have been in a similar position as it is today. It is

therefore probable that the pillow mound was constructed for the use of Fentrigan manor, which gives another possible purpose for the earthwork interpreted as a post-medieval trackway leading westward from the hillfort by the NMP.

The other, more minor earthwork mounds in the interior of the hillfort are difficult to interpret but may be explained by the placement of a beacon commemorating Queen Victoria's Jubilee in 1887, which would have been later than the adjustments to the south-west outer ramparts for use as field boundaries. These may be contemporary with the addition of stone gateposts, fences, and the barn outside the north-west entrance.

The captivating stories of the Home Guard on Warbstow Bury given by Mr Rundle indicate that there were two sentry posts on the hillfort; one in the north facing Canworthy Water, and one in the south facing towards Plymouth. These were manned each night by two members of the Warbstow Home Guard, with a tommy gun and a machine gun, awaiting the approach of enemy aircraft. Mr Rundle recalls the searchlights as far as south Wales being visible in the distance. This highlights how the location of Warbstow Bury was perfectly situated to view the landscape. The earthworks confirm the position of the sentry posts, which were terraced into the interior of the inner rampart.

FURTHER WORK

Warbstow Bury hillfort would certainly benefit from further research after the questions which have been raised from the outcomes of this survey and investigation. A request for a geophysical survey has been made (but not yet confirmed) to determine any underlying features which may contribute more to the site interpretation. It may help to determine whether there was a ditch accompanying the slight earthwork of the middle rampart which continues past the inner entrances; this would provide more evidence for the phasing suggested in this report, as well as additional information on the construction techniques used on Cornish hillforts. Geophysical survey results may also show any features relating to the internal work at the south-east entrance and any structures within the hillfort.

Furthermore, the waterlogged ditches may contain well preserved deposits which could be significant in the dating of the hillfort and recovering material for studying past environments. Although intrusive, the minimal disturbance of a series of cores into the ditches may be the most favourable way to examine the deposits for dating and environmental evidence.

While the aerial investigations of Canworthy Water did not produce any evidence of prehistoric activity, it may be of interest to examine the landscape in the area from the ground for any features which were not determinable from the available aerial photographs. The results may provide clues to the positioning of the hillfort which looks directly toward this location.

An investigation of Ash Bury hillfort may be useful to determine any similarities that it may have with Warbstow Bury; such as the presence of quartz indicating a potential quartz-faced rampart, or the presence of any intermediate ramparts representing earlier phases of construction at the site. Any comparable characteristics would be significant as the two hillforts are inter-visible, but possibly within different territories divided by the River Ottery at Canworthy Water.

METHODOLOGY

Warbstow Bury hillfort, Warbstow, has been the subject of an in-depth survey and investigation. The earthwork survey took place in October 2013 using Trimble R8 survey grade GNSS receivers working in Real Time Kinematic (RTK) mode, with points related to an R8 receiver configured as an on-site base station. The position of the base station had previously been adjusted to the National Grid Transformation OSTN02 via the Trimble VRS Now Network RTK delivery service. This uses the Ordnance Survey's GNSS correction network (OSNet) and gives a stated accuracy of 0.01-0.015m per point.

The data was downloaded and transferred into AutoCAD 2008 to print at a scale of 1:1000. Additional detail was added to this by hand in the field using tape and offset from previously positioned control points. The completed survey was imported to a project GIS and Adobe Illustrator for analysis and illustration.

Desk-based survey involved a review of the aerial survey of the area which was conducted as part of the NMP. The areas re-assessed were the four square kilometres which surround Warbstow Bury, and the same area surrounding Canworthy Water. Visits to the Cornwall Record Office and Cornwall HER, Truro, provided additional background detail on the history of Warbstow, with insightful personal accounts from residents of Warbstow obtained through Ann-Preston Jones (Heritage at Risk Project Officer, Cornwall).

The process of this project has also provided training for Heritage Environment Placement holder Zoe Edwards.

Table 1: The monuments surveyed.

<i>Monument Name</i>	<i>Monument Type</i>	<i>NRHE UID</i>	<i>Cornwall HER number</i>	<i>SAM number</i>
Warbstow Bury	Hillfort	436584	2156	1006710
Giant's Grave	Pillow mound	436587	2156.02	-

The monument records for the two monuments surveyed have been updated in the English Heritage database for historic monuments (NRHE). The survey has been archived at English Heritage's public archive at: The Engine House, Firefly Avenue, Swindon, Wiltshire, SN2 2EH.

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APPENDIX I: KEY PHOTOGRAPHS, MAPS, AND DOCUMENTS

Photographs

Vertical Photographs

Sortie Number	Library Number	Frame Number	Date Flown	Film Held By
RAF/3G/TUD/UK146	15390	5340	13-APR-1946	NMR

Oblique Photographs

Film and Frame Number		Date Flown
NMR 18579	/1	12-OCT-1999
CCR 5122	/81	22-APR-1987

Maps

Accessed at the Cornwall Record Office

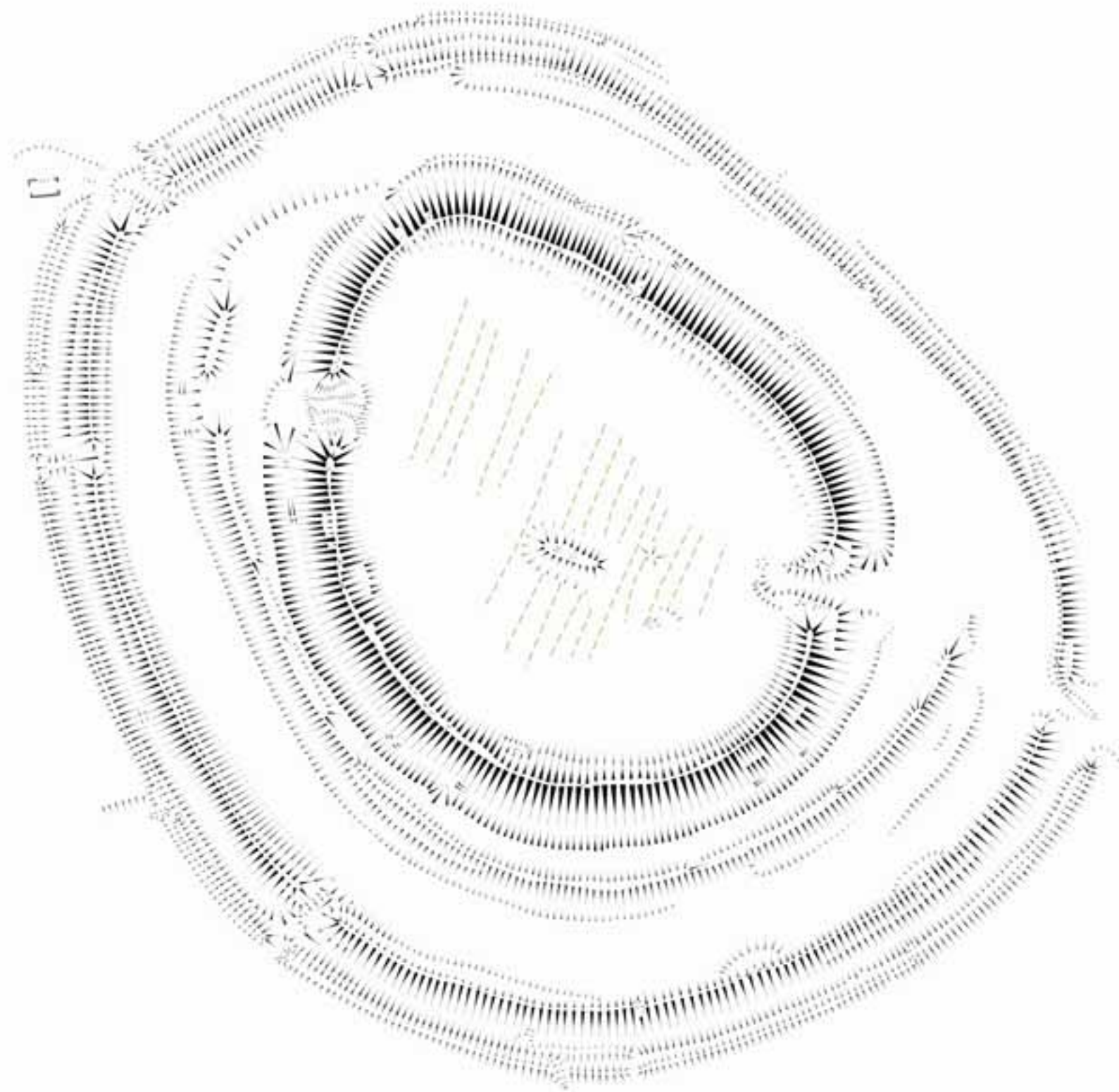
FS/3/901/29/3	Ordnance Survey sheet 28, Kilkhampton to St Stephen by Launceston, 1803-1807
TM/246	Tithe map of Warbstow, by Jonathan Kittow, 1841
TA/246	Warbstow tithe apportionment

Documents

From the Cornwall HER

ER527	Summary report for a watching brief conducted by Exeter Archaeology during the extension of a water pipeline south of Warbstow Bury in July 2002
114204	A letter from the Cornwall Archaeology Unit to the Council, containing the conservation management plan for Warbstow Bury. June 1987.
113815	A letter from the Cornwall Archaeology Unit, praising the progress on the hillfort in response to the conservation management plan. May 1990.

APPENDIX 2: WARBSTOW BURY HILLFORT PLAN
(1:1500, reduced from 1:1000)



- Ridge and furrow
- Structure (19/20th century)





ENGLISH HERITAGE RESEARCH AND THE HISTORIC ENVIRONMENT

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The Heritage Protection Department provides English Heritage with this capacity in the fields of building history, archaeology, archaeological science, imaging and visualisation, landscape history, and remote sensing. It brings together four teams with complementary investigative, analytical and technical skills to provide integrated applied research expertise across the range of the historic environment. These are:

- * Intervention and Analysis (including Archaeology Projects, Archives, Environmental Studies, Archaeological Conservation and Technology, and Scientific Dating)
- * Assessment (including Archaeological and Architectural Investigation, the Blue Plaques Team and the Survey of London)
- * Imaging and Visualisation (including Technical Survey, Graphics and Photography)
- * Remote Sensing (including Mapping, Photogrammetry and Geophysics)

The Heritage Protection Department undertakes a wide range of investigative and analytical projects, and provides quality assurance and management support for externally-commissioned research. We aim for innovative work of the highest quality which will set agendas and standards for the historic environment sector. In support of this, and to build capacity and promote best practice in the sector, we also publish guidance and provide advice and training. We support community engagement and build this in to our projects and programmes wherever possible.

We make the results of our work available through the Research Report Series, and through journal publications and monographs. Our newsletter *Research News*, which appears twice a year, aims to keep our partners within and outside English Heritage up-to-date with our projects and activities.

A full list of Research Reports, with abstracts and information on how to obtain copies, may be found on www.english-heritage.org.uk/researchreports

For further information visit www.english-heritage.org.uk

