



Historic England

Investigation and Analysis

Tennyson Down, Totland, Isle of Wight

Analytical earthwork and aerial survey

Mark Bowden, Elaine Jamieson and Helen Winton

Discovery, Innovation and Science in the Historic Environment



TENNYSON DOWN
TOTLAND
ISLE OF WIGHT

Analytical earthwork survey and aerial survey

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NGR: SZ 325 853

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SUMMARY

Earthworks on the high chalk ridge of Tennyson Down close to and just to the east of Tennyson's Beacon or Monument in Totland parish, Isle of Wight, were surveyed by English Heritage Assessment Team West (now part of Historic England). Aerial photographs and airborne laser scanning data (lidar) were examined to assess archaeological features and landscape change in the immediate vicinity of the surveyed earthworks. These earthworks have been known in part for some time but it was only when lidar was studied in 2014 that it became clear that apparently disconnected features were in fact part of an oval enclosure, one sector of which was then concealed within dense scrubby woodland. The woodland was cleared off the earthworks during the autumn and winter of 2014. The earthworks comprise at least three main phases of activity; the first phase consists of an oval enclosure, the second a field system and the third a complex of more recent activity, some of which may almost certainly be attributed to the 20th century (and more specifically perhaps to the Second World War). The reason for undertaking survey was not only the considerable importance of the site in archaeological terms, once its true nature had been identified, but the imminent danger to the site from cliff erosion, which has already claimed a substantial but unknown portion of the enclosure.

CONTRIBUTORS

All fieldwork, transcription and research was undertaken by the authors. Aerial photography was undertaken by Damian Grady. The location and earthwork survey drawings were prepared for publication by Phil Sinton. Helen Winton produced the illustration of the air photo mapping.

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ARCHIVE LOCATION

The Engine House, Swindon

DATE OF SRVEY

Field survey was undertaken 2nd-6th March 2015 and air photo mapping and analysis in late March 2015.

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INTRODUCTION

Earthworks on the high chalk ridge of Tennyson Down close to and just to the east of Tennyson's Beacon or Monument (at SZ 325 853) in Totland parish, Isle of Wight, were surveyed by English Heritage Assessment Team West (now part of Historic England) at 1:1000 scale in March 2015, on behalf of the National Trust. Aerial photographs and airborne laser scanning data (lidar) were examined to assess archaeological features and landscape change in the immediate vicinity of the surveyed earthworks.



Figure 1 Location map.

These earthworks have been known in part for some time and had been marked as a possible causewayed enclosure by David Tomalin (Gary Marshall pers comm) but it was only when lidar was studied in 2014 that it became clear that apparently disconnected features were in fact part of an oval enclosure, one sector of which was concealed within dense scrubby woodland. The woodland was cleared off the earthworks during the autumn and winter of 2014.

The earthworks comprise at least three main phases of activity. Only a few features can be absolutely dated, even approximately, but the relative

chronological sequence is clear; the first phase consists of an oval enclosure, the second a field system and the third a complex of more recent activity, some of which may almost certainly be attributed to the 20th century (and more specifically perhaps to the Second World War). The reason for undertaking survey was not only the considerable importance of the site in archaeological terms, once its true nature had been identified, but the imminent danger to the site from cliff erosion, which has already claimed a substantial but unknown portion of the enclosure. It is of some interest that the immediate section of the cliff here is named 'The Nodes' on historic OS maps, probably suggesting that large stacks or knobs of chalk once existed here but have been destroyed by the sea; Sabine Baring-Gould (though writing of Iceland) referred to a 'huge node of crag, which is now nearly severed from the cliff' (1863, 136), which shows that 'node' could bear this meaning.

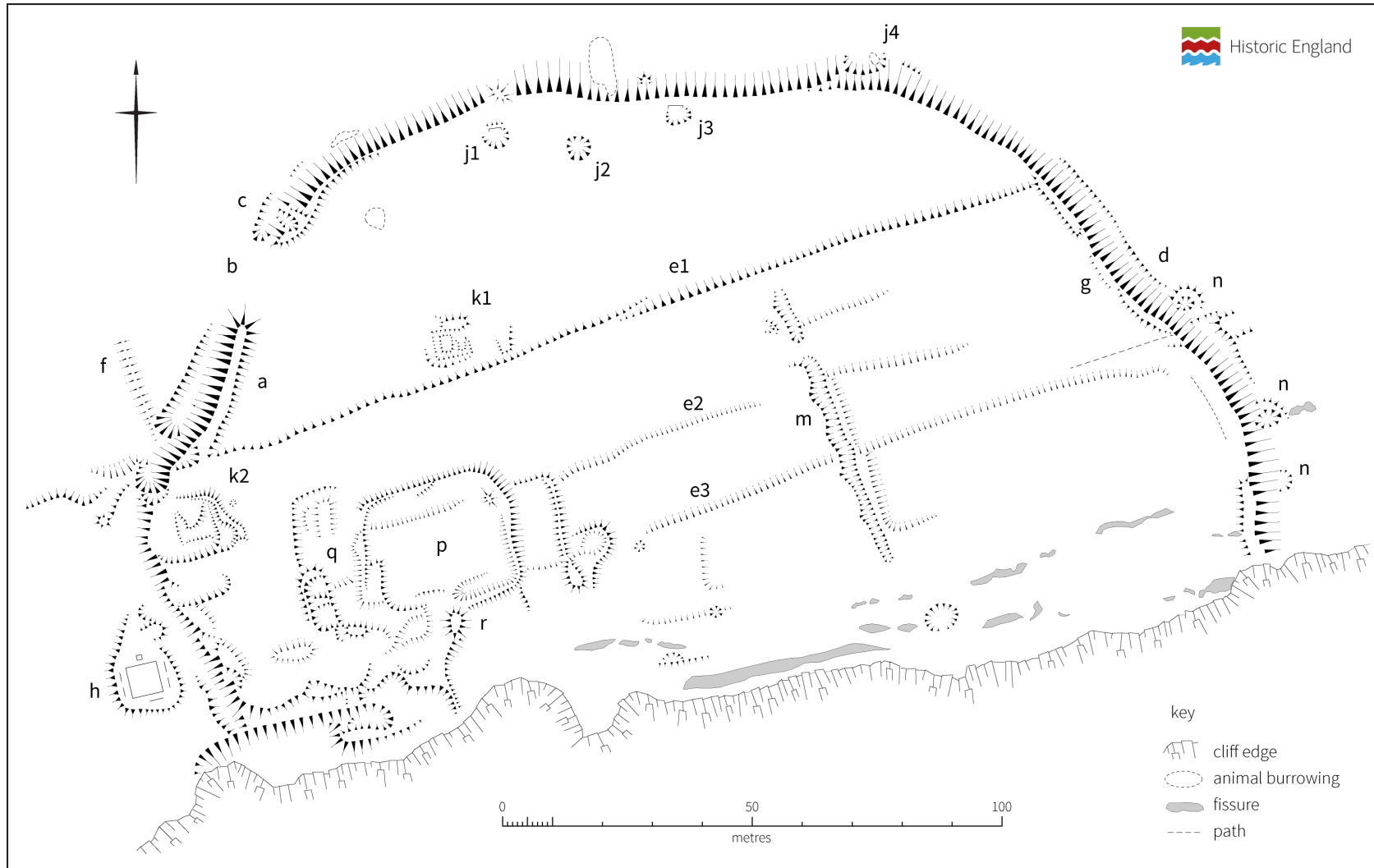


Figure 2 Analytical earthwork survey, reduced to 1:1250 from the original survey scale of 1:1000.

ANALYTICAL EARTHWORK SURVEY: DESCRIPTION OF THE EARTHWORKS

Phase 1

The main earthwork comprises an oval enclosure defined by a bank and external ditch, an unknown portion of which (but possibly up to almost half) has been lost by cliff erosion. The plan of the enclosure is not a regular oval; it is somewhat angular on the west side and includes some slight re-entrants. The bank survives around the whole of the remaining circuit, though for much of its length it is visible only as an outward-facing scarp, and is up to 1.5m high maximum externally, 0.4m high internally. The ditch survives as a visible feature only for relatively short lengths on the east and west sides and is nowhere more than 0.3m deep externally; no doubt it survives as a sub-surface feature to the north but has been covered by hillwash. The best preserved section of the enclosing earthworks is on the north-west side (a) where for a distance of about 30m the bank stands 1.5m high externally and 0.4m internally, fronted by the ditch surviving 0.2-0.3m deep. Elsewhere the bank survives only 0.8-1.2m high. The reason for the differential survival of the enclosing bank may be attributed at least in part to activity in subsequent phases.



Figure 3 The best-preserved section of earthwork (a), viewed from the north-west; entrance (b) is at the extreme left. Mark Bowden © Historic England.

A gap in both bank and ditch on the north-west perimeter (**b**), immediately adjacent to the best preserved sector of the bank, might represent an original entrance, though it is rather wide at over 10m; the bank and ditch on either side seem to have well-formed terminals. A trench cutting into the front face of the bank just to the north-east of this gap (**c**) looks like an antiquarian excavation, in which case it is apparently unrecorded; the trench is less than 0.5m deep and has a slight bank of spoil, no more than 0.3m high, on its north-eastern flank. There are no other gaps in the surviving circuit but there is possibly a blocked entrance on the east side where there is a slight re-entrant in the line of the enclosing earthworks and there are bull-nosed ends to the inner scarp of the bank with a lower scarp between them (**d**). If this was an entrance it would have been somewhat narrower than that at (**b**).

The enclosed area contains many earthwork features but none that could be construed as being contemporary with the enclosure earthwork.

Phase 2

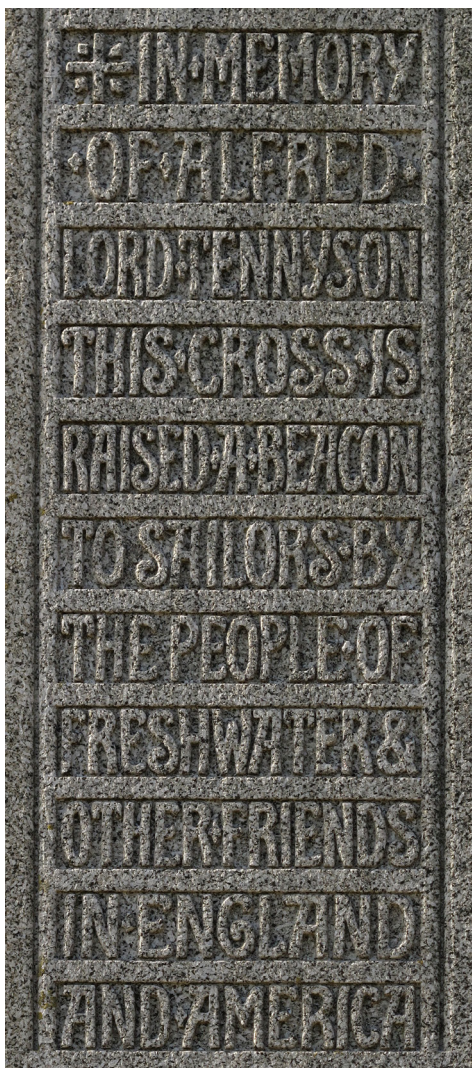
At some point after the abandonment of the enclosure a field system seems to have been laid out across its site. This consists only of a series of slight banks and lynchets. At least three east-north-east to west-south-west aligned lynchets (**e1**, **e2** and **e3**) cross the site and in some cases can be seen to overlies the earlier enclosure, though nowhere is the relationship entirely clear. The northernmost lynchet (**e1**) is the most substantial and stands up to 0.5m high; the others are slighter and nowhere more than 0.3m high. At least one north-south bank (**f**), surviving about 0.2m high, is visible immediately to the west of the enclosure but it is possible that in some places the earthworks of the enclosure itself were utilised to form north-south elements of the system; this might account, for instance, for the survival of short lengths of backscarp (**g**) to the enclosure bank on the east side between two of the lynchets (coincidentally on either side of the postulated blocked entrance (**d**)). The best preserved enclosure earthworks at (**a**), on the north-west side, may owe their preservation to different land use within one field here. Lynchet (**e1**) can be seen extending beyond the enclosure to the west for some distance but not to the east (though aerial photographic evidence suggests that it did extend for a short distance in that direction). The other lynchets seem to be confined to the area of the enclosure.

Phase 3

This phase incorporates all other earthworks on site, which where they are in relationship with the enclosure or field system are always later, though they are certainly not all contemporary with one another. For instance, there is a low plinth surrounding Tennyson's Monument (**h**), which is presumably associated with the erection of that Monument or is the remains of the mound supporting the former beacon, which is shown on the 1st and 2nd edition OS 25" maps. Others, as noted, are possibly or certainly of Second World War date. A series of four hollows on the

northern flank of the site (**j1**, **j2**, **j3** and **j4**) are up to 0.5m deep maximum; at least two of these (**j1** and **j3**) contain concrete platforms 2.45m long. One, and perhaps two, layouts of trenches lie higher up the slope forming tight rectangular arrangements (**k1** and **k2**); of these (**k1**) is the better preserved, consisting of sharply defined trenches while (**k2**) is rather spread and amorphous. Faint traces of an anti-glider trench (**m**) survive no more than 0.2m deep. (Other glider trenches on site, visible on historic aerial photographs, are no longer clearly distinguishable on the ground due to subsequent erosion by tracks and paths – see aerial survey section below – but others further to the east on the slope of the down are still clearly visible).

The other features of this phase are harder to understand. They include small holes not much more than 1m across and 0.3m deep (which might also be of military origin) and amorphous mounds and hollows (**n**) no more than 0.4m in maximum elevation; three of these are in the ditch bottom to the east of the site. There is also an arrangement of very low rectangular earthworks (**p**), up to 0.3m high, on the summit of the Down close to the Monument and just within the western side of the enclosure.



Some of these rectangular features (**q**) could be interpreted as building platforms but they seem to be connected with the more amorphous features. It is worth noting that one of the amorphous, approximately oval, mounds (**r**), which is 0.4m high, has in the past been interpreted as a round barrow (NMR: SZ 38 NW 53).

The only other features visible on the surface are erosion features, naturally-forming fissures and scarps close to and parallel with the cliff edge, and damage by burrowing animals.

Figure 4 The inscription on Tennyson's Monument.
Mark Bowden © Historic England.

AERIAL PHOTO INTERPRETATION AND MAPPING

Aerial photographs and airborne laser scanning data (lidar) were used to identify and map archaeological features in the area around the analytical earthwork survey. Aerial photographs provided a record of the whole area at intervals since the 1940s and the area to the west of Tennyson's Monument is recorded on a 1926 aerial photograph. The best illustrations of the site from the air are English Heritage aerial photographs taken on 31st October 2014 (Fig 5).



Figure 5 The enclosure from the air. Note the scrub clearance along the edge of the woods. EHA 29201_36 31-OCT-2014. Damian Grady © Historic England.

The repeated aerial photographic cover and online sources (Google Earth mainly) recorded the many paths and tracks caused by walkers and vehicles since the 1940s. The photographs also recorded minor changes to the cliff and some changes to the scrub and woodland to the west and north of Tennyson's Monument.

As previously mentioned, examination of lidar data drew attention to the fact that the more substantial earthworks formed part of an enclosure that extended into the woodland to the north. As part of the aerial photographic and lidar survey described here, multiple visualisations of the Environment Agency 1m digital terrain model (DTM) lidar data were created to aid interpretation of the earthworks beyond the area surveyed on the ground. The 16-direction hill shade visualisation provided an accurate model and good basic overview of earthworks on Tennyson Down (Fig 6).

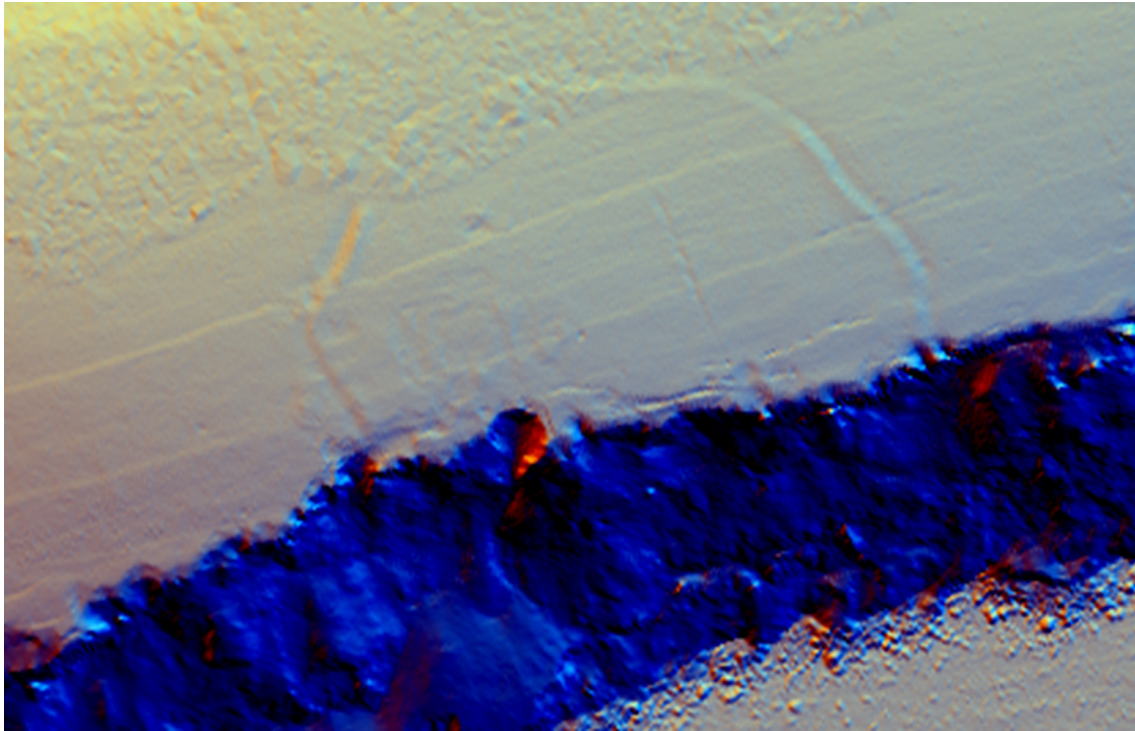


Figure 6 A 16-direction hill shade visualisation of lidar data. Source data: SZ2385_DTM_1m Environment Agency 2009 copyright 2015. All rights reserved.

The mapping from aerial photographs and lidar shows that some of the Phase 2 field banks (e1, e3 on the earthwork plan) extend to the east and west of the main enclosure. The numerous modern paths which criss-cross the area show as changes in vegetation and in some places as slight scarps. The slight scarps equating to paths were mapped from various sources so they could be discounted as archaeological features.

The English Heritage Archive has an aerial photograph of the area to the west of Tennyson's Monument taken by RAF No. 10 Group on 2nd March 1926 that was acquired by OGS Crawford for his collection. This aerial photograph records the earthworks of an oval enclosure surrounding two Bronze Age burial mounds (National Record of the Historic Environment Monument (NRHE) 459416, National Heritage List for England 1010511, 1015623, Scheduled Monument Old County Numbers I of W 31a and 31b). The enclosure is not visible on later aerial photographs or lidar, nor in the Historic England or National Trust monument records. It is not clear if any remains still survive above ground although the round barrows survive as earthworks.

The round barrows were investigated by the Reverend John Skinner in 1817 who recovered a cremation burial in an urn from the larger of the two barrows and a smaller urn containing charcoal from the smaller mound (Grinsell and Sherwin 1940, 194). Ordnance Survey Archaeology Division Field Investigators visited and reported on the barrows in 1955, 1967 and 1971, including a 1:2500 scale survey in 1967 (information from NRHE Monument 459416). None of the investigations of

the barrows mentions a surrounding enclosure but it is possible the earthworks of the enclosure were too low to be noted or had been levelled by the 1950s. Grassland improvement and scrub clearance may have levelled the earthwork but a field visit is required to see if any traces remains. The dates of the oval enclosure are unclear and it could be relatively late in date, perhaps a post medieval tree enclosure ring, but prehistoric origins should not be ruled out.

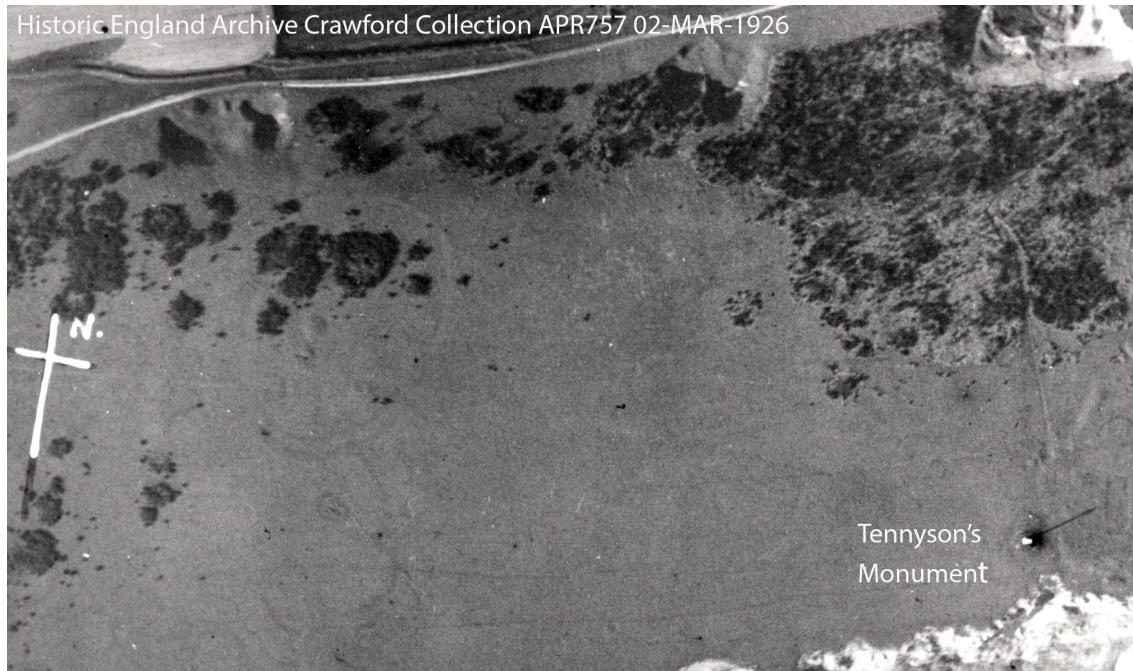


Figure 7 The enclosure surrounding the barrows to the north-west of Tennyson's monument. Extract of SZ3285_1 X721 CCC APR757 02-MAR-1926 English Heritage Archive Crawford Collection.

The Historic England Archive aerial photographs record Tennyson Down before and after construction of Second World War aircraft obstructions that, from the dates of photography, were built between late July and early September 1940. These obstructions were a relatively common defence type during the Second World War and are sometimes called anti-glider ditches. They were usually laid out over flat ground near the coast or areas felt to be vulnerable to invasion from the air.

The aircraft obstructions had various forms, usually linear arrangements of ditches, mounds or poles, and were intended to impede landing of enemy aircraft. On Tennyson Down, the obstructions varied slightly in length and form but were laid out, perpendicular to one another, at fairly regular intervals. They comprised short lengths of ditch, measuring 5-7m, flanked by mounds of chalky spoil to form obstacles measuring between 60m and 120m (Fig 8).

Numerous Second World War aircraft obstructions were constructed along the cliff top westwards from Freshwater Bay towards Tennyson Down. In the years since the war, most of the obstructions were gradually eroded and semi-levelled by walkers, vehicles and grassland management.

There were two Second World War anti-landing obstacles east of Tennyson's Monument within the area surveyed on the ground and these were mapped from aerial photographs (Fig 9). The best preserved of the two (**m** on the earthwork plan Fig 2) extends NNW-SSE across the field banks in the eastern end of the main enclosure (left hand obstacle on Fig 8). The second obstacle, now virtually indistinguishable on the ground, was perpendicular to the other, and extended across the eastern bank of the main enclosure (right hand obstacle on Fig 8). Two further aircraft obstructions were mapped from aerial photographs, either side of the area surveyed on the ground (Fig 9), and they survive as low earthworks.



Figure 8 A military oblique aerial photograph of the area to the east of Tennyson's Monument showing the Second World War anti-landing obstacles overlying the earlier earthworks. RAFS454 H53 1416 29-AUG-1941 Historic England RAF Photography.

Small areas of disturbed ground, probably military in origin, were seen on 1940s aerial photographs and corresponded to several features identified during the ground survey, as described in the Phase 3 earthworks summary above (annotated **j** or **k** on the plan Fig 2). Two possible thin curving banks on the edge of the woods and on either side of the banks defining the north-west part of the earthwork enclosure are probably military in origin ('uncertain features' on Fig 9). The grassland on Tennyson Down was (and still is) covered in irregular curvilinear dark marks where lush grass is growing over fungus. These features, sometimes called fairy rings, can be confused with archaeological remains but the varying size and slight irregularities in shape help to identify their true origin.

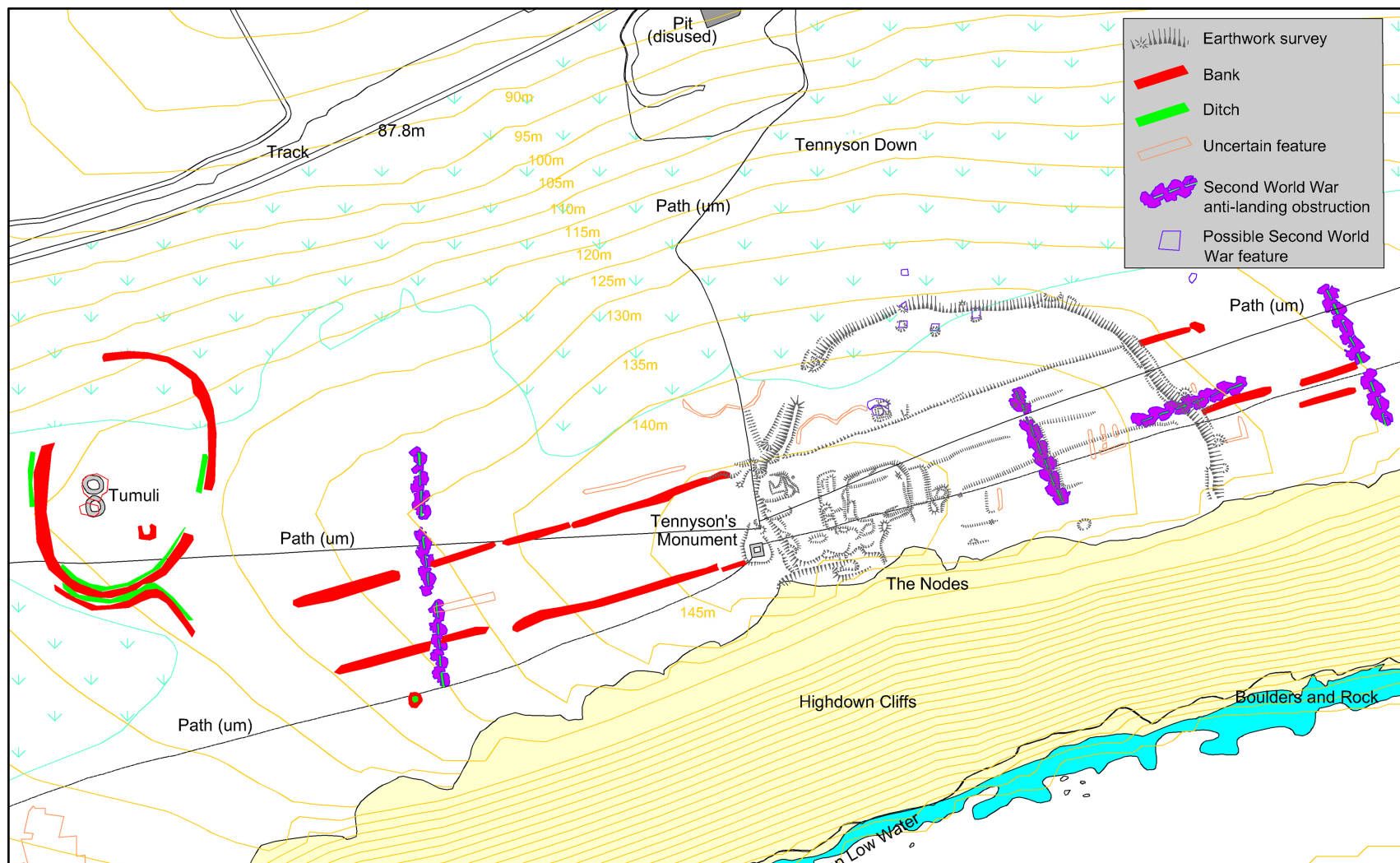


Figure 9 Map of archaeological features seen on aerial photographs and lidar in relation to earthwork survey. Base map © Crown Copyright and database right 2015. All rights reserved. Ordnance Survey Licence number 100024900.

DISCUSSION

Location

Tennyson Down is a prominent natural feature, dominating the extreme western end of the Isle of Wight, which is almost cut off from the remainder of the island by the low-lying ground between Yarmouth and Freshwater Bay. It was formerly known as High Down. The western earthworks of the enclosure occupy the summit of the down, so that the enclosure interior slopes gently to the east; the site has a deliberately chosen eastern aspect, facing Compton Down with its extensive barrow group.



Figure 10 Tennyson Down is the highest point beyond the low ground which lies to the right behind Freshwater Bay and extends to Yarmouth; streaks of clean white chalk indicate recent cliff falls. Mark Bowden © Historic England.

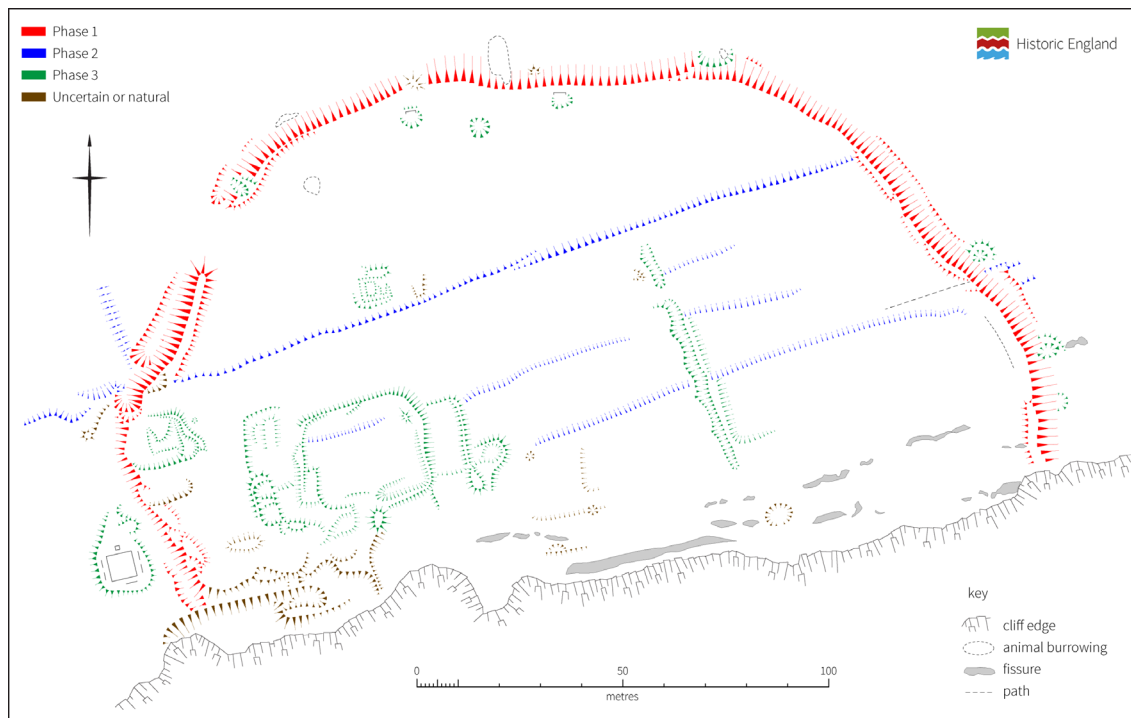


Figure 11 Phase plan of the earthworks.

The enclosure

It has been suggested that this is a Neolithic causewayed enclosure. Close investigation, however, reveals that the hollows in the ditch (**n**) that suggest that it is causewayed are all, without exception, the result of later disturbance. While the possibility that this is a Neolithic enclosure cannot be ruled out, it is more likely to be a later prehistoric feature, probably of late Bronze Age or Iron Age date. There can be little doubt, however, that it is of prehistoric origin. There are some possible parallels amongst dated or presumed early-middle Iron Age enclosures in southern England, such as for instance the earlier enclosure within Banwell Camp, Mendip (Jamieson 2015, 100-3), the earlier enclosure within Yarnbury Castle, Wiltshire (Cunnington 1934; NMR: SU 04 SW 6), and possibly The Frith 'hillfort', Pond Farm, Hampshire; the latter site even appears to have had, in one phase, an exceptionally wide west-facing entrance (Bowden 2015).

One historic aerial photograph from the Crawford Collection and dating to the 1920s (when the Down was almost entirely clear of scrub woodland) shows another oval enclosure just to the west of and surrounding the barrows (NRHE Monument 459416, NMR: SZ 38 SW 19) that were excavated by the Rev John Skinner in the early 19th century. The enclosure does not seem to survive as an earthwork into the post war period but there is no clear explanation of why or how it may have been levelled, when compared to other earthworks nearby. The

date of this enclosure is also uncertain and could range from the prehistoric to the post medieval period. The enclosure was only identified on the aerial photographs after the field survey of the main enclosure was completed and so the site has not been examined on the ground. Further investigation, aerial or ground based, could determine if any remains survive as very low earthworks, or as sub-surface features.

The field system

This is difficult to date, apart from the fact that it is later than the enclosure and apparently earlier than all other features on site. It does not look like a classic 'Celtic' field system but nor does it look obviously medieval. It is revealed largely as lynchets, which suggests some soil disturbance with material moving downslope and coming to rest against – presumably organic – field boundaries. However, as noted above, it is possible to argue that the best preserved section of enclosure earthworks is lying within the corner of one field that has seen less disturbance. A curiosity of this 'system', however, is that with the exception of the more substantial lynchets (**e1** and **e3**) and the slight bank (**f**) none of its elements seem to project beyond the enclosure. It is difficult to account for this.

Military remains

There is a scatter of small earthworks that are almost certainly of 20th-century date and which can be plausibly attributed to military activity, mainly during the Second World War. The hollows with concrete bases (**j**) were perhaps for small huts (the 2.45m length of the concrete bases is almost precisely equivalent to 8ft); some possible structures in this area are marked on the 4th edition OS 1:10560 map; however, aerial photographs suggest that these were not built before the War. There are trenches (**k**) which might be observation posts or machine gun positions. There are clearly anti-glider trenches (**m**) and there are also small hollows with spoil heaped around them (**n**), sunk into the enclosure ditch bottom and therefore below the skyline formed by the enclosure bank, which are possibly foxholes or slit trenches. Local information indicates that the Home Guard was active on the Down and that there was, somewhere on the Down, one of a series of triangulation stations for ascertaining the positions of floating mines in the western Solent.

Other remains

The other remains cannot be attributed to any precise date or purpose with certainty though where relationships are apparent they are all later than the field system. The main group is on the summit of the Down close to the Monument. In another location the rectangular arrangements (**p**, **q**) might be

seen as building platforms and a yard but this is an unlikely location for a farmstead or anything similar. Any building or buildings here could only be associated with a maritime purpose such as coastguards, other maritime look-outs or beacon maintenance. No cartographic or documentary information for such a use has been found.

Another aspect of these earthworks, however, is their apparent association with a group of more amorphous curvilinear features; as noted above, one of the mounds (**r**) has been interpreted as a round barrow but it is probably too small and its close association with so many other earthworks makes this attribution unlikely. Taken together, these features look like golf course obstacles and it could be that the large, sub-rectangular, flat yard-like area (**p**) is a green and that the building platform-like features to its west (**q**) are tees. 'Golf Course' or 'Golf Links' is noted on all OS mapping from the 2nd edition to the 4th edition some distance to the west of the Beacon but at no time is there any indication that the golf course occupied the area immediately around the Beacon, so this attribution may not be correct.

Only the 4th edition 1:10560 map (1919-1939) shows what might be structures close to the Beacon – a scattered group of four rectangles, three downslope (near the concrete bases noted above) and one near the summit. If these are structures the one near the summit might account for one of the features described here as amorphous and curvilinear (and possibly the one previously recorded as a barrow), which would need to be reassessed. Otherwise the maps show only old chalk quarries and paths; even the barrows to the west excavated by Skinner are not shown before the modern maps.

METHODS STATEMENT

Field survey

Control points and detail were surveyed using a Trimble R8 survey-grade GNSS receiver working in Real Time Kinematic mode (RTK) 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 survey data was downloaded into Korec's Geosite software to process the field codes and the data transferred to AutoCad software for plotting out on to polyester drawing film at the elected scale of 1:1000 for graphical completion in the field.

Some additional archaeological detail was supplied using standard graphical techniques of offset and radiation from the temporary control network of pegs previously located with the GNSS and plotted.

The survey plan was completed for this report at 1:1000 scale using digital drawing techniques in Adobe CS2 software. Additional report illustrations were prepared using Adobe CS2 software.

Aerial Survey

All aerial photographs available from the Historic England Archive and Cambridge University Collection of Aerial Photography were consulted. Online sources included Channel Coastal Observatory (aerial photographs and lidar), Google Earth and Microsoft Bing. Environment Agency airborne laser scanning data (lidar) was supplied by Geomatics as ASCII Digital Terrain Model (DTM) and Digital Surface Model (DSM) data. Multiple visualisations of the EA lidar data were created using the Relief Visualization Toolbox (RVT) developed by the Institute of Anthropological and Spatial Studies of the Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU) funded through the Slovenian Research Agency and ArchaeoLandscapes Europe project (Kokalj, et al 2011). <http://iaps.zrc-sazu.si/en/rvt#v>

Oblique and vertical photographs were scanned, if necessary, and then georeferenced and rectified using the University of Bradford/John Haigh AERIAL 5.35 software. Control information was mainly derived from Pan Government Agreement (PGA) orthophotography supplemented by Ordnance Survey 1:2,500 MasterMap® vector data. Ordnance Survey 5m contour data was used to correct for height differences across the survey area. The accuracy of

rectified images is normally to within an average of $\pm 2\text{m}$ of the source used for control, which in this case was PGA orthophotographs. There was very good correlation of features seen on the PGA orthophotography, lidar and the ground based survey. Consequently, the accuracy of features mapped from aerial photographs and lidar, relative to their true ground position, will usually be to within 1m.

Archaeological information was traced from Georeferenced and rectified images in AutoCADMap 3D 2012. Monument records were created in the National Record of the Historic Environment for each archaeological site and are available on the Pastscape website

Further information was derived from historic Ordnance Survey maps, the NRHE and the National Trust HER (accessed online).

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