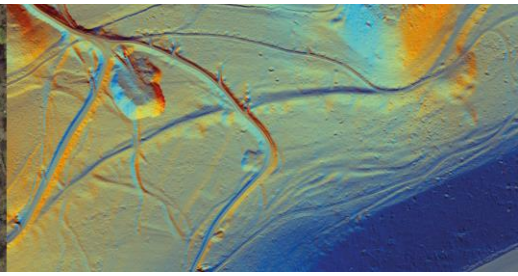
SECRETS OF THE HIGH WOODS

HERITAGE | LANDSCAPE | SCIENCE



An interim report of volunteer fieldwork conducted at the Queen Elizabeth Country Park

By the 'Secrets of the High Woods' project

March 2015

By Alice Thorne and Sue Webber

Project background

The Secrets of the High Woods (SHW) project is an HLF funded project, hosted by the South Downs National Park Authority. The project seeks to identify, map and explore the archaeological heritage of a large swathe of the wooded western downs, using airborne laser scanning (LiDAR) technology.

A high resolution LiDAR survey of a 305 km^2 area of the wooded western downland region of the South Downs National Park was undertaken in March 2014, and a range of LiDAR visualisations have been processed from the resultant digital terrain model. A National Mapping Programme (NMP) transcription project, combining both aerial photography and LiDAR has been commissioned, to provide a full and detailed desk-based record of the archaeological resource in the area.

A series of fieldwork programmes have been devised by SHW project staff working with project volunteers to investigate, explore and record the archaeological resource. The aims of the fieldwork have been as follows:

- To introduce project volunteers to a range of upstanding archaeological features which characterise the historic environment of the South Downs National Park.
- To explore the representation of these features using a range of different visualisation techniques.
- To make a rapid record of these features to enhance our understanding of the LiDAR visualisations

Given limitations imposed by differing patterns of landownership, land management, vegetation growth and the time scale of the project, total field verification of the archaeological resource has not been attempted. Rather than a traditional transect survey, the programme of fieldwork has been targeted in areas agreed by project partners, and has been designed to explore specific questions, including:

- investigation of a sample of the different feature types captured by LiDAR to provide and confirm interpretations;
- investigation of the impact of vegetation and land use on the representation of archaeological relief;
- investigation of specific questions generated by the NMP programme of desk-top transcription;
- investigation of physical relationships between features, to facilitate understanding of relative dating; and
- identification of sites and themes which can benefit from further field observations or deskbased research by volunteers.

Ground verification is, by necessity, non-invasive and the results cannot be seen to provide definitive statements on interpretation or period. The following interpretations are therefore proposals only.

This report is intended to summarise the main results of the programme of field verification. This is also intended to be a working document, which will be updated and developed as research undertaken by our archival and oral history volunteers becomes available, or as further fieldwork takes place.

Location

Part of Queen Elizabeth Country Park (QECP) is located in the north-western portion of the Secrets of the High Woods study area. Fieldwork was conducted within the Holt Down and War Down areas of the park during January 2015 (Figure 1).

Of the seven site visits made, three were afternoon training sessions and four were full survey days. Project volunteers at QECP were: James Dodd, James Searle, Peter King, Hilary King, Steven Cleverly, Sue Webber, Steve Enticott, Clare Perkins, Juliet Smith, Arthur Allden, John Broadbent, Colin Caisley, Mark Seaman, Terry Bell, Theresa Griffiths, Russell Cleaver, Mark Taylor, Kate Dorkins, Christopher Le Gallez, Roger Green, Kay Gilmore, Deborah Jordan, James McInnes, Brian Tomkinson, Steve Wallace, Michael Jordan, Jayne Rudge, Stephen Allberry, Martin Snow, Mike Pengelly, Alison Newell and Victoria Jones.

Permission to conduct field work was kindly granted by QECP and the Forestry Commission.

Site topography and geology

Queen Elizabeth Country Park is located on the wooded ridge of the South Downs, a rolling upland chalk landscape, furrowed by dry valley systems. The underlying geology is chalk, with superficial Head deposits (gravels, silts and clays) located in the dry valleys[1].

Archaeological background

QECP has a rich archaeological heritage, which has been subject to considerable archaeological work. The area has a rich prehistoric resource base, including Bronze Age burial mounds on War Down, and two scheduled sites located on the southern part of Holt Down. These two scheduled sites encompass the remains of Romano-British and Iron Age buildings, field systems and holloways on Holt Down plantation (Ref: 33959), and the Romano-British settlement at Chalton (Ref: HA542).

Several archaeological surveys have been conducted in the park by Berkshire Archaeological Services. A desk based assessment of the East Hampshire AONB in 1996 highlighted the archaeological potential of the park, and prompted a range of surveys and investigations designed to inform the designation, protection and management of the archaeology (Entwistle, 1996):

- A 20 hectare earthwork survey of a network of lynchets, holloways and dry stone structures surrounding the Holt Down Romano-British complex was undertaken in 1997 (Entwhistle, 1997), followed by a supplementary survey after clear felling of the areas around a group of terraces and one of the dry stone structures identified during the previous survey (Entwhistle, 1998).

- A walkover survey at War Down was undertaken in advance of felling in1998. This recorded burial mounds, a number of lynchets, and a possible pond or quarry (Raymond, 1998).

- A report produced in 1999 presented the results of excavations undertaken on the site of one of the drystone structures identified on Holt Down in 1997 concluding that they are most probably of Iron Age date, and could pre-date the lynchet systems. The function of the dry stone feature could not be determined with certainty, due to the limited nature of the excavations, and limited typological parallels. However, the authors conclude that the structure

[1] http://mapapps.bgs.ac.uk/geologyofbritain/home.html Accessed 4 Feb 2015

could be related to non-specialised activity at the periphery of foci of middle Iron Age settlement (BAS, 1999: 19–22). This report also provided a useful summary of known information relating to the unpublished results of the excavations undertaken by the Hayling Island Field Club at Holt Down in the 1925–27. These excavations revealed evidence of three 'rooms' set within a potentially more extensive complex, containing painted wall plaster and sandstone tile roofing material dating to the 1st to 4th century, with a possibility of some pre-Roman activity (BAS, 1999: 24–25). The archive of both the 1998 excavations and the 1920s excavations were deposited at the QECP (BAS, 1999: 17).

- A walkover survey to the north of Holt Down was also undertaken in 1998. This survey identified further lynchets, a number of terraces (some isolated examples, and a group of four measuring up to 10m), four platforms and a quarry or pond (BAS, 1998)

- An additional Earthwork and Geophysical survey of the Holt Down site was also undertaken in 2002. This developed understanding of the complex, providing evidence of further structures, building platforms and the location of the 1920s excavations. BAS proposed that the complex represents the remains of a single farmstead, with houses, barns and outbuildings, associated with track ways and set within an extensive field system (BAS, 2002: 6)

The later historic period of the area may have been dominated by a fairly stable, pastoral regime, although some areas were subject to arable cultivation (HCC, 1.6/3). In 1928 Holt Down and War Down were purchased by the Forestry Commission, for planting timber for commercial use – specifically timber for the paper pulp and fencing markets (SDNPA, 2011: 113). The park itself was opened by the Queen in 1976 to provide recreational opportunities in the beech and conifer plantations.

Fieldwork results

A range of features of archaeological and historic interest were investigated during the programme of fieldwork. A summary of the principal feature types are summarised in proposed period order below. Locations are shown overlying the LRM LiDAR visualisation on Figure 2.

Mounds: Prehistoric Funerary Monuments

Feature 35. NGR 472595 119865

A number of mounds located on War Down are clearly depicted by a range of LiDAR visualisations. These features are recorded on the Hampshire HER, and are thought to represent Bronze Age funerary monuments. Although not currently scheduled, these monuments are recognised as important and vulnerable features (QECP Management Plan, 1.6/3). The resolution of the LiDAR dataset is of sufficient quality to inform management practises.

The BAS earthwork survey proposed the location of an additional potential barrow on the southern slopes of Holt Down (Entwistle, 1997: 4). Although this feature is well represented by the LiDAR, it was too densely vegetated for volunteers to access the site (Feature 85).

Lynchets: Prehistoric Field Systems and Holloways

Feature 93. NGR 471985 117619

The LiDAR data has produced evidence of an extensive network of lynchet systems, covering much of the area of QECP. A number of these alignments are protected by scheduling (Scheduled Monument

number 33959). However, the results of the airborne laser scanning has demonstrated how these networks extend well beyond the scheduled area, with well preserved examples continuing to the north on Holt Down, with more subtle networks detectable on the slopes of War Down.

These features are thought to represent an extensive network of later prehistoric field systems, and the full extent is currently being mapped by the NMP. Traces of the field systems can even be detected in areas subject to arable cultivation in the fields around QECP. The generally shallow profile of some lynchets on War Down and particularly Chalton Down (Feature 99), indicates that some areas of this block of downland have probably been subject to ploughing in the past.

The process of field verification noted that while some field systems themselves appear to have integral track ways (Feature 92), others examples of trackway-like alignments were found to have quite different morphologies (ie Features 86 and 93), suggesting that some of these alignments may be the result of different phases of land use.

Dating these networks of morphology alone is difficult, and in this case all recorded examples have been attributed a broad 'prehistoric' date. However, there is significant potential to use a data set as extensive and detailed as we have here, to investigate morphology and system patterns and to attempt to draw out potential phasing of the field systems. This would be a major piece of work, and should include a thorough review of systems across the entire study area. It has great potential for making a very significant contribution towards understanding of field systems and their development on both a regional and a national level.

Rectilinear Terraces: Roman Settlement Complex

A series of rectilinear forms are visible on the LiDAR data within the area of the Holt Down Roman period farmstead. These features appear to correspond well with the composite plan drawn up by Berkshire Archaeological Services from plans found in archives (BAS, 1999).

This area is currently considerably overgrown, making volunteer access to the area difficult. Two records of rectangular, levelled areas were recorded in this area (records 87 and 83). While some of the forms may denote structural remains, the areas defined may be reflective of the 1920's excavations themselves. The LiDAR therefore offers an exciting opportunity to geo-reference the excavation plan, and could add further understanding to the layout of the complex itself.

This data set also enables review of the settlement within its wider landscape.

Pits: Probable Post-Medieval

Feature 100. NGR 472056 117700

Several sub-circular negative features were located on the LiDAR visualisations during the programme of fieldwork. The majority of these features are thought to represent extraction pits, for quarrying chalk and flint.

These features may belong to different periods of land use, and it is known that the majority of the area was open arable or pasture until the early 20th century. Pits are features of the downland known from Prehistoric to Post-Medieval periods (Rackham, 1986: 351–3), however, the Post-Medieval period saw increased population numbers, with the concomitant intensification of both construction and agriculture. It is therefore thought that a post-medieval date is most likely for the majority of these features.

Industrial Features: Post-Medieval.
By Sue Webber

An interesting element of the history of QECP is its late post-medieval industrial heritage. The LiDAR depicts the large-scale pits and cuts of lime quarries particularly well, and an example in the north-west corner of the park was visited during fieldwork.


Feature 95. NGR 472389 119961

This large quarry is recorded on the 1840 Tithe map, that shows a quarry and building was located on part of the Holt Down common land (rather than under private ownership). This area of common land may be part of the Buriton commons. The 1869 25" County Series Ordnance Survey map shows a quarry and limekilns in the same location, and a road to the north (that is also shown on the 1840 Tithe map) with additional limekilns on this road marked on the 400ft contour to north east (these limekilns post-date the Tithe Map).

The Tithe Map shows the road north-east of the quarry running east of the main road (now A3) through land sections 493, 495, 496, 497 and 498. This road is shown rejoining the main road (A3) south of the quarry.

The apportionment provides the following:

Plot Number	Owner	Occupier	Name and state of cultivation
493	Hon Heneahe Legge	Hon Heneahe Legge	Goslings Field Row, wood
495	Ditto	Ditto	road

498 and 494	Ditto	Ditto	smalleth copse. wood
496	Ditto	William Chase Jnr,	Goddlescombe. Pasture.
497	Ditto	Samuel Seward.	Part of Goddlescombe. Pasture.

From this we can see that the quarry existed in 1840 on common land and, by 1880, there were two lots of limekilns, one at the earlier site and another to the north-east on the Hon Heneahe Legge's land, near to the road that runs to the east and north of the toll road (route of A3).

In *The Portsmouth Road and its Tributaries* by Charles Harper (1895), there is a record of the quarries and lime kilns. He wrote 'Here, on the incline leading across Butser Hill, may be noticed the beginning of these things. At one point, to the left hand, turns off what was once the old road, leading across the Hill, now a secluded track-way, bringing the explorer upon excavations in the chalk, and suddenly upon lime-kilns and lime-burners, working away in a solitude' (Harper, 1895).

There were also extensive chalk quarries and lime kilns south of Buriton and east of this site[2].

Located close to the quarry, and connected to it by an access road, the old line of the A3 is clearly depicted on the LiDAR visualisations. This was quite a stunning and surprising element of the more recent historic landscape, in that we found a section of it preserved abandoned and inaccessible above the line of the current A3 route way.

Feature 96. NGR 4722961 19835

The history of the road and cutting is fairly complex. It became a toll road, administered by the Sheet Bridge and Portsmouth Turnpike Trust in 1711[3]. Charles Harper reported that a cutting for the highway was completed by 1826 in the old days of mail and stage coaches to ease the horses and

[2] http://www.petersfieldmuseum.co.uk/docs/buriton-chalkpits.pdf

[3] http://www.buriton.org.uk/bhb/infosheet12.htm

abolish the climb. He calls it the largest and most spectacular road cutting in England, 'a huge cleft in the mass of the hill, V-shaped' (Harper 1923).

In 1898, Hampshire County Council, concerned by chalk falls from the sides of cutting, spent £800 in grading back the sides. Since then, the cutting and road has been deepened and widened, as can be seen from above with stepped cuttings down the hillside and old road lines visible on either side of the current A3. A photograph from 1930 shows traffic on a "newly opened Butser cutting" and it is known that the road was dualled and/or straightened in 1975[4]. A new section also opened in 1984[5].

Rural farmyard Complex: Post-Medieval

A small complex of features was noted near a cross roads of track ways on Holt Down. Upon investigation, these were found to represent the remains of a pond (Feature 70), with a number of elongated mounds in the vicinity.

Feature 70. NGR 472728 118153

A short stretch of wall was also noted just to the north of the pond (Feature 19), which could not be detected on the LiDAR imagery.

Feature 19. NGR 472703118167

4 http://www.buriton.org.uk/bhb/infosheet12.htm

5 http://www.bbc.co.uk/history/domesday/dblock/GB-468000-117000/page/14

Short discreet stretches of walling are notoriously difficult to detect in LiDAR visualisations. If a sufficient number of points are obtained over the feature, they will be likely to be classified as non-terrain/ building and will be stripped out of the Digital Terrain Model. They would however be present within the Digital Surface Model, as long as surrounding vegetation enabled their identification. Identification of stretches of walling in dense areas of vegetation may, however, only be identifiable through analysis of the point cloud or full waveform data.

The history of this complex of features has been researched by Sue Webber. The Tithe map of 1840 shows this area as forming part of the Holt Down common land, (part of Buriton common?) with no features recorded. However, by the first Edition 25" Ordnance Survey map the farmyard complex is clearly shown, comprising an oval pond and an L shaped structure. The area is bounded on south and west by an area with scattered trees and a wooded strip to the west.

The LiDAR data also showed a number of enigmatic mounds within the vicinity of the farmyard complex (ie Feature 43). The purpose of these was unclear. We were informed by Zehra Peermohamed (of QECP) that these mounds were recently constructed hibernariums – a classic example of the importance of chatting to locals and land managers!

Undated: Holloways and Track Ways

A number of elongated linear terraces and holloways are well represented on the LiDAR data.

Feature 45. NGR 472486 119850.

Some features were fairly slight, and were noted running at an oblique angle up the hillside in the north-west part of the project area. Upon field verification, these features were found to represent narrow terraces or breaks of slope, measuring a maximum of 3m in width (Features 39, 45). These features are thought to represent the remains of track ways, perhaps routes to access common grazing on War Down.


Feature 102. NGR

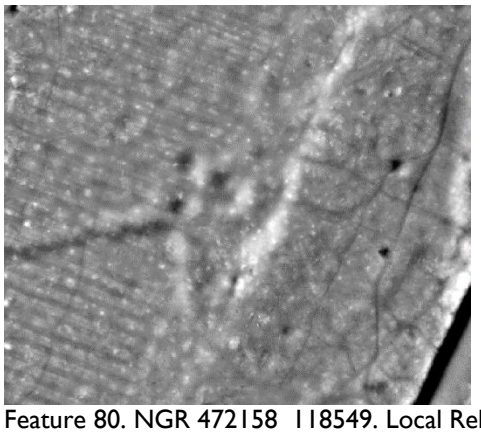
Other features were a little more pronounced. Features 102 and 76 had an eroded or negative profile, sometimes having a trace of slight banks on either side. These features can have a considerable profile, with Feature 102 measuring approximately 8m wide and 1.4m deep. The depth of these features is suggestive of considerable quantities of traffic (foot or hoof!) wearing away at the bedrock, with rain accelerating the process by washing material downslope. These features could be termed hollow ways or sunken lanes, and some can be of considerable antiquity (Rackham, 2003: 106). Indeed, Barry Cunliffe has proposed that the hollow way Feature 102 represents a trackway leading up to the scheduled Romano-British settlement just to the south, and defined the northern limit of the settlement (Cunliffe, 1976: 46).

Undated: Terraces

A number of the LiDAR signatures were found to represent level, often circular or sub-circular spaces, terraced into the surrounding hillside.


Feature 80. NGR 472158 118549

The examples visited by volunteers included Feature 80, which comprised a series of three slight sub-circular terraced platforms on a south-east facing hill slope. These features measured approximately 5m–8m in diameter.


Feature 80. NGR 472158 118549. Local Relief Model

Feature 38, a similar complex, comprised four sub circular features located on the north-west facing hill slope. Two of these were found to have concave profiles, whereas the higher two had a level terrace profile.

Other similar complexes of features are depicted on the LiDAR imagery at NGR 472158 118834, and some isolated examples may also be present within the landscape. These features are difficult to define with certainty. They appear to represent deliberately levelled or terraced areas. Given the lack of historic woodland within this area, they are not thought to represent charcoal hearths. They could perhaps represent backfilled ponds or quarries. Some of the features with slight concave profiles could represent ponds.

They could also represent platforms for working areas or buildings. Some comparable examples for a typological perspective were excavated on chalk downland at Downsview during the Brighton bypass excavations. Although, in this case, no surface topography survived, a series of sub-circular terraced features were identified through excavation. Rings of post and stake holes within these terraces showed that these levelled areas were building platforms (Rudling, 2002: 145). Some pairing of structures was noted, as were possible pond features nearby, and the dimensions of these terraces were fairly similar to the dimensions of the ones noted at Queen Elizabeth Country Park (Rudling, 2002: 200). The Downsview examples were found to be Bronze Age in origin.

Also of potential significance is an excavation undertaken by BAS within the QECP on the site of a dry stone structure in 1997. This excavation provided evidence of Iron Age activity within the area (BAS, 1999: 19–22). However, comparisons between the topographic nature of these terraces and the excavated site could not be made in the field. The site of the excavation could not be identified probably because backfilling of the site had concealed all trace of surface topography. The area was also covered by dense vegetation.

The terraces at QECP will require further work. They provide good potential candidates for geophysical survey to characterise them further. If building platforms, the terraces could represent permanent settlement, or structures for temporary, (perhaps seasonal?) occupation. Excavation is likely to be the only reliable method for establishing the date of these features.

The representation of these types of feature in the LiDAR imagery can be problematic. Whilst the Local Relief Model was generally agreed to be the most useful visualisation for identifying circular discreet features generally, it did not allow a differentiation between those features with a negative profile (ie circular quarry pits) and those with a terraced, flattened profile.

This is due to the method of representation, with the Local Relief denoting negative features in dark coloration, and positive in white. LRM does not however, represent relative depths. To differentiate potential quarries from potential terraced features it was found necessary to cross reference to a hillshaded model, lit from an appropriate direction.

Conclusions

Airborne Laser Scanning has proved to be an invaluable resource for revealing and exploring the historic landscape of the Queen Elizabeth Country Park.

The LiDAR survey has revealed the extent of upstanding archaeology both within and around the scheduled boundary of Holt Down, particularly in relation to the location of field systems and hollow ways. Previous surveys of the monuments have been improved and updated, providing a detailed resource baseline for further research.

The LiDAR data will provide an invaluable resource for informing archaeological management of the park (Objective 13 of the QECP Management Plan, 2.4/1),

The LiDAR data also offers exciting opportunities for development of interactive public facing educational materials (Objective 14 and 15 of the QECP Management Plan, ibid).

Potential for further research

Fieldwork at the park has highlighted some areas/themes which could benefit from further documentary or map research. These are outlined below.

Major research project: field system morphology

- Data set provides an exciting opportunity to look at field system development and evolution from a landscape scale perspective. Potential for contributing significant work into understanding prehistoric landscape development.

Roman settlement complex;

- Potential to review and develop an understanding of the Holt Down Roman settlement complex, and a unique opportunity to consider how this would have functioned within its wider landscape. Review of geophysics and earthwork survey, with the benefits of this new LiDAR survey. Potential tie up with the BAS survey team: site visit to view and discuss data results?

Data processing:

- The isolated section of wall could provide a good candidate for specialist research into the identification of discreet upstanding features in LiDAR analysis.
- Review of potential barrow feature 85. Processing of different visualisation methods to investigate potential feature further?
- Terraces could provide good candidates for detailed survey and review of the accuracy of LRM modelling in respect to levelled areas.

Industry on Holt Down/War Down:

- Lime kilns and Industry. Link to Buriton History Society

Commoning on Holt Down/War down

- Documentary research into the commons; extent, use and access. Link to Buriton History Society?

Movement and communications.

- Review of holloways and track ways; some forms potentially accessing commons? Others perhaps providing routes across the downs, or to specific areas/settlements? Some are of potentially great antiquity, ie holloways near settlement at Chalton Down.

- The history and development of the A3.

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Buriton Tithe Map 1840

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