



Puffins amidst prehistory: reinterpreting the complex landscape of Skomer Island

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Skomer Island lies off the south western coast of Pembrokeshire and its relict prehistoric agricultural landscape is among the best preserved anywhere in the British Isles (Fig. 1). A lack of modern cultivation, save for a central section of the island, together with historical documentation that demonstrates an absence of permanent settlement until at least the seventeenth, although more likely eighteenth century AD (Grimes 1950, 4–5; Howells 1961, 48), suggests that the complex field systems and settlements that survive are almost wholly prehistoric in date. Two major archaeological studies have been undertaken on the island, both in the twentieth century; the first by Professor W. F. Grimes

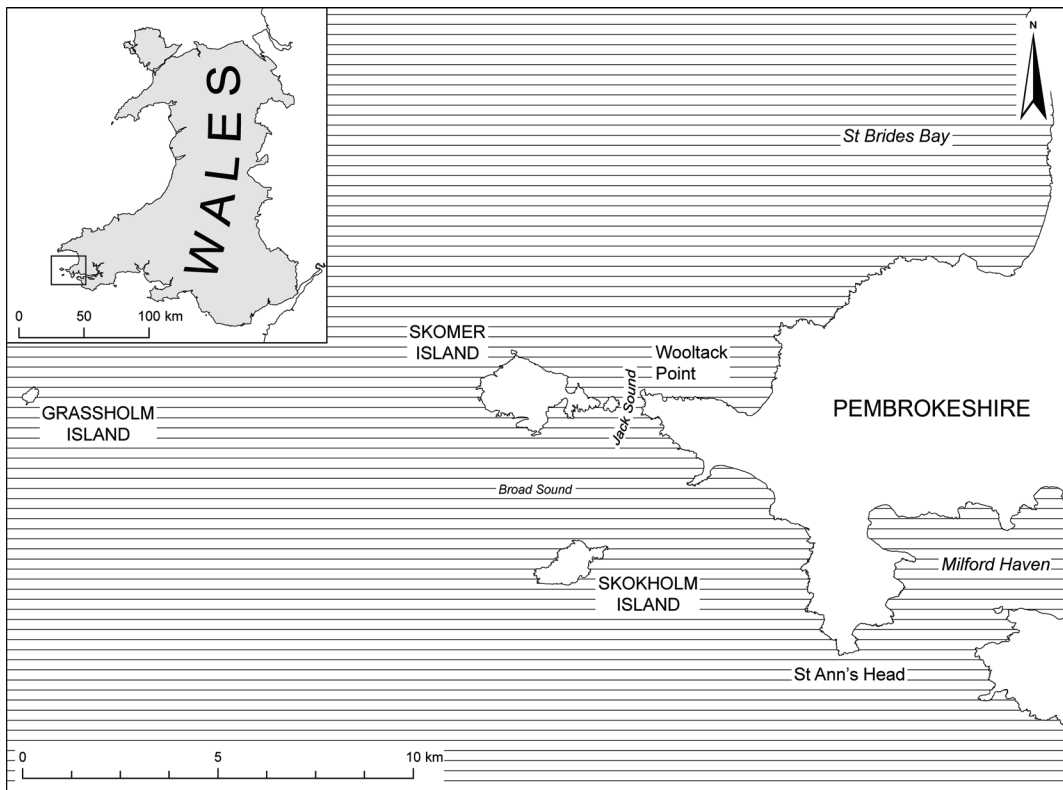


Fig. 1. Skomer Island, location map. Based upon Ordnance Survey mapping © Crown copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100022206.

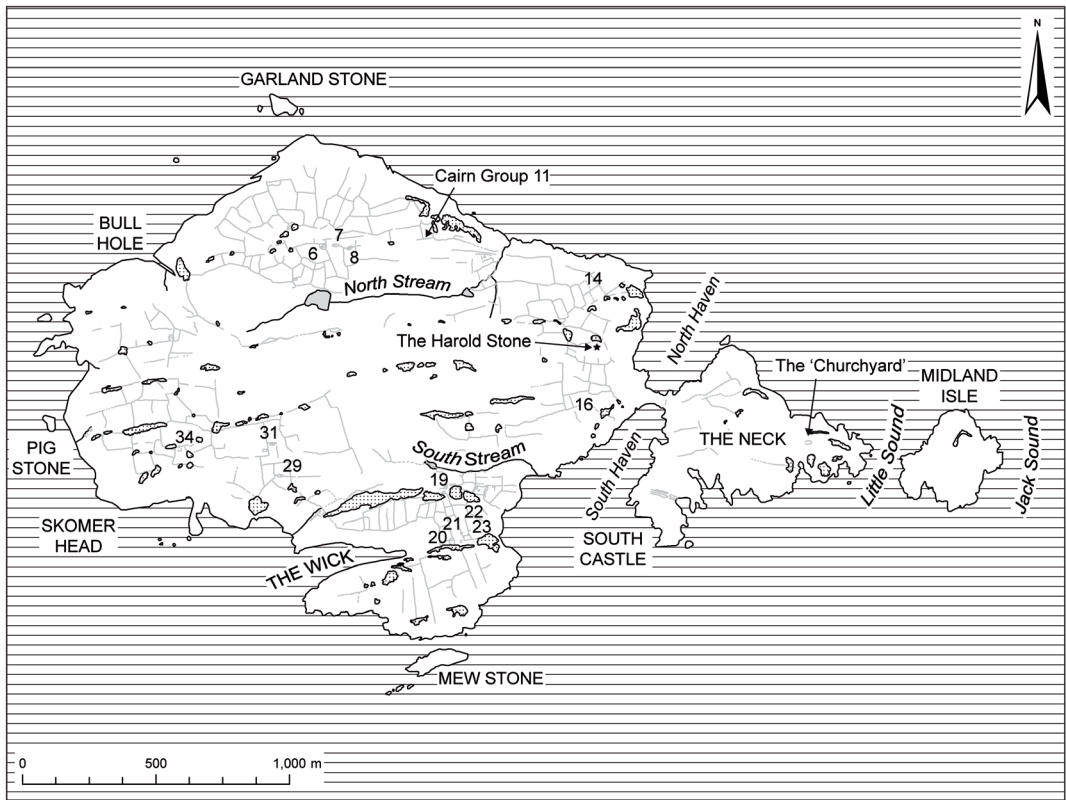


Fig. 2. Areas of prehistoric settlement on Skomer Island and main sites noted in text, based on Evans (1990, fig. 2). Based upon Ordnance Survey mapping © Crown copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100022206.

in the 1940s (Grimes 1950) and the second by Professor John G. Evans in the 1980s (Evans 1990), the latter resulting in the current archaeological map of the island (Fig. 2). The main conclusion reached by John Evans, and the foundation for most modern interpretations thereafter, is that Skomer represents a brief event in Pembrokeshire's prehistory. He stated (1990, 255) that 'the occupation was short. There is little complexity in the field systems. . . . It is likely that the entire occupation took place over a few generations, perhaps a period of no more than a century'. It is this thesis that our study has taken as a starting point.

Emerging evidence from specially flown aerial photographic reconnaissance and airborne laser scanning (LiDAR) of Skomer, together with selective field survey, being undertaken as part of the continuing Skomer Island Project by the Royal Commission on the Ancient and Historical Monuments of Wales, shows a radically different picture. This paper describes the wealth of new information that is currently being revealed about the island's settlements, field systems and ritual monuments which demonstrates a much deeper chronology than has previously been considered. There is at least one coaxial field system and several denuded, poorly defined house platforms that

may attest later Bronze Age settlement, rather than the Iron Age or Romano-British occupation that has long been assumed. Equally significant is a reinterpretation of the landscapes of the Neolithic and Early Bronze Age. A single standing stone, isolated round barrows and cairnfields have long been recorded, but previously unrecognised megalithic sites have now been discovered. Skomer's archaeology can therefore now be argued to span millennia rather than decades or centuries.

The purpose of this paper is to describe some of the early advances in field survey and remote sensing made as part of the project. Research is at an early stage, and some interpretations may well change as the project develops. However, initial field results are presented here to spur on future discussion and to feed into the wider studies of prehistoric field systems and island archaeology.

In an early foray into Pembrokeshire for her paper on the portal dolmens in the Nevern Valley (Lynch 1972, 82), Frances Lynch noted the potential of studying evidence for prehistoric monument building and, by inference, cultural traditions, in geographically restricted areas where such structures were concentrated. Few better geographically restricted landscapes present themselves for study than Skomer Island, and fewer still with such exceptionally well-preserved prehistoric archaeology.

THE ISLAND LANDSCAPE

Skomer Island is separated from the mainland at Wooltack Point by the treacherous tidal race of Jack Sound, and the intervening Midland Isle. While its closest eastern point, The Neck, lies just over a kilometre from the mainland, western Skomer is over 4 kilometres distant (Fig. 3). The island is essentially diamond-shaped, with blunt east and west sides. The main island measures nearly 2 kilometres north–south, and 2.3 kilometres east–west, The Neck extending east for a further 0.9 kilometres. There are only a few hospitable landing points; present-day visitors land in North Haven between the main island and The Neck, but the remains of at least two ‘livestock ramps’ on The Neck—comprising cut and stone-revetted terrace ways and walled holloways giving access from coastal rocks to the hill pasture—show that in past centuries other means have been found to get people and cattle onto the island. The island is watered by several active springs, has two streams, North Stream and South Stream, and a handful of ponds. The island is formed on volcanic rocks, among them basalt, rhyolite and dolerite which are thought to be of Silurian age (John 2009, 28). These geological formation processes are evident in a variety of prominent outcrops which break the horizon in the northern island, and form several east–west ribs in the mid and south of the island, lending the valleys in between an ‘insular’ character. Many outcrops are loose and shattered, often with large blocks resting at odd angles or propped on smaller slabs. Much of the island is relatively level country, whilst the topography attains 79m OD in the centre.

Today, Skomer is a heavily protected landscape managed largely for the benefit of its extraordinary and internationally renowned birdlife. It is owned by the Countryside Council for Wales and managed by the Wildlife Trust of South and West Wales as a National Nature Reserve, with large parts of it a Scheduled Ancient Monument and the sea a Marine Nature Reserve. In practice this makes the island a challenging place to undertake fieldwork. The ground is heavily burrowed, in places continuously, and these burrows (a proportion of which originated or continue as rabbit warrens) are a seasonal home to Manx Shearwaters and Puffins. This ‘perforated’ ground surface is extremely delicate and therefore all excursions off the main footpaths are only permitted with special authorisation from the warden whilst taking care to avoid collapsing burrows.

SKOMER IN CONTEXT

At points along the western seaboard of Wales we are fortunate to have preserved relatively complete examples of later prehistoric or Romano-British settlements and field systems. Although they are now preserved by virtue of their position on marginal land or hill-pasture, this should not affect our perceptions of the relative fertility or richness of these positions for farming in prehistory. For example, the Pembrokeshire coastal plain, particularly the loess that overlies the limestone, produces some of the richest agricultural land in Wales.

Skomer has close affinities with other island landscapes, including Ramsey, some 14 kilometres to the north (James and James 1994), and Skokholm, Skomer's nearest island neighbour 4 kilometres to the south. Although Skokholm has long been the 'poor cousin', in archaeological terms, of the western Pembrokeshire islands, apparently preserving little visible evidence for field systems or hut settlements, new aerial photography by the Royal Commission in 2011, together with evidence from the recently-acquired LiDAR survey, shows denuded prehistoric field systems in the south-west of the island as well as several undated earthworks in the centre and north-east. These are now being mapped and researched by Oliver Davis for the Royal Commission (Davis forthcoming). Information from Deanna Groom at the Royal Commission also suggests the location of a 'lost' island known



Fig. 3. Skomer from the north-west showing its general character and topography, with the offshore stack of Garland Stone, left foreground and Skomer Head to the right. The Neck and Midland Isle can be seen in the upper left background with the mainland of Wooltack Point beyond, across the fierce tidal race of Jack Sound. Skokholm Island can be seen in the right background. © Crown copyright: RCAHMW AP_2010_3293.

as the Reef, in between Skomer and Skokholm, which may well have been exposed as dry land in the Mesolithic period, only to be lost to rising sea levels by the Neolithic. Circular enclosures with radiating walls and a building platform are known from Grassholm Island which lies 11 kilometres west of Skomer, while hand-made pottery of Iron Age type was collected here before 1951 (Driver 2007, 87). Further afield, the newly scheduled Cardigan Island has a series of enclosures, building platforms and ponds (Bewers 1994), for which a precise chronology is still awaited.

It is only in recent generations that these islands have been seen as remote places, predominantly sanctuaries for wildlife. Prior to this they were merely extensions of the mainland, offering prime agricultural land, in which their apparent remoteness posed few problems and was in many ways a benefit. Throughout the medieval period and later, revenue from Skomer came from its coneyes, with the rabbit catch averaging two to three thousand per season (Grimes 1950, 3). It also offered prime grazing land for sheep, cattle and horses. Arable farming came to an end on the island in the 1950s, when the last farmer, Reuben Codd, moved back to the mainland. Rising costs and the impact of increased industrialisation—getting a tractor across to Skomer was no mean undertaking—combined with a series of bad harvests forced an end to island farming (Howells 1961).

PAST HISTORIES OF THE ‘CLOVEN ISLE’

One of the earliest references to the rich archaeology of Skomer was made by Edward Laws in his *History of Little England Beyond Wales*, where he claimed that the island contained more ancient enclosures and cairns than he knew of anywhere else in Pembrokeshire (Laws 1888, 15). This evidence was not, however, replicated on the early editions of the Ordnance Survey nor in the 1896–1907 Pembrokeshire Archaeological Survey undertaken by Laws and Dr Henry Owen. This survey did, however, make the first note of an excavation carried out by Mr Drane of Cardiff, who encountered calcined clay flooring while digging in some of the hut foundations (National Library of Wales, Oversize Atlas 319). Whilst the observations made by Laws were noted by the Royal Commission in the Pembrokeshire Inventory (RCAHMW 1925, no. 287), bad weather prevented a field visit and thus nothing more was added. A further 25 years passed until an article by Professor Grimes (1950), published in *Archaeologia Cambrensis*, finally revealed to a wider audience the archaeological wealth of Skomer.

Grimes’s pioneering work involved the first detailed field survey and study of the island. He produced an archaeological map, based on a transcription from a set of Ordnance Survey aerial photographs, checked and augmented by detailed survey on the ground. Modestly, he noted ‘it is not an accurate survey, but presents nevertheless a true picture of the character of the remains upon which an accurate survey may be used’ (Grimes 1950, 1). It is Grimes we have to thank for drawing together some of the less well-documented evidence from the island, particularly relating to its medieval history (1950, 2–5). He also revealed a second excavation on the island by Mr Neale at two sites (huts 13 and 19), where he reported so few finds were made that no further excavation was pursued (*ibid.* 2).

Thirty years later John Evans (1986; 1990) complemented and built upon this earlier work by recording in detail small enclosures and habitation sites. Evans’s survey was undertaken at two spatial scales: one for huts and pounds (mapped at 1:100 by ground survey), and one for settlement complexes as a whole, transcribed from vertical and oblique aerial photographs by Terry James, then of the Dyfed Archaeological Trust (Fig. 4).

A popular guidebook on the archaeology was published by Evans in 1986, with an academic article containing a high quality map of the surviving archaeological remains together with the detailed



Fig. 4. Survey in progress by John Evans's team on Skomer in 1985. A valuable archive view showing working methods involving a tape and offsets, across an unidentified roundhouse. © *Crown copyright: RCAHMW, from the J. G. Evans Skomer Archive.*

plans and description of many of the individual buildings published in 1990. It is worth noting that the published record contained only a proportion of the actual surveys completed during the fieldwork on Skomer. This is reflected in the rich and varied contents of Evans's Skomer archive held in the National Monuments Record of Wales, which includes original permatrace plans, colour slides, photographs, notebooks and interim reports, as well as unpublished building elevations of the limekiln and farm buildings. Whilst much of the ground survey still stands as an exemplary record which would be difficult to repeat today with changes in vegetation since the 1980s, the remit of the survey was 'largely descriptive, not analytical' (Evans 1990, 249) and this is evident in the conclusions reached.

LOW LIGHT AND LASERS: NEW APPROACHES TO THE ARCHAEOLOGY OF SKOMER

Evans's well-argued and nuanced explanation of events on Skomer has lasted the test of time, and was drawn on even in 2006 when one of the present authors was putting together his book on Pembrokeshire archaeology (Driver 2007). However, a turning point came with an archaeological

flight undertaken on the 4 March 2008 in excellent conditions of lighting and vegetation. Returning to Haverfordwest Airport from a flight to south Wales, the ebbing late afternoon light was simply too good to ignore and drive home. After sorting maps and cleaning cameras, a further 40-minute flight was chartered out to Skomer Island, yielding a new collection of very clear images. Even a casual check between the resulting photographs and the published plan revealed discrepancies with the mapped detail. Field shapes were generalised, altered, wrongly depicted or had details ‘smoothed out’. In places the excellent conditions in which the new photos had been taken picked out extremely denuded lynchets and boundaries showing clear phasing among overlapping field systems (Fig. 5). Of the aerial photographs published in Evans’s original article (1990, pls 17–22), neither the winter oblique photographs by Terry James nor the vertical aerial photographs by Cambridge University allow a very clear view to be gained of the complex field systems; both sources have problems of lighting, clarity and surface vegetation.

Guided by the results of the new oblique aerial photography, initial survey results were obtained during a first, short season of fieldwork undertaken in April 2011, summarised below. A further breakthrough and a key to future investigative work was the opportunity to commission a new LiDAR



Fig. 5. Turning the tide: new evidence of a deep complexity in the field systems of Skomer was provided by aerial photographs taken in low light in March 2008. This view shows The Wick in south Skomer, looking south, with one of the most visited huts, Hut 20, upper centre. In this one view, boundaries overlap one another, huts are slighted or avoided by walls, and pre-existing but now vanished structures are skirted around. It was very clear that more than a century of settlement was represented here in just one small corner of Skomer. © *Crown copyright: RCAHMW, AP_2008_0306.*

survey of the island. LiDAR generates a highly accurate topographic model of the ground surface based on measurements taken by an aircraft-mounted scanning laser (English Heritage 2010). The resulting ‘cloud’ of digital points is then processed using computer software to generate a Digital Surface Model (DSM), which depicts all the features, including the ground surface, vegetation, and buildings from which the laser was reflected. Further processing can be undertaken to generate a Digital Terrain Model (DTM) of the land surface without the built features and vegetation. The DTM is potentially useful for plotting archaeology in wooded or heavily overgrown landscapes. In February 2011 a 0.5m resolution LiDAR survey of Skomer and Skokholm was commissioned, including the mainland between Wooltack Point and Gateholm Island. The survey, undertaken by the Geomatics Group of the Environment Agency, captured the island at just the right time. Following one of the hardest winters in recent history, during which there had been snowfall on the island, the vegetation was flattened to its lowest levels in many years. The new LiDAR data is providing the basis for compiling a new detailed map of the island, although it arrived too late to inform the field survey in spring 2011.

TOWARDS A NEW PREHISTORY OF SKOMER: AREAS OF EMERGING RESEARCH

The settlements of Skomer

John Evans organised the settlement evidence on the island into five loosely defined groups (1990, 251). He argued that each group comprised a cluster of buildings and their surrounding fields, and they were located to take advantage of nearby fresh water springs, unenclosed coastal grazing, and inland resources such as peat and brushwood. Evans interpreted these settlement groups as contemporaneous communities who occupied the island for no more than a century, although he acknowledged that the buildings were unlikely to have been all in concurrent use. Yet it is also clear from the survey evidence that there is significant variety in the form of the huts and settlements, and one goal we set ourselves in preparing this chapter was to evaluate this variability and consider if it could be used to reconstruct a longer and more complex landscape history.

During field observations we were struck by similarities between some of the settlements: a coincidence of conjoined huts, a yard and a burnt mound. This observation was backed up by a more systematic review of the surveys undertaken by Evans and his team in the 1980s. There are four settlements that adopt the same template—numbers 6, 7, 8 and 34 in Evans’s survey. In each case there is a conjoined hut or closely adjacent pair of huts, aligned east–west, with a ‘yard’ immediately to their east, and a mound of burnt stone to the south. All four settlements are located on gently sloping ground with a southerly aspect. Three of the settlements (6, 7 and 8) are located close together on the north side of the island. The fourth (34) lies on the south side of a rock outcrop, towards the south-western side of the island. There are a further three conjoined huts in addition to these settlements (16, 29 and 31), all aligned east–west and sited on gently sloping ground with a southerly aspect (Fig. 6). Settlement 31 has a possible yard immediately to the east, and there is a burnt mound a short distance to the south-west of settlement 16.

In comparison with the conjoined huts, which share similarities in their layout and landscape setting, there is considerably more variety in the form and location of the other relict buildings on the island. These structures can be categorised into four broad types according to their surface morphology: circular stone huts, circular platforms, oval stone huts and rectangular stone huts. The circular huts are defined by stone and earth banks, which are presumably the remnants of structural walls. They are mainly restricted to the eastern side of the island, particularly in two clusters amongst the fields



Fig. 6. The little-visited hut 29 in the south-west part of Skomer is one of the clearest examples on the island, largely due to partial excavation (possibly by Mr Drane of Cardiff) and wall-chasing at some time in the past which left an unexcavated pile in the centre. Currently the hut is out of bounds to all but a few researchers, and only outside the nesting season. © Crown copyright: RCAHMW, DS20011_446_001.

east of The Wick. In this same area, there are two circular earth ‘platforms’, where terraces have been created in the natural hillslope presumably to provide level stances for timber buildings (Fig. 7; no. 19 in Evans’s survey). Recent field observation led to the identification of one or two further examples of possible platforms for timber buildings, and others may lie undetected on areas of level ground. The oval and rectangular buildings have a dispersed distribution mainly, although not exclusively, on the south of the island, and they are generally sited with an easterly or southerly aspect.

Overall, we would like to suggest that Evans’s organisation of the evidence into five ‘settlement groups’ does not take into account the variety in either the character of the settlements or their positioning in the landscape. It is not possible to assign a date to the buildings solely on their morphology. Nevertheless, on the basis of wider comparisons, it is very unlikely they are contemporary with one another: while roundhouses are well attested from the later Bronze Age and Iron Age, the oval structures could be either earlier or later than this, and the rectangular buildings are much more likely to be medieval or later in origin. There are also notable differences within the groups of roundhouses. The layout of some settlements—those associated with conjoined huts—follows a strong template, and the settlements share a similar landscape setting. Other roundhouses exhibit much greater variety in their morphology, organisation, and landscape setting. This variation may

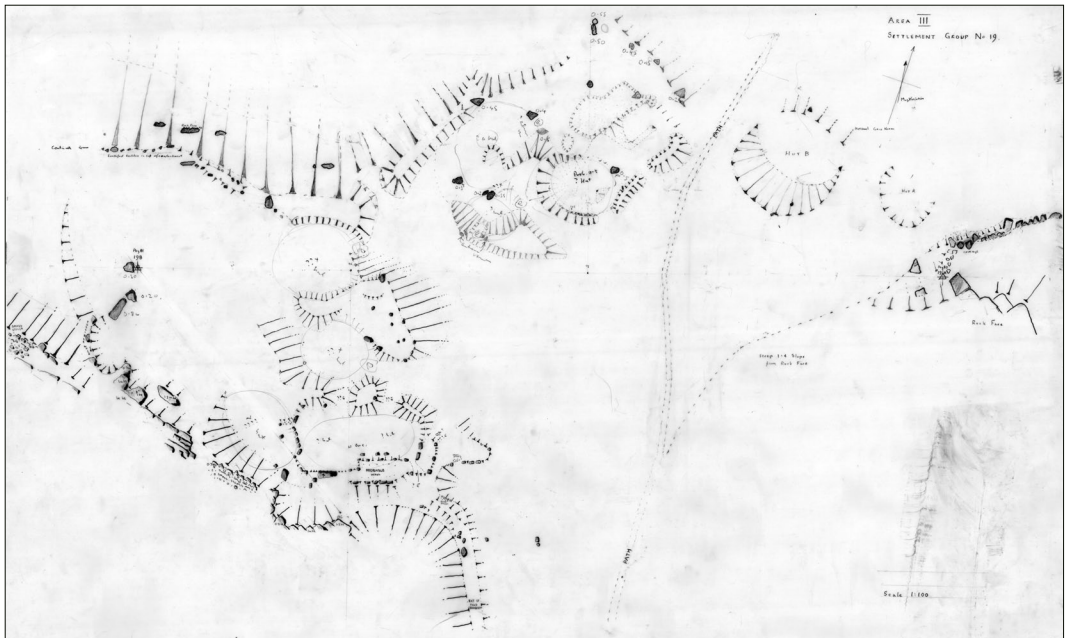


Fig. 7. Original survey drawing of Evans's hut group 19. © Crown copyright: RCAHMW, DI2011_0762.

be a consequence of differences in the activities that took place in the buildings, as Evans argues. However, this seems to avoid the other obvious interpretation of this variability, which is that Skomer's landscape was inhabited for a longer period of time than a century, and therefore the differences in settlement form and landscape setting relate to separate phases of occupation. Why should we not, for instance, consider a narrative in which the first roundhouses were timber-built and sited close to the South Stream, perhaps in an unenclosed landscape? Further stone-built roundhouses followed, mainly in the same area and in conjunction with the laying out of the coaxial field boundaries. Sometime later, there was a distinct phase of 'planned' settlements (and aggregate fields systems), perhaps lasting several generations. Occupation continued intermittently thereafter, evidenced by the oval and rectangular structures, some of which chose to reuse the earlier field systems. Such a speculative narrative cannot be tested by studying the existing published record. It is, however, an alternative account to the one offered by John Evans and a reasonable model to test through future analytical fieldwork, including survey and excavation.

Complexity in the field systems

One of the key priorities of the Skomer Island Project is the remapping and analysis of the island's dominant archaeological remains, its field systems. These cover at least 80 per cent of the island's surface, and create a patchwork of fields of varying size, shape and form. There is no one distinct pattern. In the north the fields radiate from areas of higher ground, whilst on the more level terrain of the centre and west of the island they link together the outcrops and form a chequerboard pattern. This

is in contrast to the south of the island, at The Wick, where they create a ladder-like effect especially when constrained by the narrow valley.

During his study of the field boundaries, Evans found little evidence for large-scale phasing and it was this that principally led to his conclusion that the island was occupied for only a short period (Evans 1990, 255). Our latest research is beginning to show a different picture. At a large spatial scale, the recent aerial photography and LiDAR have revealed more field systems. A prime example of this is on The Neck, the block of land now separated from the main island landmass by a narrow isthmus. Few field boundaries had previously been identified here, leading Evans to suggest that this may never have been enclosed and that it provided an open area for the grazing of stock or the exploitation of peat, brushwood and thatch (1986, 15). Whilst recent aerial photographs hinted that this might not be the case, it was the LiDAR data that proved the most rewarding, initially at 2m resolution and now verified at 0.5m resolution (Fig. 8). One long boundary divides the Neck in half (this was first identified by Terry James during the original air photo mapping of Skomer, but it did not make it to the final published plan) which is comparable with one seen nearby on the adjacent Midland Isle, as well as further afield on Cardigan Island, 60 kilometres to the north-east (Bewers 1994). To the south of this boundary we see a series of roughly square and rectangular fields covering much of the area up

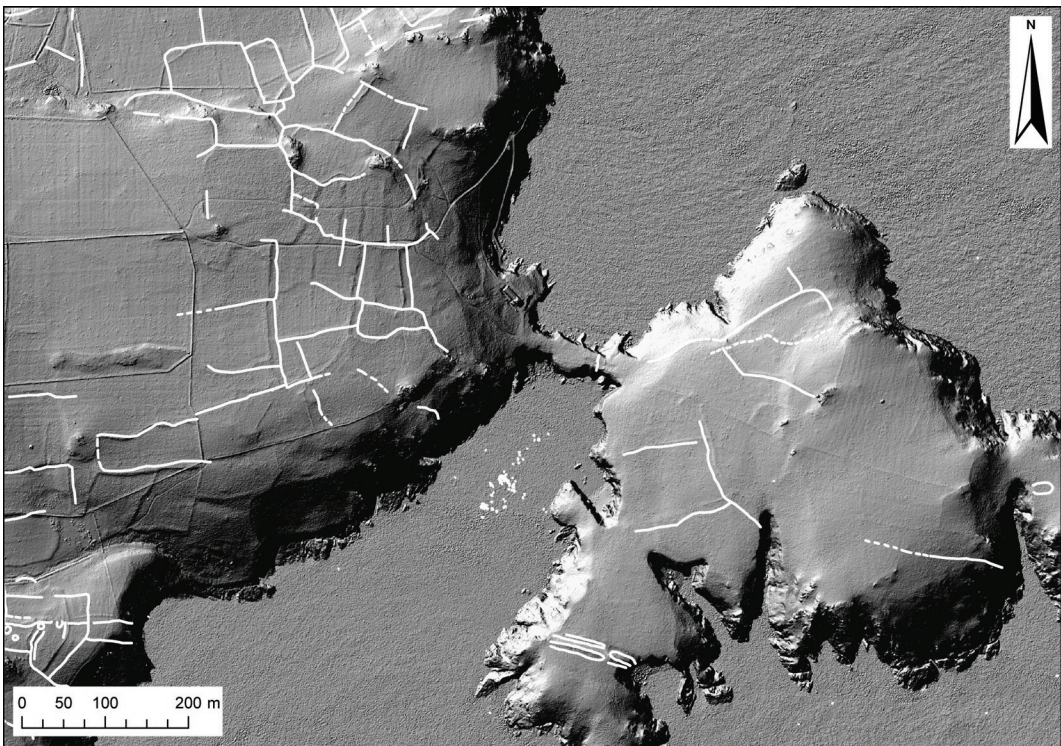


Fig. 8. Careful georeferencing of Evan's plan (1990, fig. 2) has allowed comparison of what we thought we knew (white lines), with the new LiDAR survey of the island (underlying terrain model showing earthworks as light and shadow). Some of the greatest gains have been on The Neck (right), building on earlier aerial discoveries but added to and clarified. © Copyright reserved, Environment Agency Geomatics Group; hillshade DSM view generated by RCAHMW.

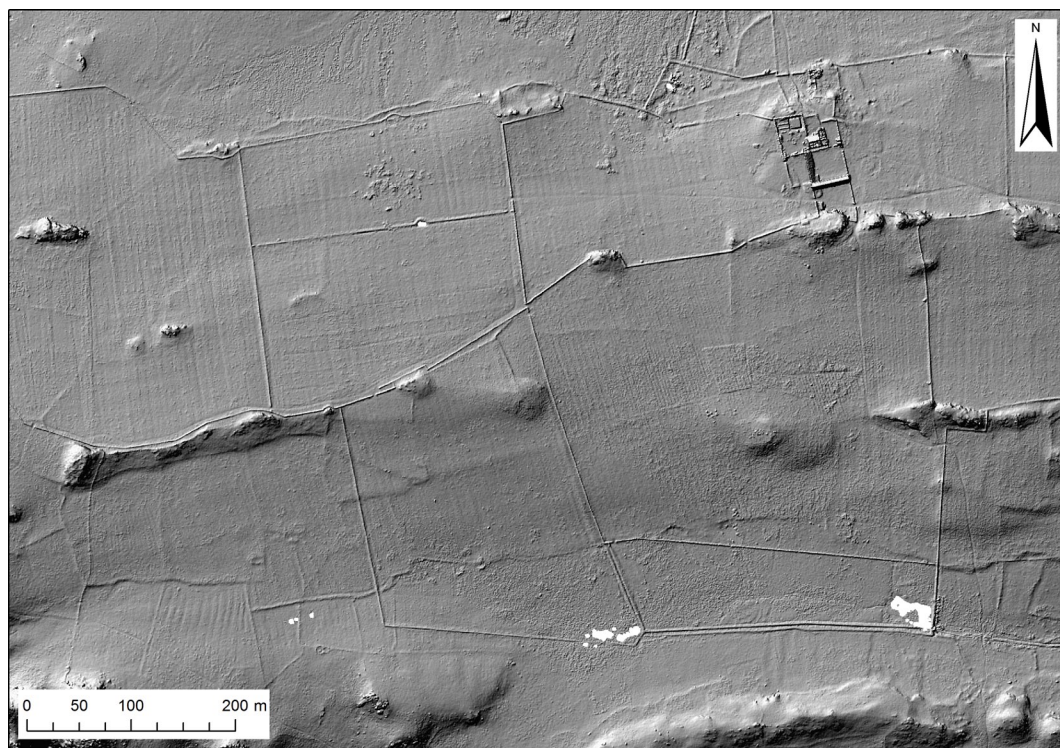


Fig. 9. LiDAR image of the centre of Skomer showing faint traces of earlier field boundaries within the heavily ploughed historic-age fields. The buildings of Old Farm are at upper right. © *Copyright reserved, Environment Agency Geomatics Group; hillshade DSM view generated by RCAHMW.*

to the promontory fort known as South Castle. To the north (and possibly crossing the boundary) is a block of cultivation and two enclosures, one attaching itself to the boundary and the other running from the highest point and outcrop on The Neck, appearing to enclose a series of barrows and cairns. More intensive study is required before any definitive conclusions can be made about this discrete block of land. Firstly, we need to look carefully at and for evidence of medieval and later activity here. We also need to consider the significance of the promontory fort: is it significant that it was located in a marginal location, set apart from the main island (see Barker and Driver, 2011)?

A second area where the LiDAR has a significant impact is the island's interior—where the later, historic, agriculture was thought to have destroyed any evidence of earlier archaeological features. We can now see the faint traces of the earlier field boundaries within the improved zone and begin to fill in the areas which are currently blank on the archaeological map (Fig. 9). A similar picture also emerges in the previously blank area running along the cliff edge from the Warden's House to South Stream. Here the effects of the coastal slope and evening shadows have always hindered the aerial photography, but the LiDAR now reveals the continuation of the field systems.

Stratigraphic sequences are also beginning to appear, at both small and large scales. It is at the southern end of the island between The Wick and Welsh Way that evidence for phasing and relative

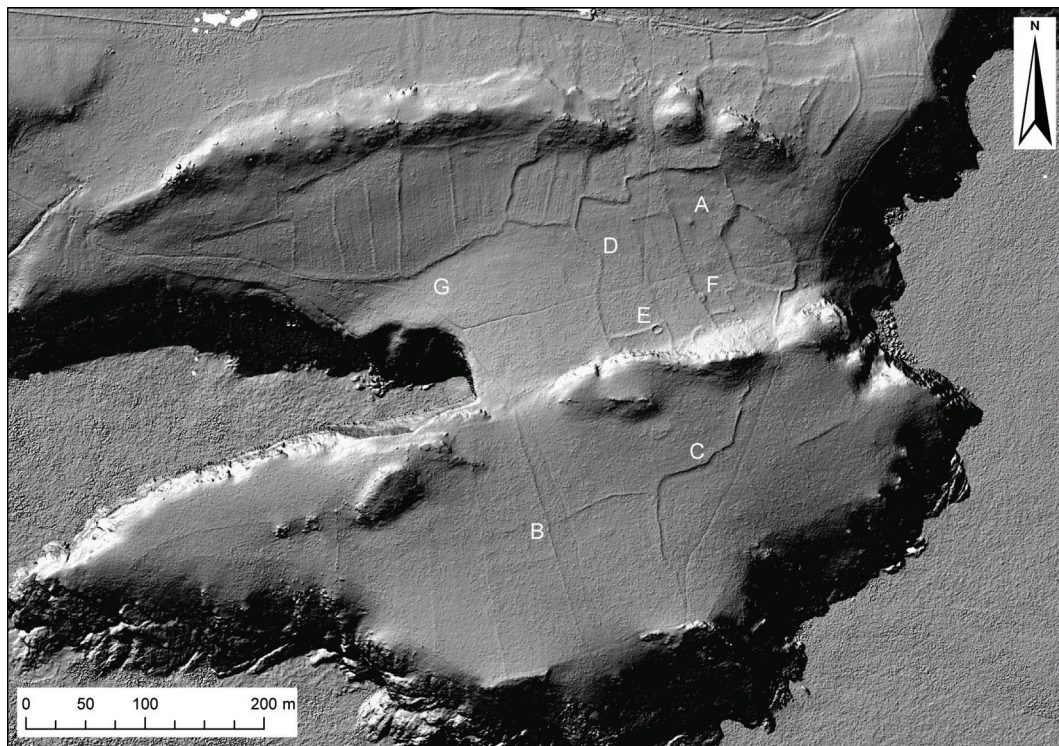


Fig. 10. Complex chronology at The Wick. There are few prehistoric landscapes in Wales where evidence for phasing and relative chronology is so deeply etched as on southern Skomer, between The Wick (inlet, left) and Welsh Way (cliffs opposite, right). Letters refer to longer descriptions in 'Complexity in the field systems' above. © Copyright reserved, Environment Agency Geomatics Group; hillshade DSM view generated by RCAHMW.

chronology is most obvious (Fig. 10). Here, the earliest feature may well be the well-preserved Early Bronze Age round barrow (A), respected within later fields, although a handful of outcrop cairns and standing stone pairs were also recorded during recent fieldwork. The earliest enclosure may have been the great coaxial boundaries which cut south to north on the block of land south of The Wick (B). Apart from their morphology and regional parallels, a later Bronze Age date is possible given their built character; the field boundaries are low, denuded banks commonly defined by a single line of stones within a spread earth bank, 0.8–1 m wide and between 0.05–0.4 m high. Reinforcing their possible antiquity further, these ephemeral banks are incorporated into, then dramatically cut across by, a later plough lynchet (C), standing 0.5m high and faced by boulders and orthostats standing 0.6m high.

To the north the complexity continues across a dry valley, dominated by tall outcrops to the north and south and open to prevailing coastal winds which funnel in from The Wick from west–east. The field boundaries which cross this valley were possibly laid out on the pre-existing coaxial grid. The round barrow (A) is not the only feature which visibly pre-dates these fields. At (D) a later boundary

swerves around a poorly defined 24m diameter platform, potentially the site of a timber domestic structure or even an Early Bronze Age monument which might have partnered the barrow. There is further complexity in this area: the most visited roundhouse on Skomer, Hut 20 (E), was apparently avoided by a later north–south boundary; just to the east a small roundhouse (F) has been slighted and built over by a wall. The way the field systems and presumed prehistoric cultivation ridges to the west (G) form a neat but irregular line around unenclosed ground is crucial negative evidence. Perhaps this was the site of a stand of managed woodland that supported the community who farmed at The Wick.

Further research is required in order to understand this complexity. One approach is to examine the morphology of each boundary and the fields they enclose, and begin building a more sophisticated typological scheme that might help to interpret the development of the field systems (an approach that we remember Frances Lynch forcefully advocated during visits to the relict landscapes at Cors y Gedol, Meirionnydd). Both Grimes and Evans identified different types of boundary: ‘there are two types of fields, one a straightforward walled or embanked enclosure, the other lynched, either negatively or positively’ noted Grimes (1950, 6). Evans divided this further into three basic types, low banks of stone and earth, lines of large stones and cultivation terraces or lynchets (1990, 249–51). What is currently missing from the narrative is the detail of their distribution; without this it is impossible to observe patterns and relationships. In fairness, Evans’s archive does reveal that more detailed survey and a typology were started, but for whatever reason the results never made it to the final publication.

Our first season of fieldwork in April 2011 began a typological study for the North Stream settlement. This is focused around an area of higher ground and outcrops which shelter a number of buildings (including Evans’s conjoined huts 6, 7 and 8). Fields radiate across the gently sloping ground, those to the south running towards the fresh water supply of the North Stream, though apparently stopping before it and thus encircling what may have been an area of open ground. To the north the fields radiate towards and in many cases run right up to the cliff edge. The general appearance is of a rather haphazard, somewhat organic development to the southern fields, and a more regular planned system in the north. Aerial photographs and the LiDAR data indicate phasing within these field systems, particularly in the fields to the south. One example appears to show an enclosure and building overlying earlier field boundaries and, if so, providing us with some of the only evidence we have of phasing for the buildings on the island (Fig. 11).

The first phase of our typological study completed two-thirds of the settlement area and the initial results are shown on Figure 12. Firmer conclusions will come once the fieldwork is complete, though some interesting points are already beginning to emerge. The variety of boundary types is noticeable: whilst they fall within the three main categories described by Evans, there are many subdivisions. The low banks of stone and earth have many different forms and characteristics: some are more earthen than others, some have stone facing, others have noticeable orthostat components. The lines of large stones might be close or widely spaced, comprised of boulders or orthostats, and the lynchets (both negative and positive) might be of earth construction whilst others are stone-faced. Individual boundaries do not have a consistent character throughout their length. What appears to be a single coherent boundary on the survey may on the ground comprise a composite of varying build and type. This is particularly apparent in the north-west sector of the settlement, where the radiating boundaries comprise sections of earth and stone banks and stone lines, linked by a series of low lynchets. This block of fields is very different to the boundaries to the north-east, beyond the cairn group at the northern tip of the settlement. East of the cairns the field boundaries were of a more uniform nature, predominantly earth banks and lynchets. The two boundaries on either side of the cairnfield are also

worthy of note. They radiate from an enclosure constructed against the central area of high ground and were two of the most complex surveyed, incorporating features such as pairs of orthostats. Could these represent a principal phase in the development of the fields, not only framing and adding significance to an earlier cairnfield but also providing the focal point from which the other fields developed?

Substantial lynchets, up to 2m high and in most cases stone-faced, were encountered near the centre of the settlement, circling the higher ground and close to the buildings,. There is clear evidence of cultivation in the same area on the aerial photographs and LiDAR. This seems likely to represent the primary phase in the development of the settlement, the cultivation of the higher, less wooded and easily cleared ground near to the habitation sites. Further fields and enclosures then developed from this central core, the boundaries radiating over the gently sloping ground, their different typologies representing different phases of expansion and materials available, but perhaps also the nature of the fields they defined. Closer to the coastal edge in the north-west, the fields were noticeably stonier, contained more earthfast boulders and there was less evidence of substantial lynchets, indicative of

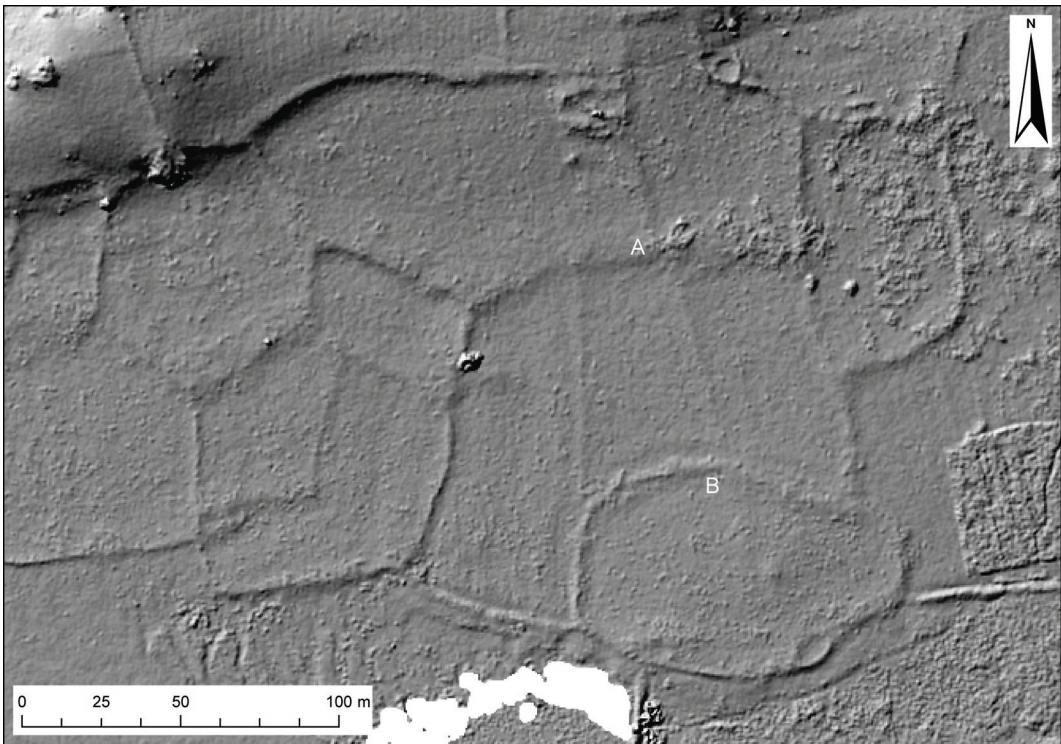


Fig. 11. Part of the northern field system with Evans's hut group 6 at upper centre, with the smaller circular Hut 7 at upper right (see Evans 1990, fig. 6). The LiDAR survey reveals the deep stratigraphic relationships of the field systems very clearly. The twin boundaries which run south from Hut 6, and may be contemporary with its establishment, are crossed by a plough-lynchet at A, and are cut across by the later oval enclosure and hut settlement at B. Only excavation will refine the clear relative relationships seen among these neighbouring settlements. © Copyright reserved, Environment Agency Geomatics Group; hillshade DSM view generated by RCAHMW.

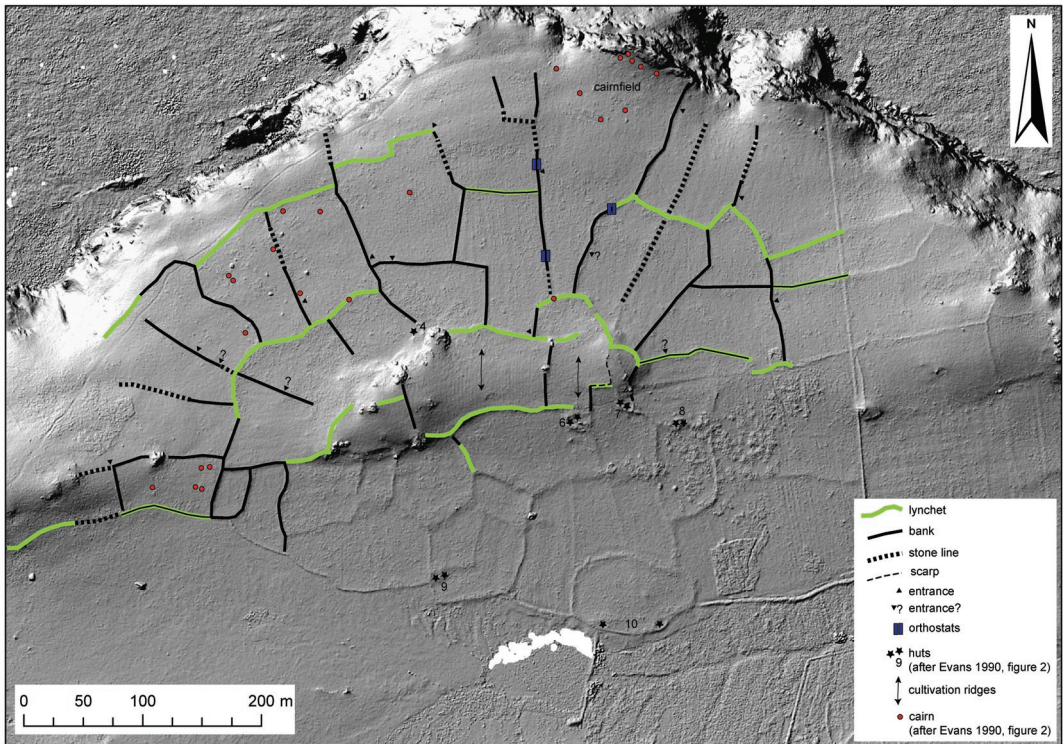


Fig. 12. Skomer, LiDAR image of the northern field systems with new typological study overlaid.
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a predominantly grazing regime, unlike those fields to the east and nearer to the central area of the settlement. It was in this north-west sector that we encountered the clearest evidence for entranceways, although these were no more than simple gaps in the boundaries.

In general, the stratigraphic relationships between boundaries were unclear on the ground and an aerial view may be the best method for identifying sequences. Nonetheless, during the field survey, there were one or two instances where it was possible to say that one boundary overlay another and there were two occasions where lynchets overlay each other. These are all near to the summit core of the settlement, which supports the suggestion made above that this was the earliest and subsequently most modified part of the field system.

Megalithic and sub-megalithic traditions

Pembrokeshire is famed for its megalithic chambered tombs and standing stones, the latter occurring singly, in pairs or in rows. Yet on Skomer we have only one prominent monument, the Harold Stone: a 1.7m monolith of local stone sited towards the eastern edge of a block of fields, looking out over the maritime approaches to the island. The other notable structure is on The Neck, and has in the past been classified as a stone circle (Ordnance Survey 2nd edn, 1908). Later known as 'The Churchyard', Grimes noted that a skull, thought to be human had been found there (1950, 4). It is a 16m by 8m rectangle of low orthostats and the current feeling is that it is unlikely to be a prehistoric stone setting

in the style of Bedd Arthur in the Preseli hills. Its situation at the upper end of a cliff-edge livestock ramp, make this feature more convincing as a later, historic, stock enclosure.

Aside from the Harold Stone, a variety of less obvious monuments of potential Early Bronze Age date are recorded on Skomer. These include the barrow near the Wick, mentioned above, along with a considerable number of cairns. Evans's survey recorded many small cairns *c.* 1–2m in diameter occurring singly or in pairs, but more often in groups of six or more (Evans 1986, 14). He argued (*ibid.* 250) that the solitary cairns or those close to field boundaries may be the result of field clearance, but the larger groups, many in the middle of fields, may have been cemeteries. A particularly good example of a potential cairn cemetery was surveyed on the northern part of Skomer, although the profusion of tiny cairns and stone piles is easily masked by bracken. A further interesting site is Evans's line of cairns (*ibid.* fig. 8, site 11), which appears too neat and regular to be the result of functional agricultural clearance.

In re-visiting some of these cairn cemeteries, and during the re-survey of other settlement areas, the recent survey began to yield new evidence for megalithic structures of Neolithic or Early Bronze Age date. Among these are at least three unrecorded standing stone pairs, clearly identifiable as unusual paired stones in isolation, or incorporated in later boundaries with stone in-filling, precluding their use as gateposts. None of the stones is particularly tall, but a prominent example is found at The Wick (SM 7235 0886), sited some 50m west of cairn group 52 and at the foot of a rocky slope between a rock outcrop and the sea cliffs (Fig. 13). The stones are aligned ENE and stand 0.6m apart. The



Fig. 13. Stone pair at The Wick, featuring a low pillar stone and a broad flat stone sited 0.6m apart.

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Fig. 14. Probable megalithic site on northeast Skomer, with two orthostats found in close association with a large, earthfast rectangular slab of natural origin, seen from the south. The twin orthostats break the skyline when seen from all southern approaches and look out across St Brides Bay to the peaks of St Davids Head to the north. © Crown copyright: RCAHMW, DS2011_448_001.

western stone is low and narrow, with a taller, broader stone to the east.

Another possible stone pair closely associated with an earthfast natural slab is prominent on the skyline on the north-eastern part of Skomer Island (SM 7266 0998) (Fig. 14). The pair of upright stones stand 3.25m apart and are incorporated in the vestiges of a field boundary bank 0.8m wide. Some 2m to the south of the western upright, and thus off-centre to the pair, is a sizable earthfast natural slab measuring approximately 2m by 2m whose front (north) edge rises 0.5m above the ground. The slab is of note as it is isolated in clear ground and not closely matched by comparable slabs or boulders in the vicinity. While the two upright stones to its north bear resemblance to a functional pair of gateposts in a prehistoric boundary, a number of large blocks and slabs infill the gap between them. Thus, the boundary appears to have been constructed along the line of the pre-existing stone pair, and the gap between them infilled, so as to create a continuous boundary with no entrance. Such a scenario could suggest that the stone pair were originally freestanding. Coupled with the proximity of the large earthfast slab and their highly conspicuous position on a low summit on the north of the island, where their silhouette is visible from all western and southern approaches (including from the Old Farm at the centre of island), there is the strong likelihood that the stone pair represents a

megalithic or sub-megalithic monument. The monument lies just to the north of Evans's Cairn Group 11 (1990, fig. 8) and thus may be closely related to a cairnfield of unusual concentration.

Other sites require reinterpretation or further study. Among these is one of the most famous and photographed boulder-defined field boundaries in the far south-west of the island (Fig. 15). Evans (1990, 249) observed that some of these boundaries are reminiscent of ritual alignments on Dartmoor, but he interpreted them as robbed-out walls, the smaller stones won to construct the historic boundaries. While glacial boulders and field clearance clearly shaped the form of some of the field boundaries in the west of the island, this prominent alignment has marked differences. It lies at the limit of enclosure in the south-western part of the island, is sited to be highly conspicuous from distant viewpoints and is uniquely megalithic in its construction since it runs to a miniature terminal cairn on a local summit. While we cannot prove that this is a monumental stone row, rather than a field boundary, the evidence suggests it is non-standard when compared with the other agricultural walls.

More work is also required to investigate the distinct phenomenon of summit boulders and low orthostats which crown a line of east–west outcrops at The Wick, and dominate the settlements below (Fig. 16). While the last glaciation left many boulders isolated on these outcrops, and subsequent



Fig. 15. A stone row in hiding? This oft-photographed boulder-defined boundary at the south-western limits of wall building on the island is unusual in many respects. It incorporates a high proportion of large orthostats and is sited on the highly visible crest of the horizon line when seen from the east. Uniquely on Skomer it kinks to avoid meeting the outcrop at its north end (seen here in the distance) and instead runs to a well-defined terminal cairn in the manner of distinctly ritual stone rows on Dartmoor. © Crown copyright: RCAHMW, DS2010_550_003.



Fig. 16. A distinct line of natural boulders breaks the skyline on the summit of an outcrop at The Wick; some are naturally propped on smaller stones following glacial action and erosion. Elsewhere natural boulders are augmented with low standing stones. This line of blocks remained uncleared by all communities who built huts and walls around the bases of these outcrops. Did the blocks prove too difficult to move, or were they invested with ritual properties? A figure provides a scale on the summit, among circling gulls. © *Crown copyright: RCAHMW, DS2011_449_001*.

freeze-thaw action has left some blocks naturally propped up on smaller stones, a degree of human manipulation is evident from field investigation of these prominent blocks. Field examination identified an artificial stone pair set on the horizon line among other naturally occurring boulders; at a distance the artificial stones and uncleared natural boulders together form a highly visible and coherent alignment. These stone settings and isolated boulders were clearly not utilised or broken-up for the construction of boundaries and settlements even though considerable numbers of huts and walls lie close by. The reasons why have yet to be elucidated, but once attention has been drawn to these summit features it is impossible to revisit south Skomer without being acutely aware of them. It is also notable that in many areas of the island, particularly the central section, the prehistoric field boundaries are constructed to link together the outcrops; in other areas such as the North Stream settlement, field boundaries take on a different character in proximity to some outcrops. In one case, an earth and stone bank becomes a single line of large stones, perhaps in an attempt to resemble and enhance an earlier phenomenon.

CONCLUSIONS

In 1990, John Evans described the sequence of events that had brought him to Skomer. From an initial visit he recorded: ‘it was apparent that most of the small enclosures, or pounds, and habitations had not been planned by Grimes and that much of the surface archaeology remained to be recorded’ (Evans 1990, 247). Similar events have brought the present authors back to Skomer to map new evidence missed or omitted by previous archaeologists. In the thirty years since Evans’s work we have the benefit of new technology, although this only offers an incomplete picture. For example, in the western part of North Valley, Evans observed a field wall in the dried-out North Pond in 1989, and hut circles as dark soil marks (Evans 1990, 251), yet none of these features has been picked up by the LiDAR survey. Skomer still has archaeological secrets to be revealed. With this in mind, we are cognisant of the ways that archaeology continues to develop as a discipline, and how well-studied landscapes will always yield new elements to perceptive eyes. Therefore we hope that future surveyors, perhaps equipped with new instruments or new insights, may be able to extract evidence, still hidden, from the rocks and soils of this island landscape.

To date, a number of new discoveries have been made, potentially indicating initial construction of megalithic monuments in the Neolithic and Early Bronze Age, the establishment of coaxial fields and associated settlements in the south of the island, possibly in the later Bronze Age, followed by comprehensive settlement of the entire island, which might have taken place in the Iron Age and Romano-British periods. The dramatic ‘Easter Island’ scenario offered by Evans (1990, 255) in which the island’s inhabitants ran out of wood and peat for fuel and building within a century and had to abandon the island, now seems too simplistic a narrative for the sustainability of prehistoric farming life, and it may be more appropriate to envisage a succession of phases of expansion, contraction and abandonment.

Moving forward, what do we hope to achieve? The LiDAR data will be analysed and a new map produced, supported by intensive ground truthing. The boundary survey will be completed for the North Stream settlement and expanded across the rest of the island and we also intend to build upon the preliminary work undertaken on the settlements. Lithics provide another avenue of inquiry. Find spots are noted on the Dyfed Historic Environment Record, and our recent fieldwork collected and plotted stray flints and stone objects from eroding topsoil among field systems in the north and south of the island, and from a particularly prolific eroding flint scatter on the north-west of the island near Bull Hole. Every surface find has relevance in an environment where there has been no modern excavation.

The project is not solely focused on the prehistoric landscape. Knowledge of the island’s later history is if anything less clear, and whilst we have the benefit of historical documents, we are currently uncertain how this is reflected on the ground. Does the Scandinavian origin of the island’s name reflect possible Viking use, and can this be traced on the ground? Similarly, aside from the numerous burrows, what other legacies did the rabbit farming leave behind? Can we establish the first date and site of a permanent settlement on the island? Late in the preparation of this paper, the first signs of deserted settlement earthworks were identified underlying the buildings of Old Farm in the centre of the island (Fig. 17). Not depicted on the first edition Ordnance Survey map, these denuded angular earthworks may represent an historic precursor of the present farm and will be investigated in subsequent field seasons.

The new fieldwork has begun to reveal many strands of Skomer’s prehistory and history, and our future research needs to untangle these further, hopefully with the aid of some of the key items currently missing from the story—finds, dating and environmental evidence.

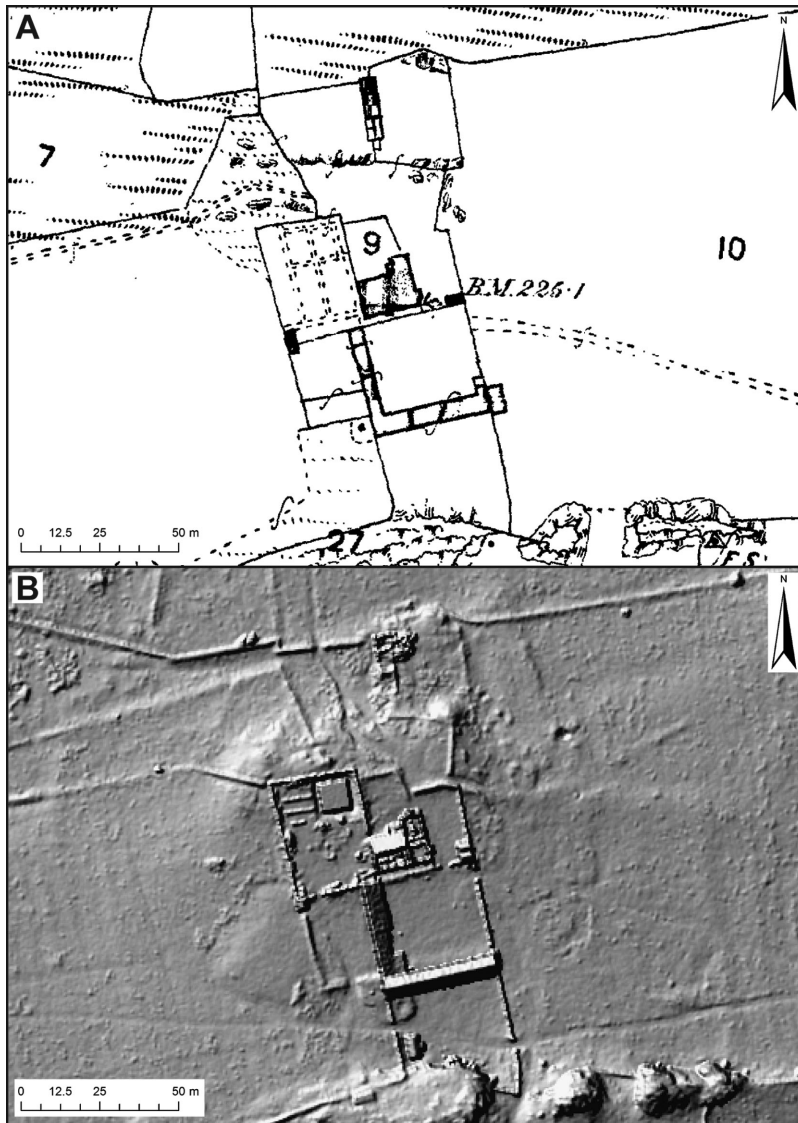


Fig. 17. Denuded, angular earthworks visible on the LiDAR data beneath and to the east of Old Farm in the centre of the island (in B above) suggest an historic precursor to the farm buildings. Remnants of a substantial polygonal enclosure can be seen, containing a smaller enclosure on the north side, and at least two rectangular depressions that could represent building platforms perhaps of medieval date. The earthworks are avoided by later ploughing lines. The Ordnance Survey 1st edition map of the eighteenth-century farm (A) shows the farm buildings as they were in 1896, but no traces of any contemporary structures which would explain the LiDAR features. © Copyright reserved, Environment Agency Geomatics Group; hillshade DSM view generated by RCAHMW.

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