

**Comisiwn Brenhinol Henebion Cymru**  
**Royal Commission**  
**on the**  
**Ancient and Historical Monuments of Wales**



**A GROUND SURVEY OF GRASSHOLM ISLAND, 2012**

**County:** Pembrokeshire  
**Community:** Marloes and St Brides  
**NGR:** SM 5982 0923  
**NPRN:** 404206  
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## 1. INTRODUCTION

This document reports on a ground survey undertaken on Grassholm Island, Pembrokeshire, (SM 5982 0923) on the 13 October 2012 by the Royal Commission on the Ancient and Historical Monuments of Wales (The Commission). The fieldwork builds upon previous survey and excavation on the island (Hague 1972; Davis 2012a) and forms part of a larger programme of research on the Pembrokeshire islands by the Commission and Sheffield University (Barker *et al.* 2012; Johnston *et al.* 2012; Davis 2012b). The focus of the 2012 fieldwork on Grassholm was a small, possibly prehistoric, settlement running down the central spine of the island, first identified by the Commission during aerial reconnaissance in November 2011. As the gannet colony on the island has expanded, the caustic effects of gannet guano has removed overlying vegetation and revealed a series of stone-built features beneath. Annual visits to the island by the RSPB are undertaken to free gannet fledglings tangled up in marine debris brought to the island. Given the results of the 2011 aerial reconnaissance the Commission were granted the opportunity to accompany the RSPB wardens to the island during their 2012 visit.

### 1.1 Location, land-use and access

Grassholm is a small, oval-shaped island 8.9 hectares in extent, located 15 kilometres west of Marloes on the south-west Pembrokeshire coast; aside from the Smalls it is the most westerly land in Wales (Figure 1). The island is exposed and isolated with the sea surrounding it often treacherous. Fast-moving currents make landing challenging; there are no beaches, just shallow sloping cliffs on all sides. The north-eastern side of the island provides a suitably sheltered, but difficult, disembarkation point. Public landing is not allowed.

The island, contained within the Pembrokeshire Coast National Park, is owned and managed by the RSPB as a National Nature Reserve. It is a heavily protected landscape, designated as a Site of Special Scientific Interest, a Special Protection Area and a Special Area of Conservation. It is of international importance for its breeding seabirds, in particular gannets. Over the last 50 years the gannet population has increased dramatically and the island is now home to one of the largest gannet colonies in the world supporting around 39,000 breeding pairs, some 9.5 per cent of the entire world population.

### 1.2 Geology and topography

The geology of Grassholm is dominated by volcanic grey basalts, similar to the Silurian igneous intrusions that form nearby Skomer Island and the Marloes Peninsula. The island is low-lying and the highest point, only 42 metres above sea level, is situated near the north end of a ridge aligned NNE-SSW that runs down the centre of the island.

The vegetation covering those areas not affected by the gannetry is *Festucarubra*, a tussocky coarse grass. Here the ground surface remains densely perforated by the burrows of a former puffin colony, estimated to have numbered half a million in the late 19<sup>th</sup> century (Lockley 1957, 383).

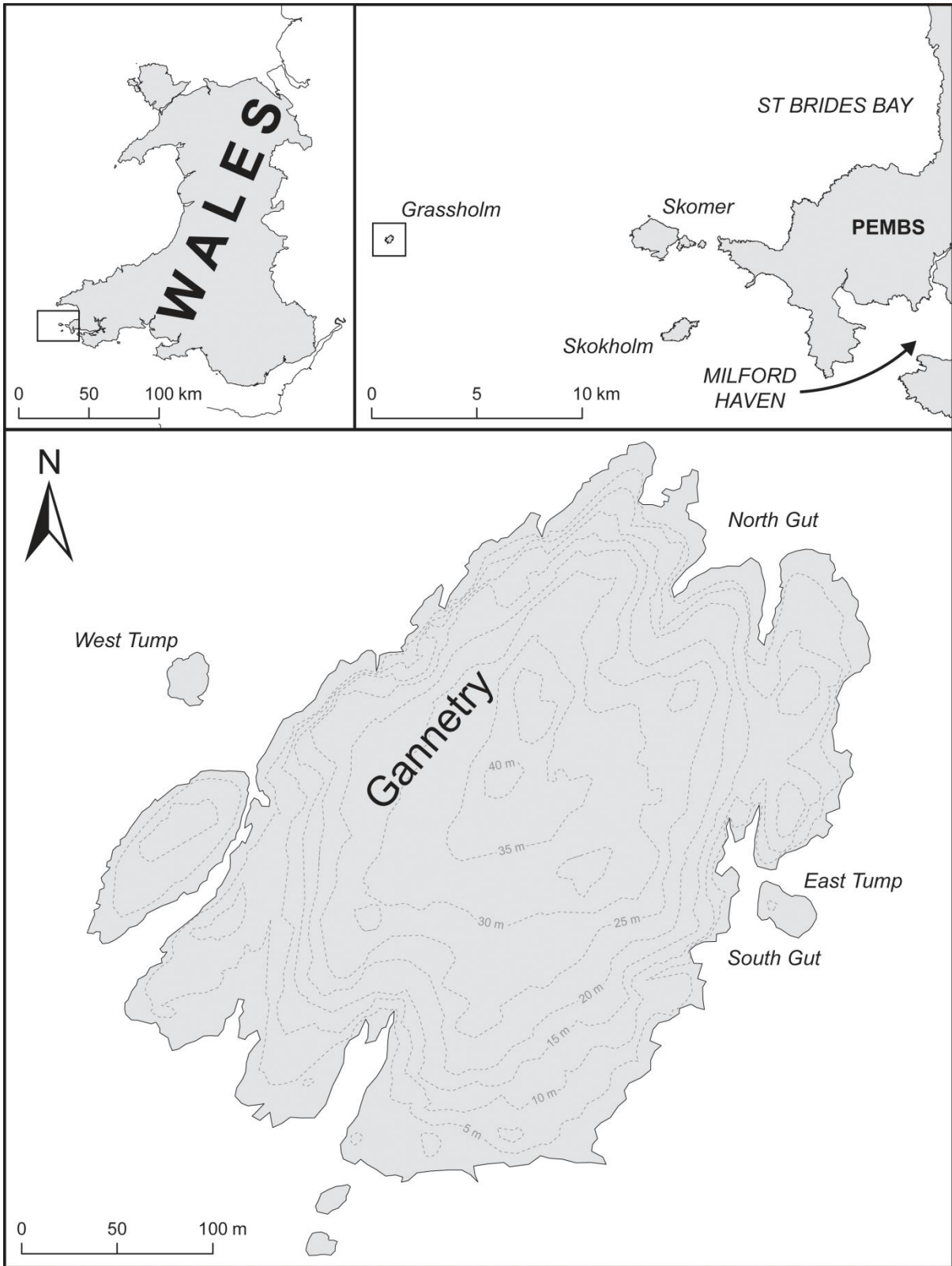


Figure 1 Location map of Grassholm

## **2. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND**

### **2.1 Historical summary**

The name Grassholm (earlier spellings include Gresse Holme and Gresholme), is Scandinavian, a similar nomenclature to its island neighbours Skomer, Skokholm and Gateholm. The name is thought to be first recorded in a fifteenth century itinerary by William Worcester (Hague, 1972a). However, the Elizabethan Pembrokeshire historian George Owen, writing about 1600, also named it 'Wallayes', probably a corruption of the Welsh name 'Gwales' (Miles 1994). In the medieval Welsh folk tales, the Mabinogion, Gwales features in the legend of Branwen. Fleeing from battle in Ireland, a small party of seven survivors lived on Gwales for 80 years in a kingly hall with three doors (Jones *et al.* 1993).

Little is known about the history of land use on Grassholm, although it has been noted that during the Middle Ages sheep were grazed here during the summer (<http://www.pembrokeshirecoast.org.uk/default.asp?pid=373>). Almost two centuries after George Owen's account, Lewis Morris, the Welsh writer and cartographer, visited the island during the preparation of his book 'Surveys of Welsh Harbours' published in 1748. He recommended the construction of a lighthouse on the island although the plans were never carried out and instead one was built on the Smalls (Hague 1994, 21). During the 19<sup>th</sup> century, and possibly earlier, the island formed an extension to the landholdings of Skomer Island. It remains unclear as to whether it was farmed in anyway during this period, but recollections do recall visits to collect eggs (Lockely 1957, 382). It is likely that the isolated and exposed location, combined with the sheer number of nesting birds - initially puffins and later gannets - would have been a hindrance to farming, even for grazing. At the turn of the 20<sup>th</sup> century when J. J. Neale leased Grassholm, it became managed as a protected landscape and was officially recognised as such when it became a National Nature Reserve in 1947 (Lockley 1957, 384).

### **2.2 Previous archaeological research**

There are currently no known records referencing archaeological remains on Grassholm prior to the 20<sup>th</sup> century. Whilst the Ordnance Survey did visit and map the island for the first edition 25-inch map of 1875, one must assume that at this date the dense covering of vegetation combined with prolific puffin activity still obscured the archaeology since no archaeological features were mapped.

The first documented archaeological discovery dates to the early 20<sup>th</sup> century when T.H. Thomas and T.W. Progar deposited with Amgueddfa Cymru - National Museum Wales a small collection of pottery, flint flakes and burnt stones labelled '...from the site of ancient dwellings, Grassholm Island' (Grimes 1939, 199 no. 475; Savory 1976, 66). Two fragments of the pottery are preserved at the museum; they are thought to derive from the same vessel and are most likely Iron Age in date (A. Gwilt pers comm.). Of the burnt stones, two are sandstone and not native to the island and therefore must have been brought there (Davis 2012a, 6).

A letter, recounted on The Skomer Island Blog reveals details of a seemingly secret excavation by archaeologists on Grassholm during a day in July 1946. The site of interest was reported to be a well and the letter recounts that at the end of the day one of the undergraduates in the party of archaeologists ‘...had pockets bulging with shards of pottery’. The writer describes the pottery as ‘...two kinds, some delicate, one of them decorated with wart-like protrusion, in what was then called Samian Ware...and a greyish brown kind.’ (<http://skomerisland.blogspot.co.uk/2011/06/springwatch-arriving-and-rabbit-for.html>; Dyfed Archaeological Trust HER, PRN 14193). There is no further record of this excavation, or a confirmed location for the well. This site is of great interest; it suggests the possibility of Roman period occupation and is given some support from the fact that fresh water was found below the surface during Hague’s excavations of 1972, as detailed below.

The first archaeological survey on the island was carried out by D.B. Hague, of the Commission. Hague initially visited the island in 1963 with the naturalist R.M. Lockley, who had observed during a visit in 1956 that structures were being revealed by the caustic effect of guano, which was killing the dense mattress of *Festucarubra* on the western side of the island and exposing the light soil beneath (Lockley 1957, 386). The visit was brief and only a rough plan of a settlement (NPRN 418261), together with two sites to the north and north-east of the settlement, a small oval stone enclosure (NPRN 418262) and a platform (NPRN 418263) abutting an outcrop was made. When the Ordnance Survey visited the island in 1968 more extensive walling of the settlement had been revealed and these remains together with that of the platform then termed a rock shelter, were surveyed at a scale of 1:1250 (OS495 Card: SM 50 NE 1). Hague with the help of Commission colleague Dylan Roberts returned to the island in 1972 and, during a five day stay, was able to survey and carefully examine the exposed remains of the settlement in more detail. The resulting sketches, plans and account were not published at the time, but have been preserved in the Hague archive collection at the National Monuments Record of Wales (for a selection of Hague’s plans see Davis, 2012a).

Hague identified that the settlement comprised of several conjoined structures. In the centre was a rectangular shaped house, 9.5 metres by 8 metres, constructed of mixed orthostats and coursed masonry, and standing c. 0.3 metres high. This was abutted to the south by a slightly larger building, 9.5 metres by 11.5 metres and to the north by a rounded enclosure, 13 metres in diameter. Field walls were traced radiating out from this cluster of buildings to the north and east, but their extent was obscured by the gannetry. Although there was no obvious spring on the island, excavations within the house showed that water lay on the rock c. 0.5 metres below the surface. Hague suggested that the whole settlement stood on a collecting area, which could have been tapped either north or south of the enclosures by means of a shallow basin.

Given the character of the settlement, Hague suggested that the remains showed a serious attempt to set up a farmstead on the island, rather than shelters associated with catching gannets (1972b, 41). However, despite small-scale excavation no artefacts were recovered and the chronology could only be guessed at. Hague dated the site to the early medieval period based on analogy with Gateholm where excavation of similar buildings, conjoined in rows, were laid out either side of a trackway running down the spine of the island (Lethbridge and David 1930; Davies *et al.* 1971; Davis, 2012b).

During this visit Hague also carefully examined several circular depressions, which appeared on aerial photographs and had been noted by various observers as roundhouses (Hague 1972a). He re-interpreted them as bomb craters after finding small metal fragments which may have been shrapnel – the island had been used as a target during the Second World War by the United States Air Force (Hague 1972b, 41).

### 2.3 Summary of recent aerial survey

Since 2001 aerial photography by the Commission, taken in excellent low light, has revealed more features than has been previously recorded (see Davis 2012a, figure 5). The first aerial survey of the island, in 2001, revealed hitherto unrecorded earthworks on the eastern half of the island (Driver 2007). Nestled between rock outcrops were the remains of walls together with rectangular structures covered by the tussocky grass, most likely invisible to previous ground survey. However, the previously recorded archaeological remains on the western half of the island were obscured by the nesting gannets.



*Figure 2 Photograph of Grassholm taken in November 2011 with the gannets absent. Note that the gannet nests crowd on to the left-hand (western) side of the island while grass remains on the right-hand (eastern) side. Archaeological features are most visible down the central spine of the island where the grass cover has been lost. (Crown copyright RCAHMW: AP\_2011\_4436).*

Further aerial survey was undertaken in November 2011, at a time when the gannets were absent from the island, and revealed more evidence for occupation (Figure 2). As the gannetry has increased in size over the last 40 years, this has resulted in the removal of the vegetation down the central spine of the island, thereby exposed a number of stone-built structures. In the lee of a rock outcrop was a circular building, c. 5 metres in diameter. This was identified as a roundhouse, rather than a bomb crater since it appeared that several stone-built boundaries led up to and away from this structure. To the south of this are two stone-built boundaries, orientated east-west, forming levelled terraces. It was also clear that Hague's settlement was now completely obscured beneath the mud nests of the gannets, which raised the interesting question about how much more archaeology has been obscured by the gannetry.

### **3. PROJECT AIMS AND OBJECTIVES**

The aim of the 2012 ground survey was to evaluate and confirm the findings from the recent aerial reconnaissance. There were three objectives:

1. To evaluate, ground-truth and map the identified remains from aerial survey
2. To evaluate and identify other remains not detected through aerial survey
3. To undertake surface collection of artefacts to establish chronological range for the island settlement

### **4. METHODOLOGY**

#### **4.1 Dates and conditions of fieldwork**

The fieldwork was undertaken on 13 October 2012. The weather was dry, but heavy rain during the preceding week meant that the soil was damp and very muddy. The ground across the western half of the island was covered by the nests of the gannets. The nests are shallow depressions on the tops of squat pillars of mud, stained white from guano. These pedestal nests are arranged approximately 0.5 metres apart, and make identification of archaeology below and between them almost impossible. In contrast, the eastern half of the island, sheltered from the worst influence of wind exposure and salt spray, is covered by *Festucarubra*, a coarse tussocky grass but perforated by puffin burrows. A narrow strip of ground within the centre of the island, 40 metres in width, running from the north to south coast was relatively free of both nests and the grass covering because the vegetation has been pressed down and killed by the guano and trampling of the gannets. It is in this location that the archaeological remains were most visible.

#### **4.2 Survey methods**

Survey was undertaken using a Leica mapping-grade GPS (Zeno 15) with 3D accuracy ranging between 0.7 – 2.0 metres. Features were mapped at 1:2500 scale, using point and line codes. Data was gathered using latitude, longitude and ellipsoid height and then transformed to British National Grid.



## 5. RESULTS

### 5.1 Ground survey

The ground survey concentrated upon identifying and recording the archaeological remains identified from the aerial survey (Figure 3).

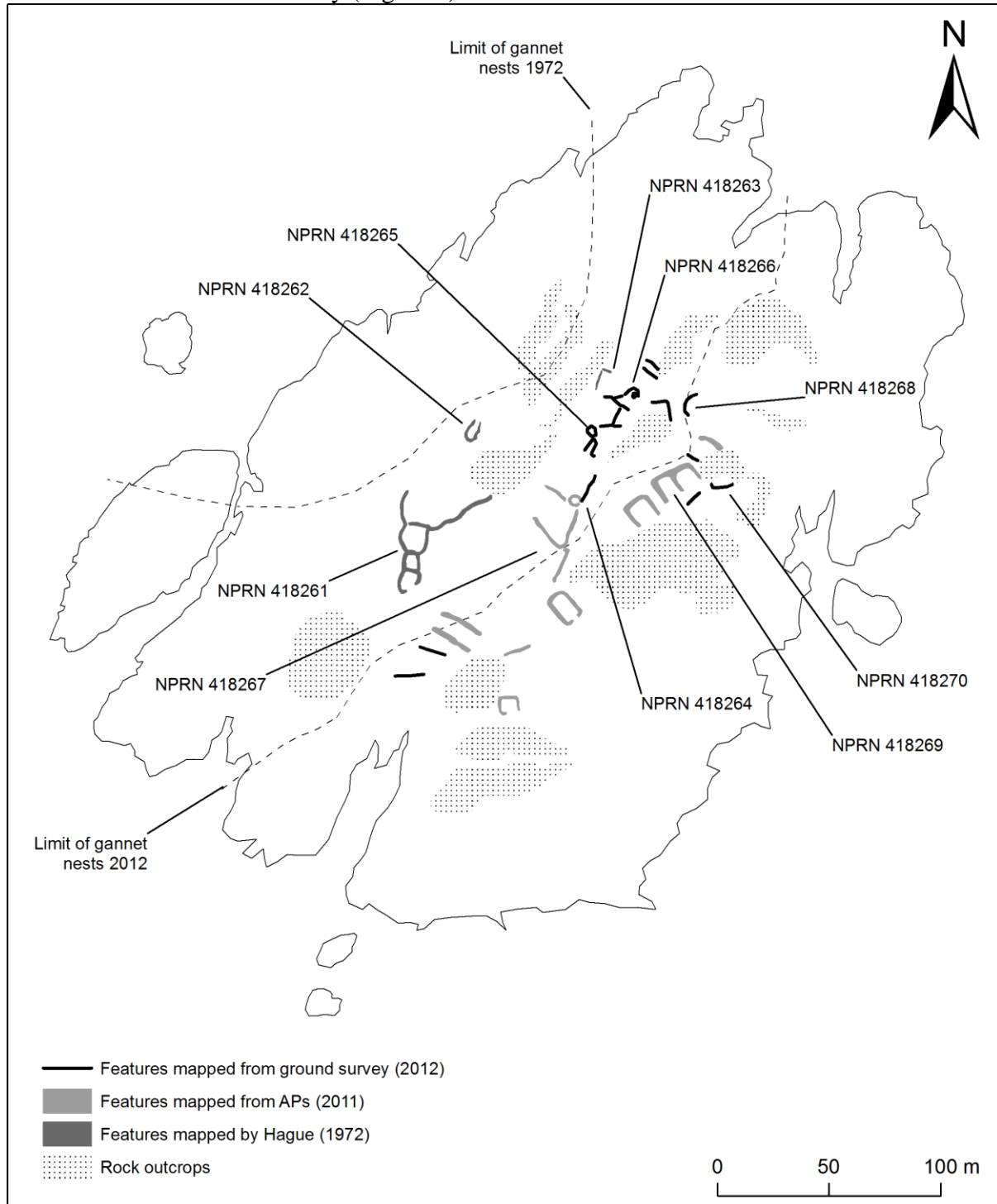


Figure 3 Map of Grassholm showing all identified features from excavation (Hague 1972a), aerial survey (Davis 2012a) and the 2012 ground survey.

Due to limited time, the majority of time was spent surveying features along the central spine of the island. This revealed a complex of at least two roundhouses (NPRNs 418264 and 418265), a cairn (NPRN 418266) and many lengths of stone-built field-boundaries, defining a series of small fields and terraces, most of which had been invisible from aerial survey and therefore not previously mapped (NPRN 418267). To the east of the central spine, in the lee of several rock outcrops, the ground survey also provided extra clarity about the conjoined rectangular structures (NPRN 418269) previously mapped from aerial photographs and also identified a hitherto unknown small D-shaped enclosure abutting a rock outcrop (NPRN 418270) and a small circular enclosure (NPRN 418268). To the south of these, further amorphous structures covered by tussocky grass were identified, although unfortunately time prevented detailed investigation and survey.

The individual features are described in more detail below:

**FEATURE:** Roundhouse 1

**NPRN:** 418264

**NGR:** SM5984609345

**DESCRIPTION:** Stone-built roundhouse, measuring 3.1 metres internally, with an entrance facing south-east. The walls are constructed of boulders ranging from 0.2 to 0.3 metres in size (Figure 4). Off-centre within the south-eastern quadrant of the roundhouse, is a square setting of stones, c. 0.6 by 0.6 metres (Figure 5). Some of the stones used in its construction appeared reddened, possible as a result of burning, suggesting that this may have been a setting for a hearth. The roundhouse wall abuts a field boundary to the north and south of the entrance.



*Figure 4 Roundhouse 1 (NPRN 418264), looking north. (Crown copyright RCAHMW: DS2013\_015\_002)*



*Figure 5 Possible hearth feature within roundhouse 1. (Crown copyright RCAHMW: DS2013\_015\_003).*

**FEATURE:** Roundhouse 2

**NPRN:** 418265

**NGR:** SM5985409376

**DESCRIPTION:** Stone-built roundhouse, measuring 3 metres internally, with a possible southwest facing entrance (Figure 6). The walls are constructed of boulders ranging from 0.2 to 0.3 metres in size. The roundhouse is situated at the northern edge of the central plateau and from it the ground slopes gently away. A field boundary abuts it to the southeast.



*Figure 6 Roundhouse 2 (NPRN 418265), looking north. (Crown copyright RCAHMW: DS2013\_035\_001)*

**FEATURE:** Cairn

**NPRN:** 418266

**NGR:** SM5987209393

**DESCRIPTION:** A southwest-northeast field boundary terminates at its north-eastern end in a possible cairn. The cairn is 5.3 metres in width and 0.7 metres in height (Figure 7). It is primarily constructed of small stones and boulders (0.1 to 0.2 metres in size) with a few large boulders (more than 0.5 metres in size).



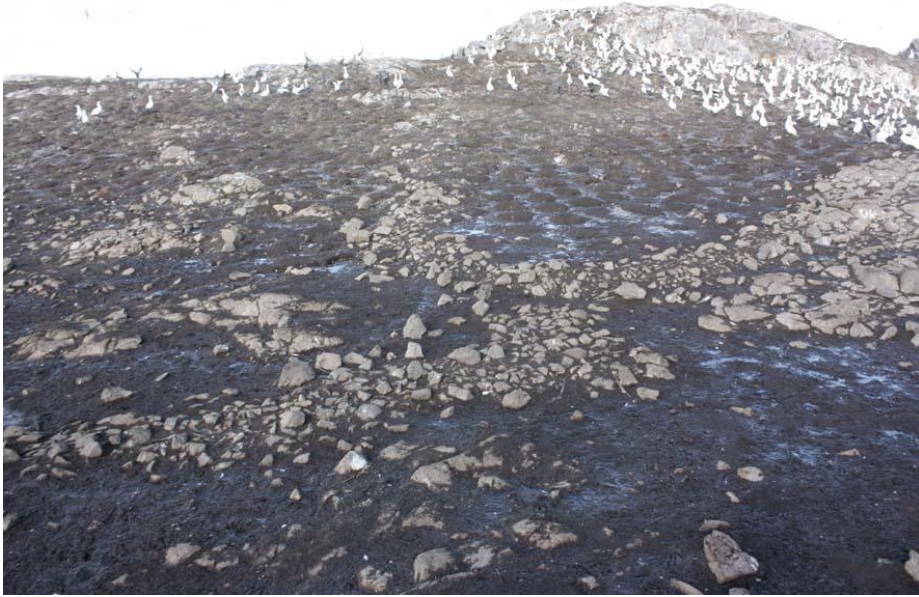
*Figure 7 Possible cairn (NPRN 418266), looking west. (Crown copyright RCAHMW: DS2013\_016\_004)*

**FEATURE:** Field boundaries and terraces

**NPRN:** 418267

**NGR:** SM5985109363

**DESCRIPTION:** A series of aligned (north-west to south-east) field boundaries, surviving as low walls and crossing the relatively narrow, c.40 metre wide, central spine of the island. They divide the area into a series of small rectangular fields. On the sloping ground at the northern and southern end are lengths of retaining walls also aligned northwest to southeast and linking outcrops, defining a series of stepped terraces, at least two to the north and four to the south. The boundaries vary in width from 0.7 to 0.9 metres and are constructed of a double line of large boulders (0.3 to 0.5 metres in size) in-filled with smaller stones, some of which were reddened as if burnt. The walls are very low and denuded surviving only 0.2 to 0.3 metres above the modern ground surface (Figure 8).



*Figure 8* Field boundaries (NPRN 418267), looking west. (Crown copyright RCAHMW: DS2013\_040\_001)

**FEATURE:** Circular enclosure

**NPRN:** 418268

**NGR:** SM5989809387

**DESCRIPTION:** Part of a circular enclosure, c. 10 metres in diameter situated at the north eastern edge of the central spine of the island (Figure 9). The enclosure is defined by a stone wall, c.0.7 metres wide, comprised of small stones. The wall is low and much denuded like the associated field boundaries and stands only 0.2 to 0.3 metres above the ground surface. The eastern half is now obscured by gannet nests.



*Figure 9* Part of a circular enclosure (NPRN 418268), looking north. (Crown copyright RCAHMW: DS2013\_017\_001)

**FEATURE:** Conjoined rectangular structures

**NPRN:** 418269

**NGR:** SM5988309344

**DESCRIPTION:** Nestled between rock outcrops and abutting the eastern outcrop a complex of four rectangular structures, some of which are conjoined. The walls are entirely grass covered, but range from 1 to 1.2 metres in width and up to 0.6 metres high defining an area approximately 10 by 11 metres (Figure 10).



*Figure 10 Conjoined rectangular structures (NPRN 418269), looking northwest. (Crown copyright RCAHMW: DS2013\_036\_001)*

**FEATURE:** D-shaped enclosure

**NPRN:** 418270

**NGR:** SM5990509345

**DESCRIPTION:**

A D-shaped enclosure 9 by 5 metres, abutting a rock outcrop on its northern side, with the southern edge defined by a grass covered wall (Figure 11). This feature appears to be similar to the one identified by Hague and surveyed by the Ordnance Survey 110 m to the northwest (NPRN 418262). Similar enclosures have also been identified on nearby Skomer Island (compare with Evans 1990, figure 4).



Figure 10 D-shaped enclosure (NPRN 418270) abutting rock outcrop, looking north. (Crown copyright RCAHMW: DS2013\_018\_001)

## 5.2 Surface collection

The ground conditions were extremely muddy, which was not ideal for the identification of surface scatters of artefacts. However, an area of approximately 2,000 square metres in the south of the island was noted as being suitably well drained and free of nests and grass to allow intensive field-walking. Unfortunately, time was limited (we were required to leave the island sooner than expected due to swell) and only three artefacts were recovered. This assemblage contained a flint flake and two fragmented pot-boilers. A collection complementing the one deposited with National Museum Wales at the beginning of the 20<sup>th</sup> century (described above).

## 6. CONCLUSIONS AND RECOMMENDATIONS

### 6.1 Conclusions

The aim of the ground survey was to evaluate and confirm the results of the recent aerial survey. In fact, the ground survey undertaken in October 2012 has revealed a much more extensive settlement on the island than previously realised. The nature of the evidence suggests successive phases of occupation and abandonment. The stone-built round-houses, cairn and field boundaries, suggest initial occupation on the island in the prehistoric period. Similar, small, later prehistoric, roundhouses linked to field boundaries are paralleled on nearby Skomer (Evans 1990; Barker *et al* 2012). This occupation may only have been seasonal, perhaps to collect seabird eggs, but the complex of boundaries forming fields and terraces suggests an attempt to establish a small farmstead on the island. The surface finds of a flint flake and burnt stones, recovered during a very short period of field-walking, indicate that intensive surface collection may provide a substantial assemblage of material that could be used to provide a chronological range for the occupation.

The conjoined rectangular structures revealed by recent aerial survey and confirmed through ground survey are of different character. As with Hague's settlement the nearest parallel is the much larger settlement on Gateholm, where recent LiDAR survey by the Commission (Davis 2012b) has revealed at least 120 sub-rectangular compartments linked by lengths of walling. Clearly, the overall organisation of the structures on Grassholm does not mirror that on Gateholm, where the buildings were laid out either side of a trackway. However, the conjoined buildings excavated by Hague, now hidden below the gannet nests, are of similar size and construction to those investigated by Lethbridge and David (1930) on Gateholm, and may be of similar date.

## 6.2 Recommendations for further work

The limited time spent on the island meant that only a partial ground survey of the remains was possible. In particular the survey of the southern part of the island was incomplete as a hasty disembarkation from the island was required. This means that another visit to complete the survey is essential. There was not sufficient time for a detailed surface collection to be completed, but even so, a small assemblage of artefacts was recovered. This suggests that a future visit should concentrate on the intensive gridding out and field-walking on the southern part of the island where the ground is exposed, but there are no gannet nests.

It is also useful to contemplate the effect of the gannet nests. It is not clear whether they are destructive of the archaeology, but they certainly obscure it from view. As the gannet colony grows, more of the eastern half of the island's archaeology will be revealed as the guano kills off the grass, but will be quickly obscured again from view as the gannet nests begin to colonise this area. The opportunity, if possible, should be taken to regularly visit the island to monitor and record the archaeology before it is covered over by the nests.

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