

## JOHN HURST DISSERTATION PRIZE 2014

In 2004, the *Medieval Settlement Research Group* announced the launch of a prize, set up in honour of the late John Hurst, who did so much to promote the field of medieval archaeology and in particular the study of medieval settlement. To encourage new and young scholars in the field, an annual prize of £200 is offered to graduate students for the best Masters dissertation on any theme in the field of medieval settlement and landscape in Britain and Ireland (c. AD 400–1600). Directors of Masters courses in Archaeology, English Local History, Landscape Studies and related fields are invited to submit high-quality completed dissertations for consideration by the MSRSG Committee. For the 2014 award, we are delighted to announce that the prize winner is Lindsey Stirling, whose dissertation was part of her MSc in the Archaeology of the North at the University of Aberdeen. The following article presents an extended summary of this research.

### THE LAND BENEATH THE SAND: Contextualising the early medieval shell middens at Sands of Forvie

By LINDSEY STIRLING

#### Introduction

Archaeological research at the Sands of Forvie has been ongoing since the 1860s, focusing on a range of different sites and time periods, from the Mesolithic to the Medieval Period (Fig. 1). The wealth of sites at this location is due to the burial of the sites and their associated ancient landscapes by sand, which has protected the archaeological features from destructive processes – both natural and anthropogenic. The features of central concern to this project were three mussel shell middens on the east bank of the River Ythan, which have been dated to the Early Medieval Period (Noble *et al.* 2010a; 2010b). While research has already been carried out on the Mesolithic, Bronze Age, Iron Age and Medieval Periods at the Sands of Forvie, very little work has been done on the Early Medieval Period (Warren 2001; 2005; Kirk 1953; Ralston and Sabine 2000). With its remarkable preservation of archaeological sites, the Sands of Forvie provide a rare opportunity to study early medieval settlement and land use in a setting relatively unaffected by modern agricultural practices.

#### Aims and methods

The aim of the project was to place the early medieval middens within their wider landscape context and locate any other nearby features, such as settlements or field systems that may have been associated. The project focused on three questions: firstly, what was the nature of land use and settlement patterns in the Sands of Forvie during the formation of the shell middens; secondly, how was early medieval land use and settlement affected by previous land use (e.g. Iron Age field systems, such as those identified in previous field seasons 200 m to the northeast of the middens) and environmental factors (e.g. incursions of sand); and finally, can we gain an insight into the early medieval perceptions of this landscape

through an investigation of how it was managed and organised.

A variety of different fieldwork and laboratory methods were used to aid the understanding of the wider landscape around the middens. Landscape and geophysical surveys were carried out, using a differential GPS, aerial photographs and magnetometry, to build a base map of the modern topography and to identify any possible subsurface features. Six test pits were dug in the area around the middens, four to further investigate features identified by magnetometry and two to characterise the soils in the area. Finally an auger survey was conducted around the middens to map the changes in the soils across the area. Samples were taken from the buried soil horizons and investigated in the laboratory using particle size analysis, loss on ignition and phosphate analysis, which allowed greater understanding of the origins and possible human modifications of the soils.

#### Results and discussion

##### *Land use and environmental impacts*

Investigation of the soils around the middens through test pits and auger holes showed the formation of podzols on top of a horizon of windblown sand, with further soils buried beneath the sand, representing an older buried landscape. The section of Midden C investigated in 2010 clearly indicates that there were two periods of activity, an early phase at 325–555 cal AD and a later phase at 715–985 cal AD, separated by a large deposit of windblown sand (Noble *et al.* 2010a). Although there are no stratigraphic relationships to confirm it, it is possible that the coverage of windblown sand observed in the test pits and auger holes represents the same windblown sand incursion seen in Midden C, suggesting two distinct phases of human activity around the middens during the early medieval period. While the section of Midden C



Figure 1 Map of the Sands of Forvie showing the locations of Middens A, B and C and other notable archaeological sites: (1) Kirk's excavations of the Bronze Age/Iron Age settlement; (2) Kirk's excavations of the Bronze Age ring and kerb cairns; (3) Ralston and Sabine's excavations of Bronze Age kerb cairns; (4) Mesolithic flint scatter; (5) Mesolithic flint working areas recorded by Warren; (6) findspot of the Romano-British pennanular brooch; (7) areas of Medieval rig and furrow seen on aerial photographs; (8) Forvie Kirk and medieval village; (9) scheduled turf building and enclosure at Cluny Cottages; (10) Iron Age buried soils.

shows up to 1 m of sand between the two phases, this could have accumulated very rapidly, maybe even after one or two storm events, or over several years. Thus the two periods of activity may not have been separated by very much time, nor have been viewed by early medieval people as separate phases of human use of the land.

By the beginning of the early medieval period people had already been making use of the Sands of Forvie for settlement, burial and agriculture. By 325–555 cal AD at least Midden C, and possibly also Midden B (426–578 cal AD), were present on the coast indicating that people were using the area for the gathering and processing of shellfish. It is thought that sand dunes would have been present in the south part of the Sands of Forvie by around 2000 BC (North 1981; Ritchie 1983; Ritchie 1997; Hansom 2003) and thus it is likely that by the early medieval period the sand dunes were encroaching upon the area where the three middens are situated.

The buried soils in the area adjacent to Middens A and B can be split into the southern part, in which the glacial till was between 0.2–1 m below the surface, and the northern part, where the soil profiles were at least 1.7–2 m deep and the buried soils have formed on top of a buried sand dune rather than the glacial till (Fig.

2). While across both areas there was evidence of podzolisation, it was the buried soils in the northern part of the study area that were the best candidates for agricultural soils. Samples from the auger survey showed that these soils were silty or sandy clay loams, with high percentages of organic matter, elevated levels of total phosphorus and some charcoal flecks. These characteristics could have been created by the deliberate addition of turf or other organic material to the soils, deepening them and increasing their fertility, a practice known from investigations into the Neolithic, Bronze Age and Iron Age soils at Tofts Ness, Orkney and Old Scatness, Shetland (Bond *et al.* 2004; Guttman *et al.* 2004; Guttman *et al.* 2006; Simpson *et al.* 1998; Dockrill and Bond 2009).

These potential agricultural soils were only picked up in the northern part of the study area about 100 m inland from the middens, suggesting that the middens may have been on the edge of the land suitable for farming. These highly organic buried soils also contain pockets of sand suggesting that even before the major sand dune incursion, the area was being affected by windblown sand. In small amounts, however, these additions of sand may not have been detrimental to farming, but may

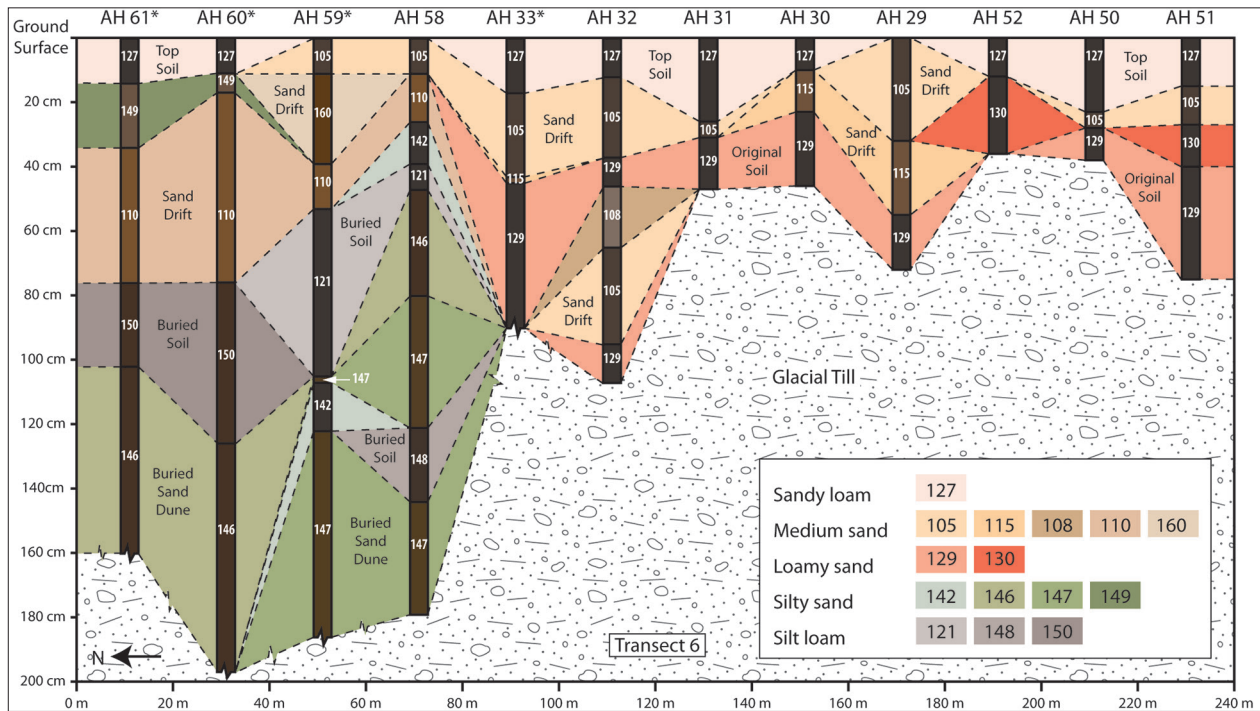


Figure 2 The soils around the middens were investigated through a series of auger holes explored on a 20 m grid. Transect 6 covered the full length of the study area and the diagram shows the different soil types found in the auger holes and interprets how these horizons may have related to each other across the area. \* denotes an incomplete auger hole, since not all were able to reach the glacial till due to waterlogging.

have improved them for a while by making them lighter, easier to plough, better drained and thicker.

Only about 200 m to the northeast of the study area, previous fieldwork carried out by the University of Aberdeen in 2010 uncovered Iron Age soils buried under a sand horizon, which is thought to have occurred in the mid 1st millennium AD (between the two phases of activity radiocarbon dated at Midden C) (Noble *et al.* 2010a). These soils were radiocarbon dated to 753–410 cal BC but this was based on just one piece of charcoal, which may not represent the full timeframe in which the soils were used. It is possible that they were already in use in the Bronze Age and this may have continued right through to the early medieval period until they were buried by an incursion of sand.

While small amounts of windblown sand may not have had a serious impact on land use around the middens, a major windblown sand incursion, which, over the course of years or decades, covered the area with up to 1 m of sand, would have caused some disruption. Despite the presence of later medieval rig and furrow in some parts of the Sands of Forvie, in the area immediately around the middens there was no evidence for a return to agricultural practices after the inundation of sand. The severity of the sand coverage may have caused people to rapidly abandon any settlement or agricultural practices similar to the abandonment of Forvie village in 1413 in which people had been surviving small sand events for many years but were finally forced to abandon the village after a major influx of sand (Ralston 1997; Ritchie 1997).

The excavation of Midden C showed that after the sand incursion there was a rapid accumulation of the

upper midden between 715–985 cal AD and the lack of windblown sand horizons within the midden suggests a period of intensive use (Noble *et al.* 2010a). While the area may have been abandoned for agriculture it is clear that coastal resources were still an important part of the early medieval subsistence practices at the Sands of Forvie. Had the gathering of shellfish been a secondary activity to farming, only carried out because of the proximity of the resources to areas of agricultural land, then we would expect to see the use of the middens die out. Instead we see their use intensify, suggesting that shellfish were an important resource in their own right – important enough to continue making use of the coastal resources in this area even when its agricultural potential may have been lost. Thus the second phase of early medieval activity in this part of the Sands of Forvie was characterised by three specialist midden sites for the gathering and steaming of shellfish, mainly mussels.

#### Settlement

The survey work carried out around the three early medieval middens did not discover any conclusive evidence of human settlement, although there was one upstanding feature that could represent the remains of a turf building. This feature was in the northern part of the study area approximately 100 m northeast of Midden A. On the surface it was visible as an oval-shaped turf mound with a hollow in the middle and a possible turf wall around the edge. Two test pits put through this feature indicated that there was a dark, compact and well-defined layer approximately 0.2 m below the surface, which based on its compaction and sharp boundaries may have been a floor surface, while



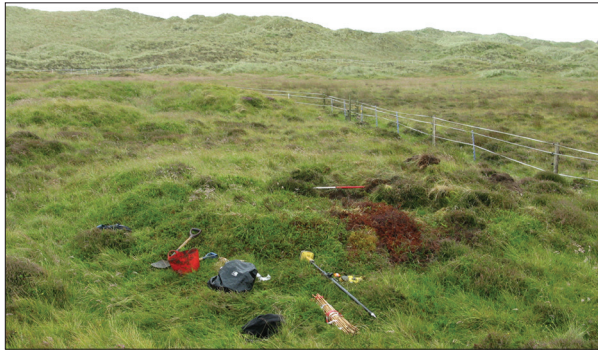


Figure 3 Top: The upstanding turf feature. Centre: The possible floor surface in test pit 5. Bottom: The possible pit feature in test pit 2.

the deeper section in test pit 2 may have been a pit (Fig. 3). The position of this structure on top of a large deposit of sand suggests that it was constructed after the major incursion of windblown sand seen throughout the entire area and therefore is either early medieval or medieval in date.

There is another site of potential early medieval occupation at the Sands of Forvie, at Cluny Cottages, approximately 3.5 km north of the middens. This site consists of a rectilinear building with rounded ends, 17 m long by 8 m wide, and two enclosures, one roughly 14 m by 14 m and the other 23 m by 25 m (Canmore n.d.). The site has been interpreted as a longhouse with two stock enclosures, although other than the initial recording of surface features no other work has been done. It closely matches the descriptions of Pitcarmick type houses discussed by Dunwell and Ralston (2008) and Carver *et al.* (2012) and it is highly likely that this was an early medieval settlement site during the same time period as the middens were in use.

Based on fieldwork and research at the Sands of Forvie so far, there does not seem to be any substantial settlement in the immediate vicinity of the middens, although the possibility of a site being buried under a nearby sand dune is not improbable. The turf structure seen approximately 100 m northeast of Midden A is much smaller than the site in the north of the reserve and there is no evidence of associated enclosures or other buildings. The very loose sandy composition of the walls suggests that they were built from sandy turves cut from the immediately surrounding landscape. The fragility of the turf used here suggests that it was not built for long term or permanent use. It could be a seasonally used building, possibly similar to a shieling, for storage or for people to stay in whilst exploiting the resources in this particular area of Sands of Forvie, but further investigation will be needed to confirm its date and function.

The lack of evidence for early medieval settlement near the middens has important implications for our understanding of the early medieval use of the landscape. It is not impossible that other sites similar to the building and enclosures at Cluny Cottages are present at the Sands of Forvie but are just buried under the extensive sand dunes. At present, however, there is no evidence that there was settlement very close to the middens themselves, indicating that people must have been travelling to this area specially to exploit the coastal resources and, while they were there, it is possible that they only lived in ephemeral temporary camps. Andersen (2007: 41) has noted that mussel shell middens in Iron Age Denmark were “not settlements, but rather specialised coastal sites used for gathering and processing of mussels”. The Danish Iron Age middens are quite similar to those at the Sands of Forvie, being dominated by mussel shells and showing evidence of cooking on site, and it is possible that the activities taking place at Forvie were part of a wider trend across Iron Age and Early Medieval Europe. The lack of evidence for farming in the area around the middens further supports the idea that these were specialist sites and it may be that people living at Sands of Forvie used different areas of the landscape for different subsistence practices.

#### *Perceptions of the landscape*

Today the Sands of Forvie is often considered a marginal landscape because of the encroachment of sand across the area and the difficulties this would have caused for human habitation. Yet marginality is not contingent on specific qualities of a landscape – it is dependent on how we perceive and exploit that landscape (Coles and Mills 1998: x). There is no direct evidence of how early medieval people may have perceived Forvie but based on the long history of settlement in the area I would suggest that it held importance for people despite the environmental difficulties of windblown sand. The research presented here has shown that some improvement of the land for agriculture may have been taking place around the middens and that even when this agricultural potential was lost people were still choosing to return to this site. The three shell middens indicate that there was intensive use of these coastal sites and the added factor that people may have been travelling up

to 3.5 km to come to the site suggests that these coastal shellfish gathering and processing sites held importance for the people in the early medieval period and, unlike today, were not perceived as marginal areas.

## Conclusion

Investigation of the wider landscape setting of the three early medieval shell middens indicated that there was not substantial settlement nearby nor was agriculture practiced in the area throughout the period when the middens were in use. All of this points towards the middens being specialised sites for the exploitation of coastal resources, which people were willing to travel distances of up to 3.5 km to reach. Today the Sands of Forvie is often considered a marginal site because of the incursions of sand. The continued use of the middens, even after coverage of up to 1 m of sand, suggests that people in the early medieval period had a different perception of this landscape, viewing it instead as an important site of shellfish gathering and processing. This research has provided important insights into the relationship between early medieval settlement, agriculture and coastal resources, all areas on which very little previous research has been carried out, especially in northeast Scotland.

## Acknowledgements

This research was made possible by a grant from the Medieval Settlement Research Group, as well as the practical help and training in field and laboratory methods from many people, including Karen Milek, Oskar Sveinbjarnarson, Annabel Drysdale, Gordon Noble, Michael McGibbon, Colin Taylor, Audrey Innes, Louise Cain, Joe Turner, Barbara Hind and Helen Stirling.

## Bibliography

- Andersen, S. H. 2007. Shell middens (“Køkkenmøddinger”) in Danish prehistory as a reflection of the marine environment. In N. Milner, O. E. Craig and G. N. Bailey (eds) *Shell Middens in Atlantic Europe*. Oxford: Oxbow Books, 31–45
- Bond, J. M., Guttman, E. and Simpson, I. A. 2004. Bringing in the Sheaves: farming intensification in the Post-Broch Iron Age. In R. A. Houseley and G. Coles (eds) *Atlantic Connections and Adaptations; economies, environments and subsistence in lands bordering the North Atlantic*. Oxford: Oxbow Books, 138–46
- Canmore, n.d. Sands of Forvie. <http://canmore.rcahms.gov.uk/en/site/20844/details/sands-of-forvie/> (accessed 24th August 2014)
- Carver, M., Barrett, J., Downes, J. and Hooper, J. 2012. Pictish Byre-houses at Pitcarmick and their landscape: investigations 1993–5. *Proceedings of the Society of Antiquaries Scotland* **142**, 145–99
- Coles, G. and Mills, C. M. 1998. Clinging on for grim life: an introduction to marginality as an archaeological issue. In C. M. Mills and G. Coles (eds) *Life on the Edge: human settlement and marginality*. Oxford: Oxbow Books, vii–xii
- Dockrill, S. J. and Bond, J. M. 2009. Sustainability and resilience in prehistoric North Atlantic Britain: the importance of a mixed paleoeconomic system. *Journal of the North Atlantic* **2**(1), 33–50
- Dunwell, A. and Ralston, I. 2008. *Archaeology and Early History of Angus*. Stroud: Tempus
- Guttman, E. B. A., Dockrill, S. J. and Simpson, I. A. 2004. Arable agriculture in prehistory: new evidence from soils in the Northern Isles. *Proceedings of the Society of Antiquaries of Scotland* **134**, 53–64
- Guttman, E. B., Simpson, I. A., Davidson, D. A. and Dockrill, S. J. 2006. The management of arable land from prehistory to the present: case studies from the Northern Isles of Scotland. *Geoarchaeology* **21**(1), 61–92
- Hansom, J. D. 2003. Forvie. In V. J. May and J. D. Hansom (eds) *Coastal Geomorphology of Great Britain, Geological Conservation Review Series, No. 28*. Joint Nature Conservation Committee, Peterborough. <http://jncc.defra.gov.uk/pdf/gcrdb/GCRsiteaccount1067.pdf> (accessed 30th August 2014)
- Kirk, W. 1953. Prehistoric sites on the Sands of Forvie, Aberdeenshire. A preliminary examination. *Aberdeen University Review* **35**, 150–71
- Noble, G., Milek, K. and Philip, E. 2010a. Sands of Forvie. *Discovery and Excavation Scotland* **11**, 28–9
- Noble, G., Knecht, R. and Milek, K. 2010b. The Sands of Forvie Shell Middens, Phase 2 October 2010 Interim Report. Unpublished report, University of Aberdeen
- North, S. 1981. *The Sands of Forvie and Ythan Estuary National Nature Reserve: a description*. Nature Conservancy Council (North-East Scotland Region)
- Ralston, I. 1997. The archaeology of the Sands of Forvie and the Ythan Valley. In M. L. Gorman (ed.) *The Ythan. A Festschrift for George Dunnet*. Aberdeen: Department of Zoology, University of Aberdeen, 20–37
- Ralston, I. B. M. and Sabine, K. A. 2000. *Excavations of Second and First Millennia BC Remains on the Sands of Forvie, Slains, Aberdeenshire*. O’Dell Memorial Monograph No. 28
- Ritchie, W. 1983. Sands of Forvie. In W. Ritchie (ed.) *Northeast Scotland Coastal Field Guide and Geographical Essays*. Aberdeen: Department of Geography, University of Aberdeen, 12–19
- Ritchie, W. 1997. The geomorphology of the Sands of Forvie. In M.L. Gorman (ed.) *The Ythan. A Festschrift for George Dunnet*. Aberdeen: Department of Zoology, University of Aberdeen, 6–18
- Simpson, I. A., Dockrill, S. J., Bull, I. D. and Evershed, R. P. 1998. Early anthropogenic soil formation at Tofts Ness, Sanday, Orkney. *Journal of Archaeological Science* **25**, 729–46
- Warren, G. 2001. Fieldwork at the Sands of Forvie, Aberdeenshire: September 2001, Interim Report. Unpublished report
- Warren, G. 2005. Recent Fieldwork at the Sands of Forvie, Aberdeenshire. Unpublished report