Scotland's First Settlers: a project to investigate the earliest settlement of the west-coast Scotland

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Introduction

One of the nice things about archaeology is that, even today, it is possible to make a major contribution to our knowledge of the past. There are still many parts of Scottish History and Prehistory about which we know little, and there are many sites that we are hard put to interpret. The earliest (Mesolithic) settlement of Scotland at the end of the last Ice Age is one area where there are large gaps in our knowledge and Scotland's First Settlers (SFS) was set up to look in more detail at the Mesolithic settlement of the western seabord.

The project has chosen as its focus the area of the Inner Sound, the body of water between Skye and the mainland (fig 1). Unlike recent landscape archaeology SFS is a sea-scape project designed to look at the relationship between the early inhabitants of the area and the sea. The work of SFS is concentrated on the coastal areas, taking into account both current and ancient coastlines, in order to gather information on the lifestyle of the Mesolithic dwellers who used these coasts between 9000-5000 years ago.

The sea was of great importance in the Mesolithic, both as a source of many different types of food (fish, shellfish, sea mammals, birds, coastal plants, nuts and berries), and as the highway which held the different communities together. The people of the Mesolithic were highly mobile, they moved around from season to season in order to make the most of the different resources that were offered in separate areas. It was not easy to travel across the land because of rocky terrain and dense vegetation so that the waterways, whether sea, loch or river, were very important.

The Inner Sound is an area with abundant islands and it offered rich resources to the Mesolithic settlers. There is a great variety of coastal conditions, from shallow sandy bays to rocky foreshores and steeply shelving cliffs. Though there are sheltered stretches of sea there is also deep open water and squalls can blow up quickly so that the Mesolithic seafarers had to be skilled navigators.

One of the obstacles to Mesolithic research in Scotland has been that the abundance of acid soils has left little for the archaeologist to study. The Mesolithic tool kit was mostly made from organic materials that have long since decayed away, such as bone, antler, skins and wood. The lifestyle was adapted for mobility and people did not build permanent stone buildings or monuments. In many cases all that remains is the burnt stones from their hearths together with a scatter of chipped stone flakes and blades (a lithic scatter) that were used to provide sharp edges for knives and arrowheads. Sometimes burnt hazel nut shells provide a hint as to diet. Mesolithic sites are hard to spot, and it is a skilled process to identify and interpret them.

There is, however, another type of site which has the potential to provide much more information, and this is the shell midden. Shell middens occur when there is a build up of organic material sufficient to create less acidic conditions. As their name suggests they comprise mainly shells, but bone and antler can also be preserved. This means that in addition to stone tools, shell middens can provide a more rounded picture of life in the Mesolithic, from tool manufacture to information on food, and even seasonality and climate change.

In Scotland the Mesolithic was a time of dynamic climate change and this is something that has resonance for us today. SFS aims to document the fluctuations in climate across the Inner Sound. We know that there were changes in sea level as the waters rose and fell with the end of the Ice Age. Minor earth tremors were common leading to rockfall and land slips. There were also changes in air temperature, winds and rainfall. How did the local population cope with their unstable surroundings?

A few Mesolithic shell middens have long been known and studied, but they were considered relatively rare and there has been little recent work on midden sites. This means that knowledge of how they fit into the general Mesolithic scenario is poor. It has long been thought, for example, that the stone tools from shell midden sites might not be quite the same as those from non-midden lithic scatter sites, but what did this mean? It is possible that different activities were carried out on the midden sites, requiring a different suite of tools; or were the midden sites dated to a different part of the Mesolithic? There are many unknown factors and this was something that SFS hoped to address.

One attraction of the Inner Sound for SFS was that there were known shell midden and other Mesolithic sites in the area, at An Corran in Staffin, Skye and at Redpoint and Sheildaig in Torridan. With the help of local archaeologists Martin Wildgoose and Steven Birch, whose collaboration is an integral part of the project, several unstudied middens were documented, demonstrating the potential for many more. Even before work had seriously started SFS was able to challenge the accepted wisdom that shell midden sites were a rare feature of the Scottish Mesolithic.

Scotland's First Settlers

SFS was set up in 1998. The initial aims of the project were to identify new Mesolithic sites (both midden and non-midden) within the study area, which would be followed by selected excavations in order to characterise and date their contents. In this way information, drawn from both midden and lithic scatter sites, could be built into a detailed picture of life and the environment in the first four thousand years of human occupation.

In 1999 a test season demonstrated the great archaeological potential of the area. Survey work in a restricted area comprising two strips of the coast of Skye together with the islands of Crowlin, Pabay and Longay, revealed 33 new sites, many with potentially Mesolithic deposits. Test pits were dug on four of these sites, revealing two to be Mesolithic. These were the sites of Loch a Sguirr on Raasay and Sand in Applecross, both of which produced flaked stone tools in addition to midden material. Radiocarbon dates obtained on bone tools showed that these sites were about 8000 years old. Further information on this first season may be found at two Internet sites (http://www.pabay.org/sfsnl01.html; or http://www.moray.ac.uk/ccs/settlers.htm).

In 2000, fieldwork took place in and around the Applecross peninsula. This involved three main types of work: coastal survey; test pitting; and excavation.

Coastal Survey and Test Pitting

An astonishing 104 new sites have been recorded to date (figs 2 & 3). These comprise 74 caves and rockshelters, 21 open lithic scatters, and 9 open shell middens. Conditions permitting, it is hoped to continue with the survey of Rona and Raasay in 2001.

39 of the newly found sites were test pitted, in order to assess preservation and date. Although some sites do have visible stone tools, suggesting a prehistoric date, not all of the test pitted sites are Mesolithic. Rockshelters and caves have been useful throughout the ages, and not surprisingly remains from many different periods, up to modern times have been found.

A small amount of shovel pitting was also carried out (fig 4). This is a way of looking for sites where there are no surface remains. Two new open air sites with stone tools were found in the vicinity of Applecross bay.

Excavation at Sand

The rockshelter site of Sand, just to the north of Applecross, comprises a deeply stratified shell midden with stone tools suggesting Mesolithic activity. The Mesolithic date was confirmed by radiocarbon determinations and so it was selected for detailed excavation in 2000. The aims of the excavation were to open and assess an area of midden and to study the surrounding area, a large grassy slope in front of the rockshelter.

The shell midden lies at the top of the terrace just outside the rockshelter (fig 5). It is only a few centimetres below the surface turf and extends for approximately 4x5m. The midden is made up mainly of dry limpet shells, but closer inspection reveals other shell fish, and some fish bones as well as animal and bird bones. There is a variety of tools of bone, stone and antler, together with the waste from tool manufacture.

The unconsolidated nature of the midden (fig 6) and the absence of any interruptions or stabilisation layers suggest that it accumulated over a short, possibly continuous, space of time. It may be that the occupants of the rockshelter had selected this as a sheltered spot to pass a particularly bad winter. At the time of occupation some 8000 years ago sea levels were higher and there would have been a brackish salt marsh some 30m from the site. The abundance of shells in the midden shows that they had chosen their spot well for there were plentiful local food resources even if larger animals were scarce in the harsh winter conditions.

Post excavation analysis will focus on unravelling the human activity that led to the accumulation of the midden. Preliminary work suggests that the first visitors to the rockshelter were working antler and stone to make tools (fig 7). Shellfish collection, mainly of local limpets, was very important, and gradually the large midden pile built up over the early remains. The inhabitants of Sand were clearly cooking the shellfish for fragments of stone "pot-boilers" were abundant together with bevel ended bone tools that may have been used for extracting

and processing the flesh. The processing of the midden material is still underway, but from the sample that has been sorted several fine shell beads have been found (fig 8). Other intriguing suggestions relating to the wider aspects of life have come from the presence of ochre as well as of a particular species of dog whelk which may have been used for the extraction of purple dye. It is clear that activities at Sand were not restricted to obtaining and processing food alone

As archaeologists we are not interested only in the people of Sand, but also in their wider world (fig 9). Examination of otoliths (the ear bones from some fish) will help to pinpoint the season during which the Mesolithic settlers camped at Sand and this can be amplified by isotope analysis of the shells.

Detailed analysis of the environmental remains from the midden will help to build up a picture of the conditions on the Applecross peninsula in the Mesolithic and wider analysis will look at the local vegetation. Even the weather can be deduced from information on the types and conditions of mammals, shellfish and other remains. Geomorphological survey has already identified 4 relict Holocene shorelines around Sand, and this work will be extended across the Inner Sound. These shorelines provide evidence of the changes in sea level that have taken place in the last 10,000 years.

What Does it all Mean?

Shell middens are clearly not as rare a feature of the Scottish Mesolithic as once thought. At the same time, the project has documented several lithic scatter sites with early potential. The data base of Mesolithic information has been greatly extended.

Post-excavation work is still at a very preliminary stage (fig 10), but already SFS is beginning to shed new light on the Mesolithic in Scotland. The stone tools include a number of small microliths that occur both in association with the midden and with the area away from the midden. These suggest that midden sites, at the time that Sand was in use, might not have been so different from to the rest of Mesolithic sites, contrary to previously held views. Specialist work on all the different types of tools as well as the jewelry and other aspects of material culture will provide detail of everyday life. Information from the bones and other environmental remains will help to piece together knowledge of diet.

The midden at Sand is dated to a very early part of the Mesolithic. This, and the rapidity with which it seems to have built up, suggest that it may be quite different to other midden sites from later in the Mesolithic, such as those on Oronsay which had built up over many years and where evidence of shelters was found within the mounds of midden material. The period when Sand was in use has been shown elsewhere to be a time of worsening environment. Is it possible that the build up of shellfish at Sand represents a local, seasonal, response to the problems of finding enough food as the climate worsened? Only further analysis can tell, but it is an intriguing possibility. Other early middens are known, such as An Corran across the water at Staffin, in north east Skye. Full publication of archaeological work at An Corran is still awaited, but it is clear that the Inner Sound has much to offer.

The inhabitants of Sand were part of a Mesolithic network that operated across the Inner Sound and further afield. They got stone for their tools from Rum (30km to the S, a source of bloodstone), and Staffin on Skye (10km to the W, a source of baked mudstone and siliceous chalcedony). In addition they also used local stones: cherts; quartz; and agates. Analysis of these stones can help us to identify the patterns of contact, communication and movement in this part of W Scotland. This is one of the first times that it has been possible to put together such varied information from such a wide area.

On a clear day the locations of the Mesolithic Sites at An Corran and Loch a Sguirr can be seen from the top of the Sand rockshelter (fig 11) and this is an important indicator of the wider world inhabited by the Mesolithic people of the Inner Sound.

The Future

At present work is concentrating on the analysis of the finds to date. More survey work is planned for the near future to complete our overall examination of the coastlands of the Inner Sound. In the long run, further excavation, on both midden and lithic scatter sites, will be important to broaden our interpretations of the world of some of Scotland's earliest, and perhaps least known, inhabitants.

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OxA no.	**Sample ref**	**Radiocarbon age (BP)**
Loch a Sguirr, NG 6084 5286		
OxA-9254	charcoal *(Betula)*	2055±39
OxA-9255	bone, deer (bevel ended tool)	7245±55
OxA-9305	charcoal *(Betula)*	7620± 75
Sand NG 6841 4934		
OxA-9280	antler	7520±50
OxA-9281	bone, deer (bevel ended tool)	7715±55
OxA-9282	bone, deer (bevel ended tool)	7545±50
OxA-9343	charcoal *(Betula)*	7765±50

Table: Scotland's First Settlers, Mesolithic radiocarbon determinations from sites tested in 1999.

FIGS:

1. Scotland's First Settlers: Location map of the study area
2. Scotland's First Settlers: Plan of the areas surveyed and all the sites found
3. Scotland's First Settlers: The rockshelter on Crowlin from the sea. This is a large rockshelter, but typical of many that the project has found.
4. Scotland's First Settlers: Shovel pit testing in order to look for stone tools below the turf
5. Scotland's First Settlers: The rockshelter at Sand during excavation. The excavation trenches were laid out so as to examine the grassy slope away from the midden as well as the midden itself.
6. Scotland's First Settlers: Sand, one of the trenches that cut in to the midden. Most of the limpet filling has been removed for analysis, but the loose nature of the midden may be seen in the section
7. Scotland's First Settlers: Stone tools, the two small pieces are microliths, a type of stone blade that is characteristic of much of the Mesolithic in Scotland.
8. Scotland's First Settlers: Worked shells, 2 - a small cowrie bead; 1 - a large scallop from which a square plaque has been cut.
9. Scotland's First Settlers: Sieving work is essential to recover the small bits and pieces, such as fish bones and shell beads, that go into the midden.
10. Scotland's First Settlers: The sieved material has to be dried and sorted and this can be difficult with the west coast climate! A large polytunnel helped, and the bulk of the residues were taken to Edinburgh where they can be sorted in the lab by students and others.
11. Scotland's First Settlers: the Inner Sound on a calm clear day. The occupants at Sand could look out across the water to the island of Raasay, did they sail across to the site at Loch a Sguirr? On the far side of Raasay lies Staffin and the site at An Corran close to the source of baked mudstone which they used for stone tools.