1 Introduction | Karen Hardy & Caroline Wickham-Jones

The archive version of the text can be obtained from the project repository on the Archaeology Data Service (ADS) website, after agreeing to their terms and conditions: ads.ahds.ac.uk/catalogue/resources.html?sfs_ba_2007 > Downloads > Documents > Final Reports. From here you can download the file 'WJ,_Introduction.pdf'. The main ADS archive page also contains a small version of the introductory map.

1.1 Background

Illus 1: Location map of the Inner Sound

Scotland's First Settlers (SFS) was set up in 1998 to provide a detailed study of the Mesolithic around the Inner Sound and Sound of Raasay, between Skye and the west coast of Scotland (see Illustration 1, right; Finlayson *et al* 1999 & Hardy & Wickham-Jones 2002). The Inner Sound is a closely defined area and the project was designed on a small-scale regional basis. Given the importance of the sea in the Mesolithic, both as a resource and for transport (Fischer 1995), SFS was conceived and organised as a seascape project. This means that work was targeted around the varied coastline and many islands (see Illustration 2, lower left. Taken from the Crowlin Isles towards the hills of Skye. The sea has been crucial to the inhabitants around the Inner Sound in both past and present and the mountainous landscape provides many prominent landmarks that would have aided early seafarers. In the event, boats played an important role, even for the 21st-Century archaeologists, but more importantly the focus of the project was implicitly that from the sea as opposed to the more conventional land-based approaches of previous work (for example Mithen 2000; Wickham-Jones 1990).

1.2 Aim and chronological focus

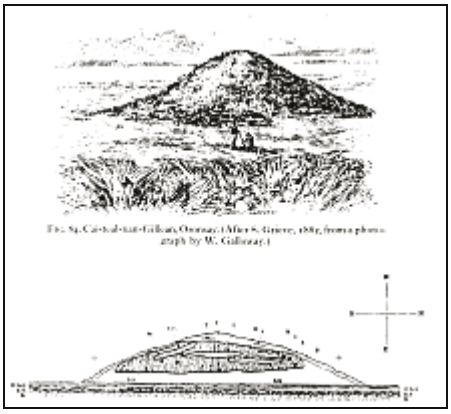

Illus 2: View across the Inner Sound westwards

The project was designed to examine issues of local mobility, resource exploitation and climate in the Early Holocene (Hardy & Wickham-Jones 2002; 2003). The aim was to shed light both on the initial incursions of people into the area and on the transition to farming.

The project thus focused on the Mesolithic and the earliest evidence for the Neolithic; however, the significance of cultural and economic continuity was recognised. This meant that more recent developments could not be ignored, especially during survey work which, not surprisingly, led to the recognition of many later sites even when midden sites, caves and rockshelters and lithic scatter sites were explicitly targeted. An early decision was taken to ignore, for the purposes of the project, those more recent sites that did not fall within the targeted list, such as sheilings or other structural remains. Where appropriate, new sites of this nature were recorded and notified separately to the National Monuments Record for Scotland and to the local Sites and Monuments Record.

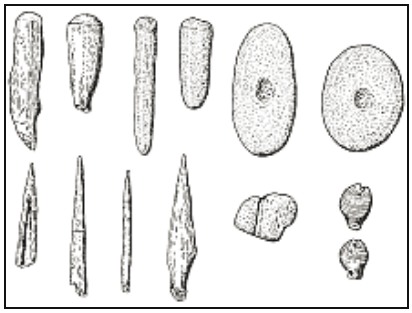
1.3 General archaeological context and research issues

Although the Mesolithic as a whole was targeted, from the outset one specific type of site was seen as of particular importance to SFS. That site type was the shell midden, long regarded as one of the defining characteristics of Mesolithic Scotland. One of the attractions of the Inner Sound lay in the recognition that several unrecorded shell midden sites existed around its shores. Midden sites were regarded as important for several reasons, discussed below, but in order to maintain a balanced view of Mesolithic settlement, information on other types of site, such as lithic scatter sites, was integral to the success of the project.



Illus 3: The shell midden at Caisteal nan Gillean, Oronsay

The west coast of Scotland is well known for the preservation of a series of shell middens dating to the later Mesolithic (see Illustration 3, right. Drawing from the time of the first excavations in 1882, after Grieve 1882; Bonsall 1996, Pollard 1996 & Mellars 2004). Shell middens and the finds recovered from them have long been regarded as one of the most common site types and best sources of information relating to Mesolithic Scotland. This is partly because the remains from these middens tend to be particularly rich and include organic material, (see Illustration 4, below right. Finds included organic material that is usually not preserved elsewhere. Bone bevelled tools and points, and shell beads, are found along with stone bevelled tools, and hammerstones as well as worked pumice), both artefacts and ecofacts, while other Mesolithic sites are usually heavily biased towards lithic assemblages (for example Wickham-Jones 1990). In addition, midden sites (especially those of Oronsay which form upstanding monuments; (see Illustration 3, right). are in general more easily visible than lithic scatter sites. Even in the early 21st century the speed and mechanisation of much development work mean that the recognition of new lithic scatter sites can be difficult, while the eye is drawn more naturally to the collections of shells that form the basis of a midden site.



Illus 4: The finds from the middens in Oronsay

The exact role of the midden sites, and their place in relation to non-midden Mesolithic remains (generally known as lithic scatter sites from the quantity of stone tools and stone tool waste found on them), is still a matter of debate (Bonsall 1996; Mellars 2004). Some archaeologists have identified specific types of tools and technologies which they regard as confined to the midden sites and this has been used to argue that these sites should be considered separate from other open air sites (Lacaille 1954). Midden sites have thus been referred to as 'Obanian' after the town of Oban where a number of middens were located, though the precise explanation for the differences in make-up (or a combination of the two) is still a matter of debate (Bonsall 1996). Few archaeologists would now argue that the Obanian exists as a distinct cultural entity. Most people prefer to consider the distinct remains from the midden sites as part of a single Mesolithic culture, possibly representing a functional grouping (or groupings) of artefacts and environmental material with some regional input (Saville 2003). It is also clear that differential preservation conditions have played an important role in the differences between the organic rich middens and predominantly lithic open air sites.

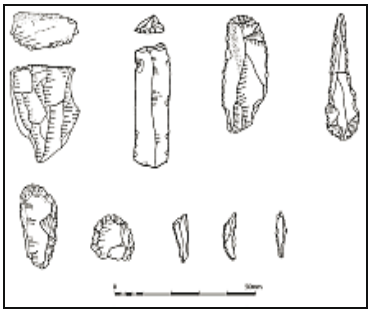
Elsewhere in Scotland midden sites do exist, for example Morton in Fife (Coles 1971) and along the Firth of Forth (Sloan 1985). They are generally fewer in number, however, and their place as a distinct site type within Mesolithic remains is less clear. For this reason, and also because they are locally relevant, the project concentrated on the west coast sites.

Dating programmes have been used to infer that the organic artefacts preserved in the west coast middens are chronologically indistinct from the microlith-rich lithic scatters

that are the most common type of site from this period (Ashmore 2004a). Nevertheless, prior to the dates from Sand (Section 4) the dates from most middens fell into the later part of the Mesolithic (Mellars 1987) whereas many lithic scatter sites yielded dates from the earlier Mesolithic (for example Kinloch, Rùm; Wickham-Jones 1990). In the east of Scotland the dates from Morton, though early (Coles 1971) were based on a large mixed sample of material and are not generally regarded as reliable.

Nevertheless, the well-preserved organic material, which includes artefacts, economic and environmental data, means that midden sites remain important as one of the best resources for studying the Mesolithic in Scotland and the Mesolithic environment. Perhaps not surprisingly, however, the abundance of data has not yet solved all of the archaeological problems so that several questions remained to be tackled, if possible, by the project.

One of the most striking features of the early midden excavations was the complete absence of a very characteristic Mesolithic stone tool – the microlith (see Illustration 5, right. A variety of types of flaked stone tools were recorded including cores, blades, scrapers and awls. The three tools on the lower right are microliths, and are generally seen as the stone components of composite tools that served a variety of purposes). despite the intensive sieving for environmental data which should have picked them up (Pollard 1990). At the same time, the absence of 'Obanian-type' organic artefacts from the lithic scatter sites was more easily explained as a result of poor preservation conditions. In the 1990s, however, work highlighted possible exceptions to the microlith distribution along the west coast of Scotland:



Illus 5: Flaked stone tools from Kinloch, Rùm

- The lower layers at Ulva Cave contain a few blades and associated lithics, indicating a technology similar to that of the microlith makers (Russell *et al* 1995).
- Early accounts of work at Risga indicated that a microlith might have been found in the midden, and recent excavations have located a microlithic lithic scatter beside the original location of the midden (Pollard *et al* 1996). At present, the relationship between the midden and the lithic scatter is not clear – nor is it clear whether enough of the site survives for excavation to determine this.
- Recent rescue excavations at An Corran discovered microliths within a midden (Hardy *et al* forthcoming a). Although the circumstances of the excavation mean that only a small sample of the relevant layers was excavated, and the interpretation of their stratigraphy is difficult, microliths did occur in the midden at An Corran in some numbers, together with a bone tool assemblage of 'Obanian' type including bevel-ended tools.

While examining the lithic tools on Mesolithic sites another question which occupied the project was the availability and use of varied stones suitable for knapping around the Inner Sound. The previous work in Rùm and at An Corran highlighted a number of local raw materials used in the past to supplement varying supplies of flint. These include chert, quartz, Rùm bloodstone and baked mudstone (Wickham-Jones 1990; Hardy *et al* forthcoming b). SFS was particularly interested in the use of baked mudstone because it appeared to come from a source in the cliffs immediately above An Corran, and it is found on sites around the Inner Sound, though it can be hard to recognise today in excavated contexts, due to the considerable degradation the material undergoes in the ground. Initially it was hoped to examine the individual raw materials and their sources in detail, with a view to the possibility that the use of different materials might track human movement in and around the Inner Sound (and beyond; for example Clarke & Griffiths 1990). In the event, finances did not cover detailed raw material analysis and sourcing (Section 5), but it was still possible to gain a general overview.

In general there has been an absence of recent excavation conducted to answer modern research questions relating to midden sites. The most famous excavations on midden

sites, those on Oronsay in the 1970s, were conducted against a background of little other Mesolithic research in Scotland (Mellars 1987). Their excavation was undertaken with the specific goal of recovering economic data, so that questions concerning some of the artefactual content, the immediate context of the sites and their relationship with other Mesolithic facies were largely left unexplored, though they have been picked up in more recent papers (for example Mellars 2004). In nearly all other cases excavations of west coast middens have either been carried out before the development of modern archaeological methods (most of the Oban sites, Pollard 1990; and early work at Risga, Pollard *et al* 1996), initiated by amateur projects (Raschoille Cave, Pollard 1990; Carding Mill Bay, Connock *et al* 1992), taken place where little survived of the midden (Carding Mill Bay 2, Connock *et al* 1992), or in less than ideal 'rescue' conditions (An Corran, Hardy *et al* forthcoming a). In eastern Scotland Coles' excavations at Morton (Coles 1971) provided a classic example of how to maximise the information from midden excavation, but the site lay in local isolation (and has since been destroyed), and there were few other published sites locally with which to provide a context. Work at Fife Ness (Wickham-Jones & Dalland 1998a; 1998b) and East Barnes (Gooder 2003) has started to remedy that, together with the recognition of Mesolithic material in local field collections, though detailed publication is still awaited for much of this. Occasional sites now exist in the Highlands and Central Scotland (for example Ben Lawers, Atkinson 2000; Chest of Dee; Fraser *pers comm*), but overall the spread of Mesolithic sites across Scotland is still patchy and strongly affected by local preservation and development. SFS hoped to remedy this by looking at one (albeit small) area in detail.

There were, therefore, a number of basic problems within the Mesolithic archaeological resource which the SFS project hoped to tackle:

- The cultural relationships of middens to other sites within the Mesolithic remained problematic.
- The dating of midden sites remained simplistic, with a general assumption that they were a single phenomenon that lasted throughout the Mesolithic.
- On the other hand, midden sites seemed to be rare in the early Mesolithic. Was this an accurate reflection, or could changing shorelines have removed the earlier sites? (See Illustration 6, right, shows that the relationship between sites and the sea was of crucial importance. The midden at Crowlin 1 lies in the cave and, in the event, yielded historic dates suggesting that sea-level is likely to have been where it lies today).
- The strategies of human activity behind the formation of the middens remained unclear. Were they the result of a specific attempt for structural shelter? Did they represent the result of changing economics (for example as the result of resource intensification, or, conversely, the paucity of some resources)? Or, perhaps more likely, did they result from a mixture of reasons?
- The relationship of middens to the shoreline is interesting – most (but not all) middens appear to lie just above the old shore line, suggesting the transport of resources to sheltered spots away from the immediate vicinity of the sea, but not away from the coast – was there any evidence to support this? The Oronsay midden deposits, on the other hand, are in some instances interleaved with storm gravels (Mellars 1987) – what is the relationship between midden sites and environment?
- The Mesolithic is well documented as a time of significant climate change (Edwards 2004; Tipping 2004). Is this reflected within the environmental record preserved within the middens, and if so can information be derived on how it affected the human population?

Illus 6: SFS 2, Crowlin 1

It is clearly impossible to get a balanced view of Mesolithic activity by concentrating on one type of site, though that has often been the approach in the past, particularly where projects were based around a single site. With this in mind, information from lithic scatter sites was regarded as important as that from middens, if perhaps different in

scale. At the outset only two lithic scatters were known in the area: Redpoint (Gray 1960) and Shieldaig (Walker 1973). Only Shieldaig had been excavated, though not published by the excavator (a typed report was available and the recent publication by Ballin & Saville (2003) has gone some way to remedying that). Nevertheless, both sites do comprise Mesolithic material including microliths and blades. Neither site has been accurately dated, though Ballin & Saville suggest that Shieldaig may include particularly early Mesolithic, or even Late Glacial elements (Ballin & Saville 2003). Unfortunately the site at Shieldaig has been destroyed since excavation, though material is still eroding out of the sand dunes at Redpoint (Section 2.2).

Lithic scatter sites provide their own suite of archaeological questions. Although existing information relating to the Mesolithic in Scotland has been derived largely from scatter sites, there has been little consideration as to how representative that information might be. Does the lack of certain types of find on the scatter sites (for example bone) reflect different preservation conditions, or have the different types of site been built up by different activities? Just how do lithic scatter sites and midden sites interact? Information relating to the quantity, types, and variety of stone tools present on the individual sites is very relevant here.

At the same time, lithic scatter sites do not occur evenly across Scotland, so there are problems of visibility. Because of the lack of upstanding remains, lithic scatter sites are hard to see and they have tended to occur in areas of agricultural development such as the eastern coastlands, or in areas of high erosion, such as managed, and fluctuating, loch shores. By and large lithic scatters are less common in western Scotland where there has been less development, and where erosion, though common, is smaller in scale. Nevertheless, a few recent projects such as Southern Hebrides Mesolithic Project (SHMP, Mithen 2000) and Rùm (Wickham-Jones 1990) have shown that they do exist here, while earlier work by Mercer in Jura yielded many lithic sites with classic Mesolithic tools (Mercer 1970; 1971; 1974; 1978; 1980). How then to find the west coast scatter sites if they are there? This question was tackled by SFS using a variety of methods including coastal walking and shovel pitting (Section 2.1).

Having found the lithic scatters, SFS was not only interested in their contents, but also in other questions related to their position in the landscape. Only in this way would it be possible to look at the patterns of Mesolithic activity in the study area. It is also important to remember that not all lithic scatter sites are Mesolithic, so that basic dating evidence is, if possible, necessary. In this respect the presence of blades, resulting from a specific blade technology, and/or microliths, was taken as indicative of Mesolithic activity on both midden and lithic scatter sites. Although it is notoriously difficult to separate Mesolithic stone assemblages from later material (for example Zetterlund 1990), the making of blades, in particular narrow blades, and the use of microliths (usually based on the alteration of narrow blades) are to be found on all sites with early Holocene dates.

In the event it seems that the separation of these characteristics may lead to an under-representation of later Mesolithic sites (see Section 3.3). Various suggestions have been made regarding chronologically diagnostic lithic types such as that the use of bipolar cores tends to be later (Finlayson 1990b; Saville 2004a), larger horseshoe type scrapers tend to be Neolithic (Edmonds 1995), while smaller thumbnail scrapers tend to be Bronze Age (Edmonds 1995). Other pieces while apparently securely stratified on Neolithic sites, such as leaf-shaped arrowheads (Edmonds 1995), also occur well stratified in early Mesolithic contexts on a few sites such as Rùm (Wickham-Jones & McCartan 1990) so that it is obvious that the search for clear cut Mesolithic artefact types is not going to be simple. Interestingly, few of these possible type fossils were found on any of the SFS sites, whereas there were several sites with nondescript lithic assemblages that lacked microliths (for example An Corran B, An Corran D & Brogaig; Section 2.2). Is it possible that this type of material could represent the later Mesolithic assemblages? Clearly further work including detailed excavation and dating would be necessary to test this.

Other questions concerned general interpretational issues. Mobility is crucial to many

recent interpretations of the Mesolithic lifestyle (Wickham-Jones 2005), but it is, in fact, very difficult to show archaeologically. The identification of a number of Mesolithic sites, of whatever type, within a closely defined area, such as the Inner Sound, should help to throw light on the nature of Mesolithic mobility. The presence of Mesolithic sites on islands such as Rùm, Oronsay, Jura and Skye indicates that marine transport definitely existed, and the nature of the relationship between the early settlers of Scotland and the sea is the subject of increasing interest. Whereas this was once regarded as a purely economic theme (Clarke 1978), in recent years study has expanded to include aspects of marine technology and general perception. There are now increasing arguments for the importance of the sea and the skill of Mesolithic seamanship (Warren 1997; 2000; Pollard 2000). However, there has been little close study of the detailed requirements and use of marine transport in Scottish prehistory, and no evidence of Mesolithic boats has been found in recent times in Scotland (Mowat 1996), though examples of dugouts have been found from this period elsewhere (see for example Malm 1995). A better understanding of this would have important ramifications for our understanding of elements such as resource procurement, regionalisation and social behaviour.

Issues regarding group size and territoriality are other commonly asked Mesolithic questions. The project hoped to consider whether the middens around the Inner Sound might represent a single coastal Mesolithic group, and if so whether it was possible to infer group size. Or were they more likely to represent the coastal activities of land-based people, perhaps in larger groups? The issues of territoriality and territory size are related to this and SFS hoped to approach these through analyses such as resource exploitation.

By undertaking global field survey (see Illustration 7, right. The view across the Inner Sound from Applecross. The mountains of Skye may be seen in the background, bounding the western shores. In the middle distance lies the island of Raasay. See also below), SFS realised that many sites that did not relate to the Mesolithic would be encountered, even if work was confined to midden sites and lithic scatters. Middens continued to be formed into more recent periods, including historic times, and this was not something that the project wished to ignore. A decision was taken to record later sites only where they comprised shell middens, rockshelters or caves. In line with the co-directors' expertise, analysis would concentrate on the Mesolithic. In this way it was hoped to collect a useful body of information for other research.

Illus 7: SFS field surveyors at work

Recent research at Carding Mill Bay (Connock *et al* 1992), An Corran (Hardy *et al* forthcoming a) and Ulva Cave (Russell *et al* 1995) has confirmed earlier suggestions (Pollard 1990) that middens continued to be formed into the Neolithic. Furthermore, many of these sites show evidence of use as burial sites in the Bronze Age (Pollard 1990). A final prehistoric question, therefore, was related to this: if middens continue into the Neolithic, do they show evidence of continuity between the Mesolithic and the Neolithic, or are there detectable changes in the activities and resources represented at different times?

Finally, there was the matter of more recent sites. Structural remains without visible midden that appeared to include only Iron Age or historical material, such as hut circles, steadings and sheilings, were noted by the surveyors, but not incorporated into the project. Where they were previously unrecorded, information was supplied separately to the National Monuments Record of Scotland. These sites do not appear in the Active Sites Report (Section 2.2). There were, however, many rockshelter and cave sites which contained more recent material in addition to midden or other remains such as lithics that suggested prehistoric activity. These were included in the database of sites that gradually built up for SFS analysis, and many were test pitted and material sent for radiocarbon determinations. In the event many of these sites produced later, particularly historic, dates (Sections 2.2, 3.2 and 4).

Although the project did not set out to examine more recent sites in detail, in the event it has provided an interesting record of activity in caves and rockshelters through time (Section 3.2). Other projects have looked at cave and rockshelter use (for example Tolan-Smith 2001), but long-term chronological analysis, even at the basic level applied by SFS, has not usually been applied.

1.4 Geographical setting

From the outset the regional approach was considered to be most suited to studying the Mesolithic, a period where mobility was important, and where the examination of isolated sites is likely to result in a very partial picture. The mountains of Skye may be seen in the background, bounding the western shores, in the middle distance lies the island of Raasay. The Inner Sound (see Illustration 8, right) was selected for study for a variety of reasons:

Illus 8: View across the Inner Sound from Applecross.

- it presents a clearly defined, self-contained area with a variety of resources
- three Mesolithic sites were already known here (An Corran, Redpoint and Shieldaig). It could thus be assumed that the area had been occupied during the Mesolithic, and there was a likelihood of further Mesolithic sites
- it is an area which focuses on the sea, already considered to be a resource of significance in the Mesolithic.

In comparison with much of the Scottish coastline, the waters of the Inner Sound are relatively enclosed. Exit by sea to the south is possible only through the narrow and fast-flowing straights at Kyle Rhea, while to the north lie the open waters between Staffin and Torridon. The coastline of the Inner Sound makes for a clearly defined area.

Illus 9: The sea lochs penetrate into the Scottish mainland

Illus 10: Staffin Bay opens into the heartland of north Skye

At the same time, the Inner Sound also offers access to a wide hinterland. The two sea lochs of Loch Torridon and Loch Carron penetrate deeply into the Scottish mainland (see Illustration 9, left). Wide glens run from the head of each loch to facilitate land transport whether to loch, upland, or further on to the lowlands of eastern Scotland. To the south, Kyle Rhea opens to the islands and coastlands of south-west Scotland, apparently a fertile stamping ground for various Mesolithic groups (for example Wickham-Jones & Hardy 2004; Wickham-Jones 1990). Skye itself is a large island with much to offer, and locations such as Staffin Bay (see Illustration 10, right. The island of Raasay lies in the background in front of the Skye coastline) and Loch Sligachan provide access to the interior for those on the coast. Further north and west lie a variety of islands as well as the shores of north-west Scotland. Transport by sea would be necessary to reach these outer isles, and the Mesolithic population of western Scotland has already demonstrated its ability to use boats by virtue of the Mesolithic settlement sites on various islands, and the evidence for transport and use of different raw materials.

The landscape of the Inner Sound presented a variety of resources to its Mesolithic inhabitants. It is an area of deep and volatile sea speckled with islands of varying sizes (see Illustration 11, right, shows later settlement and cultivation remains. The present landscape is an amalgam that has

Illus 11: View across the Inner Sound from Sand

been shaped by the interaction of past physical, economic and environmental change. The Cuillins of Skye lie across the Inner Sound in the background). Much of the coastline is steep-sided, mountainous and rocky, and slopes quickly downwards into deep water; but there are areas of gentler shore and, in many places, rocky foreshores are exposed for long periods. The underlying geology is mixed: predominantly sandstones to the east in the Applecross area; and a combination of Tertiary volcanic rocks and Lewisian gneisses as well as sedimentary rocks from the Torridonian and Jurassic periods across the central islands and in Skye to the west (Johnstone & Mykura 1989). The geology has not only influenced the appearance of the land, it has also had a marked effect on vegetation and other resources such as fresh water. In general, however, the population of the Inner Sound inhabited a world made up of various ecological niches, from grassy sheltered bays to more exposed uplands. There was more woodland cover than today (Green, Section 8.1; Shiel, Section 8.2), though open glades and grassy pastures were also important, with a knock on effect on local animals and plants. Offshore the Inner Sound is today a fertile area, both for fish and shellfish, and this was clearly the case in the past despite sea-level change. The deep sea lying so near the coast was well used from early times, as attested by the number of deep water fish remains in some middens, while the shallower waters and rocky shores offered a rich variety of fish and shellfish. Sea birds and mammals would also have been abundant.

From the point of view of the late 20th-century archaeologist with an interest in the Mesolithic, the Inner Sound had much to offer. Of the three known Mesolithic sites (An Corran, Hardy *et al* forthcoming a; Shieldaig, Walker 1973; Redpoint, Gray 1960), work in the early 1990s suggested that An Corran, in Staffin, comprised an early midden site with exceptional preservation and some interesting artefacts (Hardy *et al* forthcoming a). Midden sites in the area were rare, so An Corran was of particular interest, and this was compounded by the suggestion that other unrecorded midden sites existed around the shores of the Inner Sound (M Wildgoose & S Birch, *pers comm*). A brief visit in 1998 confirmed the presence of further sites, and thus Scotland's First Settlers was born. This basis was confirmed by initial fieldwork in 1999 which revealed two definite new Mesolithic sites (SFS 4, Sand; SFS 8, Loch a Sguirr) as well as several other promising midden sites and rockshelters.

The decision to focus SFS around the sea and the coast offered an interesting contrast to previous studies and was felt to be particularly important on three counts. Firstly, there was the realisation that the presence of midden sites around the Inner Sound offered the possibility of enhanced levels of preservation that might include information relating to the harvest of the sea and coastal resources. This was a particular attraction for those who had mainly worked on sites where lithic material provided the main (limited) form of evidence. Secondly, there was the increasing awareness of the role of the sea in the Mesolithic, not only as a resource, but also as a means of transport vital to a community that was at least partly mobile. Thirdly, there was the feeling that the sea acts as a unifying element rather than as a boundary. This was an important difference to previous studies such as that based on Rùm in which the shores of the island were regarded as an impenetrable boundary so that the project concentrated on the Mesolithic remains on land rather than turning attention to the sea and neighbouring coasts (perhaps due to the nature of the evidence; Wickham-Jones 1990). Rather than being a landscape study with a rigid boundary, SFS was set up as a seascape study where the boundaries led on to other things.

1.5 Environmental background and considerations

In addition to the archaeological information *per se*, SFS

Illus 12: Late-Glacial shoreline features at Lonbain, Applecross

was considered from the start to be an environmental study in the widest sense. The Mesolithic population of western Scotland did not live in isolation. They inhabited the land and their actions and reactions were affected by both the landscape around them and by the environmental conditions of the time. The early Holocene, the setting of the Mesolithic, is known to be a time of dynamic environmental change (Edwards 2004; Tipping 2004). Its people were not, however, mere puppets. There is, as yet, little information on the means by which the inhabitants of Mesolithic Scotland coped with the changes that were going on around them, but they are unlikely to have reacted unthinkingly to their circumstances. The people of the Mesolithic, in their turn, influenced the environment in which they lived.

Environmental change is not just a theme for the Holocene, it has continued at various rates, and with varied causes, into the present day (see Illustration 12, right, shows later settlement and cultivation remains. The present landscape is an amalgam that has been shaped by the interaction of past physical, economic and environmental change. The Cuillins of Skye lie across the Inner Sound in the background). Given that SFS would cover more recent sites as well as Mesolithic material (Finlayson *et al* 1999), the development of the environment of the Inner Sound through time, both at a local level (Shiel, Section 8.2) and on a wider scale (Green, Section 8.1) was important.

1.6 Objectives and constraints

The overall objectives of the project as set out at the beginning (Finlayson *et al* 1999) were thus:

Illus 13: SFS test pitting in 1999

1. To conduct survey in order to identify additional midden sites, to record rockshelters and caves, and to identify any other traces of Mesolithic activity.
2. To conduct a series of small-scale soundings on a number of midden sites to obtain material for dating in order to determine their broad chronological affinities and to assess preservation (see Illustration 13, right).
3. To undertake excavations on suitable middens to obtain information regarding their composition, complexity and chronological phasing. Excavation was planned to focus on sites under threat, and the extent of excavation was carefully controlled to avoid the collection of unmanageable quantities of material.
4. To recover and analyse environmental data and to look for evidence of environmental change through time within the middens.
5. To examine the areas around the middens for evidence of associated Mesolithic settlement or other activity.
6. To obtain management information regarding the sites, regarding both their archaeological value and their long-term stability.
7. To undertake post-excavation analysis to establish dates, economic data and cultural information.
8. To provide a showcase project for wider public consumption, both at the level of community council and local involvement, and at the level of national interest.

Despite generous support from Historic Scotland and a number of other bodies and private individuals, SFS did not secure adequate funding to carry out all of the early objectives. Excavation was thus confined to one site and work on individual specialisations such as lithic raw materials had to be abandoned early on. Funding from the British Academy allowed survey to be continued up the adjoining sea lochs of Loch

Torridon and Loch Carron. This had been regarded as vital to the success of the project form the start, but it meant that that work had to be presented as an add-on, and initially recorded as the Sea Loch Survey. For the purposes of this report the results of the Sea Loch Survey have been fully integrated into the overall picture and considered as SFS.

1.7 Methods

Fieldwork comprised three elements:

- coastal survey, to identify potentially Mesolithic sites; midden deposits, lithic scatters, and both rockshelters and caves were targeted
- test pitting to assess the preservation and dating of survey sites
- detailed examination through excavation of a few selected sites.

Illus 14: SFS survey work

Prior to fieldwork, existing maps and sites and monuments records were searched for known sites. In addition, local knowledge comprised an important element of information both prior to and during field survey.

The coastal survey was designed to cover the entire modern coastline as well as any visible raised beaches. To this end the coastline was walked by a team of three experienced surveyors (see Illustration 14, left; Section 2.1). They recorded all rockshelters and caves (both with and without obvious archaeological remains), lithic scatters and any identifiable open middens. Sites were recorded on standard sheets (Section 2.1) and SFS numbers were allocated on a 'first come first served' basis.

Illus 15: SFS test pitting at SFS 8, Loch a Sguirr

Illus 16: Excavation at Sand

The test pitting programme was designed to sample as many of the sites identified in the coastal survey as possible, with the aim of characterising their deposits and collecting samples for dating (see Illustration 15, right). The aim was, where possible, to dig two test pits at any one site, usually in contrasting locations. This usually involved return visits to sites and the transport of sample material (100% of fill) back to base for processing. In some cases, however, test pits had to be dug and material processed on site during the survey work (see Section 2.1 for more details of method).

Detailed excavation was only possible on one site, that at Sand (see Illustration 16, left). Sand was identified as a midden site of Mesolithic date in 1999, the first year of fieldwork. Excavation took place over a four-week period in 2000. The excavation was designed to assess the size of the midden, the character of the deposits both within and outwith the midden, the relationship of the midden to the non-midden deposits around it, and to obtain archaeological and paleoenvironmental samples relating to the archaeological occupation of the site, for dating and wider analysis (see Section 3 for more detail).

Illus 17: Post-excavation work in the field

Post-excavation work (see Illustration 17, right) took place from 2000 to 2004 and involved a wide range of specialists from many different Institutions (see List of Contributors).

1.8 Finds and archive disposal

All of the finds from the project, whether from Sand or other sites, have been passed to the Finds Disposal Panel administered by Historic Scotland for allocation to a suitable Institution. The full archive has been deposited in the National Monuments Record for Scotland in Edinburgh where it is freely accessible to the public. Copies of all reports and databases have been deposited with the Highland Regional Archaeology Service in Inverness.

1.9 Site management and the future

Prior to SFS there had been no detailed examination of the wealth of sites around the Inner Sound. The only exceptions to this relate to occasional studies of individual sites (Gray 1960; Walker 1973; Hardy *et al* forthcoming a). Indeed, the precise size of the resource that was revealed has been surprising. Many of the sites lie dormant, but others are still in use, and much of the resource is threatened both by natural and human factors. Although it was not in the power of the project to manage any of the sites recorded, SFS did work with Historic Scotland to produce information relating to condition and threat which has been played into Historic Scotland's coastal erosion database.

1.10 Community archaeology

Illus 18: April 2000 open day at the excavations at Sand

Illus 19: Open day, processing

Illus 20: Display panel for local exhibitions

Archaeology is a profession dominated by specialists. Nevertheless, since the 1980s there has been a growing understanding that the past is a communal resource in which many people wish to participate (Binks *et al* 1988). In common with many other projects SFS sought to open up both the work and the results to all, irrespective of age or training (see Illustration 18, top left). We benefited from this in that local volunteers carried out much useful work including both excavation and post-excavation work (see Illustration 19, bottom left). Local information was a constant source of data, and lectures both around the Inner Sound and elsewhere have been well attended (see Illustration 20, right). The Scotland's First Settlers website, set up in 2000, has provided a popular source of information and resulted in many contacts to the project. It was updated in 2003, but there are no resources for further or final upgrades. In choosing Applecross as a base in 2000 we unwittingly chose an area with a high degree of interest in the past. In 2003 this culminated in the opening of a community-driven Heritage Centre in Applecross in which SFS information is well represented. From the current specialist publication in SAIR will come a popular work to try to give an idea to all those who participated, and to those who are interested, of how their hard work has paid off.

1.11 Report structure

The first part of the report, Section 2, considers the wider work of the project: survey and test pitting. After Section 2.1, which provides a discussion of method and general results regarding site location and use, Section 2.2 provides information regarding every site where there was some invasive archaeological action. This includes test pitting,

shovel pitting and surface collection. This is set out by site, alphabetically by name. Relevant specialist reports have been included here. Information from these sites is also summarised and discussed in the final discussion, Section 9. Section 2.2 does not include those sites with visible midden but where no invasive action occurred. These are listed in Appendix 1, the catalogue of all sites.

Section 3 considers the excavation at Sand. Subsections consider the geographical background, excavation and results, finds, ecofacts and environmental analysis specific to Sand.

The following sections consider material relating to the project as a whole. The radiocarbon determinations are presented and discussed in Section 4. Section 5 considers lithic raw material use and Section 6 pumice-like material. Sea-level change is presented in Section 7 and palaeobotanical evidence in Section 8. Finally, the findings of the project are drawn together in Section 9. This is followed by a number of appendices which provide specific data: context information, laboratory measurements and catalogues. In accordance with common practice radiocarbon dates are given in calibrated years BC in all the sections that deal with the human archaeology; in the natural science sections dealing with the past environment and landscape however, conventional, uncalibrated, radiocarbon years BP have been used. The reason for this is that over the time scales involved (the last 10,000 years) dates refer to very general age divisions such as the Younger Dryas or Holocene, and to use calibrated BC dates would add a spurious accuracy to the general period nomenclature.

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… > Documents > Final reports > WJ,_Introduction.pdf
… > Images > Maps > Location_map.jpg [Illustration 1]
… > Images > Work in Progress > processing_1.jpg [Illustration 17]
… > Images > Work in Progress > Open_Day_2.jpg [Illustration 18]
… > Images > Work in Progress > Open_Day_1.jpg [Illustration 19]
… > Images > Panels > Panel1.gif [Illustration 20]