

2.1 Survey and test pitting around the Inner Sound | Karen Hardy

2.1.1 Introduction

The archive version of the text can be obtained from the project archive on the Archaeology Data Service (ADS) website, after agreeing to their terms and conditions:

[ads.ahds.ac.uk/catalogue/resources.html?sfs\\_ba\\_2007](http://ads.ahds.ac.uk/catalogue/resources.html?sfs_ba_2007) > Downloads > Documents > Final Reports.

From here you can download the file 'Hardy,\_Survey\_and\_Test\_Pitting.pdf'.

The aim of the SFS survey work was to examine the coastline of the Inner Sound for evidence of past human activity. As the project was primarily focussed on the Mesolithic, upstanding sites that were obviously of a later date, such as cairns, hut circles, shielings and so on were excluded, though new sites were notified to the NMRs on a separate basis by Martin Wildgoose.



Illus 21: The rocky coastline of Toscaig, Applecross peninsula



Illus 22: View along Loch Torridon from the south side of the Redpoint peninsula

Though the Inner Sound is a relatively small area, both the topography and the seascape vary considerably (see [Illustrations 21 & 22](#)). Prior to SFS work there were only three known Mesolithic sites in the area (An Corran, [Hardy \*et al\* forthcoming a](#); [Saville & Miket 1994a](#); [1994b](#); [Shieldaig, Walker 1973](#); [Ballin & Saville 2003](#); [Redpoint, Gray 1960](#)) though local knowledge suggested that similar sites existed elsewhere in the Inner Sound.

The area covered is described in [Section 1](#) (and see [Illustration 1](#), right).



Illus 1: Map of survey area

consistency, all survey work was carried out by the same team of three: Martin Wildgoose, Steven Birch and George Kozikowski. In the end most of the Inner Sound and its islands was walked over and visually surveyed. The only parts not included were some areas of rhododendron and woodland plantation where survey was impossible (a small area to the west of Kyleakin and several small enclosures in the northern part of the Applecross peninsula).



Illus 23: Sand rockshelter. There is no sign within the rockshelter of the archaeological deposits and the outer vegetation reflects

An original aim of SFS was to extend the walkover survey by test pitting sites in order to characterise their deposits, assess their age and examine preservation ([Hardy & Wickham-Jones 2002](#)).

The large number of sites found by SFS survey work meant, however, that not all could be test pitted. This included many with visible evidence of past human activity. Selection for test pitting was carried out according to a combination of potential for past human activity, accessibility and an assessment of threat. It included both sites with visible archaeological remains and some without. Sand is a good example of a site with no visible evidence of past human use: the shell midden lies in a natural hollow completely below the present ground surface and the vegetation of grass and bracken does not reflect the underlying midden (see [Illustration 23](#), left).

past cultivation on the apron before the shelter rather than earlier activity. In some areas, notably those that were particularly remote and difficult to access, small shovel pits were dug in an attempt to determine whether archaeological deposits were present. The island of Rona is a case in point; there is no public transport to Rona and access is difficult. The island is very overgrown and working conditions are not easy. Sites in Rona were thus shovel pitted whether or not they had visible evidence of past human use (see [Illustration 24](#), right). Where archaeological potential was revealed, a test pit was then dug during the course of the survey work. This method also took place in rockshelter sites on the island of Raasay and around the sea lochs where access was difficult.

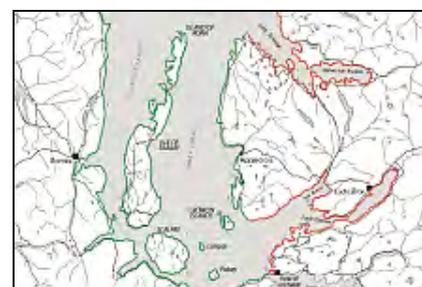


Illus 24: Shovel pitting at SFS 152, Doire na Guaile, Rona. The interior of Rona was rocky and inaccessible so that shovel pitting was carried out on all sites. [Back to Rona](#)



Illus 25: Shovel pitting, Applecross Manse

Around all the coastlines, there are many raised beaches. The archaeological potential of these was assessed by the excavation of transects of small shovel pits (200–300mm<sup>2</sup>) across a small sample (between 10% and 25% depending on location, see below) of the beaches (see [Illustration 25](#), left and see below). The survey work was split into two (see [Illustration 26](#), right). Between 1998 and 2002 the main coastlines of the Inner Sound, including all the islands, were surveyed. In 2002 a separate project, the Sea Loch Survey (SLS) was established for the survey of the sea lochs Carron and Torridon. This division was based purely on the need to differentiate the sea lochs by area in order to obtain support for that part of the work. The results of both projects are combined in this report.



Illus 26: Survey areas, SFS and the Sea Loch Survey (SLS)

## 2.1.2 Method

An initial desk-based search was undertaken comprising searches in the local Sites and Monuments records and in the National Monuments Record of Scotland. This desk-based survey produced very little so that fieldwork became crucial to an understanding of the early settlement of the area.

### Field survey methods

#### 2.1.2.1 Walkover

Most of the modern coastline and all raised beaches were walked (see above). The survey area comprised the intertidal zone and the visible coastal fringe to an average width of 150m. Surface lithic material, evidence of middens, caves and rockshelters, were all recorded. In addition, examination was made of all erosion, this included natural erosion scars, paths, mole-hills, animal rubs, service trenches, excavations for new buildings, breakdown of coastal cliffs and ploughed fields.

Caves and rockshelters have traditionally been associated with early prehistoric finds in Scotland (for example [Lacaille 1954](#); [Coles 1983](#); [Bonsall et al 1994](#)). It was therefore decided to visit, examine and record, every visible cave and rockshelter in the survey area and assess their archaeological potential. Given the records of their use in later periods ([Tolan-Smith 2001](#)), later material was also recorded where it occurred. For the purposes of this study a site was considered a rockshelter when an overhanging roof gave shelter to an open area below. A cave comprised a site which could be entered – with roof, sides and back to define a potential area of use.

#### 2.1.2.2 Test pitting

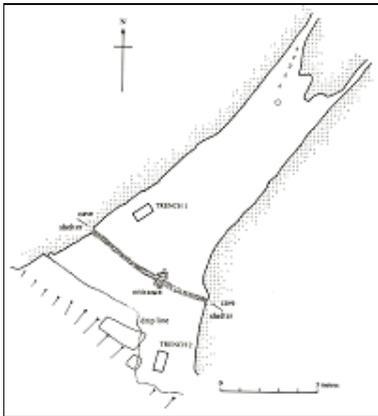
The aim of the test pitting was to evaluate each site by taking the test pit down to bedrock in order to look for datable or diagnostic

material, and assess preservation. Test pits measured 1×0.5m and where possible two test pits were dug at each site, one inside the rockshelter or site, and one outside. Test pits were dug by context; the contents were usually returned to base to be wet-sieved through Endicott sieves (where this was not possible they were dry-sieved through 3mm wire mesh on site) and sections and floors were drawn and photographed (see [Illustration 27](#), right and [Illustrations 28 & 29](#), below left).

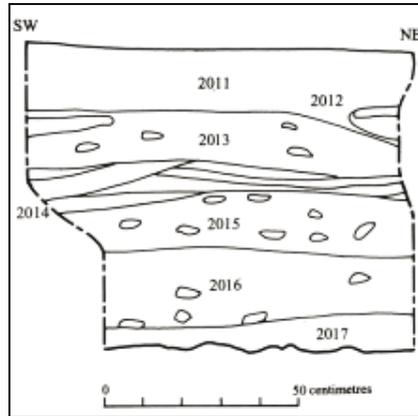


Illus 27: A typical test pit, on to bedrock at SFS 104, Fearnmore 1

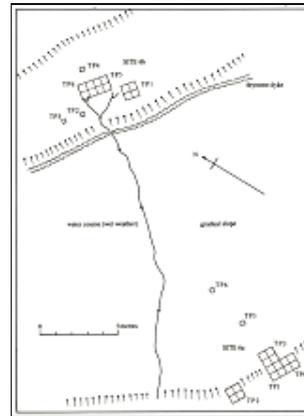
In addition, three open-air lithic scatters on the island of Scalpay (SFS 33, SFS 195, SFS 198), were test pitted by a local member of the survey team. This involved more intensive test pitting of areas up to 3m<sup>2</sup> across the scatter sites (see [Illustration 30](#), below mid right). Additionally, one line of ten shovel pits was run on a north-west/south-east transect across the find spot of an isolated lithic on Scalpay (SFS 197) (see [Illustration 31](#), below right). This level of fieldwork would not have been undertaken had not one of the SFS surveyors lived on Scalpay adjacent to the lithic scatter sites, but it has provided an unusually detailed window onto the early remains of one part of the SFS study area.



Illus 28: Typical plan – SFS 20, Toscaig 2



Illus 29: Typical section drawing – SFS 20, Toscaig 2



Illus 30: Plan of test pit layout, SFS 195 & 198, Scalpay 6a & b



Illus 31: Shovel pit transect and location of isolated find (x), SFS 197, Scalpay

### 2.1.2.3 Shovel pitting

Shovel pits dug as part of the survey in caves and rockshelters, measured between 250 and 300mm each side. Where possible, two shovel pits were dug at different places in or just outside the cave or rockshelter. There was no attempt to reach basal layers, though sometimes bedrock was encountered. The shovel pits were undertaken as a way of extending the survey in certain areas (see above) to determine whether archaeological deposits existed and to provide a simple characterization of these deposits. Contents of the shovel pits were dry-sieved and examined on site.

A selection of raised beaches was shovel pitted (see [Section 2.2](#) and also [Illustration 32](#), right). Sites were chosen on the basis of a combination of features conducive to human settlement (fresh water, access to resources and so on). In the Inner Sound area, 10% of identified raised beaches were shovel pitted while in the Sea Loch area the sample was increased to 25%. Shovel pitting comprised the laying out of a transect across the area of interest and then pits were dug every 10m. The shovel pits measured between 250 and 300mm each side and were dug down to the underlying layers, usually beach gravels. The interval was reduced to 5m intervals where surface lithic scatters occurred (see [Illustration 25](#), above). The contents of each shovel pit were dry-sieved on site through a 3mm wire mesh. Where lithics were recovered, the pit was recorded as a hit and marked as such on plan.



Illus 32: SFS 188, Camas an Leim, Shovel pitted raised beach

#### 2.1.2.4 Recording

In order to locate sites, national grid references were taken using a Garmin 12XL hand-held GPS (global positioning system) with an accuracy of around 10m.

The survey database ([Appendix 1](#)) provides a catalogue of all sites visited, with or without visible archaeology. Sites with no archaeological evidence have been retained in the database and can be identified ([Appendix 1](#), column H), though they are not discussed in detail. In this way it is possible to assess the differential selection of caves and rockshelters and, furthermore, it is possible for future research to check the state of any location at the time of the SFS visit. In addition, this database provides the record of sites with visible remains, for example walling or midden, but where further work such as test pitting was not possible. These sites are not covered in [Section 2.2](#).

Test pitting was carried out between 1999 and 2003. Shovel pitting was carried out in 2000 and 2002. Full details of all sites that were test or shovel pitted are recorded, together with sites from which finds were collected, for example surface collections, in the Active Sites Report, [Section 2.2](#).

Information regarding each site was recorded in the field on a standard survey sheet ([Illustration 33](#)). Threats to the sites were included according to Historic Scotland's coastal survey threat categories (see [Illustration 34](#) & [Ashmore 1994](#)). The survey sheets were filled in at individual sites, photographs taken and sketch maps made where appropriate ([Appendix 1](#)).

#### 2.1.3 Results

Site types	Numbers
Caves	37
Lithic scatters/find spots	37
Open air sites	9
Rockshelters	103
Shovel pitted areas, raised beaches	11
Total	197

Table 1: Type of site visited during survey

Altogether, 140 rockshelters or caves, seven stone tool find spots, 30 lithic scatters, nine open-air sites or shell middens and 11 shovel pitted raised beaches were recorded ([Table 1](#), above).

Location	Number of caves/rockshelters	Lithic scatters	Find spots	Shovel pitted	Open Midden
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				raised beaches	
Loch Torridon	12	3	2	4	
Loch Carron	17	3		3	
North Applecross	13		2		
Mid Applecross	17		1	3	3
South Applecross	25			1	1
Islands	53	11			
Trotternish	3	11	1		1
South Skye		2	1		4
Total	140	30	7	11	9

Table 2: Survey sites by type and area

Lithic scatters, middens and find spots are by their nature defined by their archaeology, while caves, rockshelters and raised beaches are defined by their topography. The physical geography around the study area varied and was divided into eight sub-areas (see [Illustration 35](#), right, and see below). Physical geography had clear implications which are considered below ([Table 2](#), above; [Section 2.1.3.3](#)). Just over half of the caves, rockshelters and raised beaches have evidence for past human activity ([Table 3](#), below) in addition to those sites which were defined by their finds such as existing lithic scatters.

Site types	Evidence		No evidence	
Caves	18	(49%)	19	(51%)
Rockshelters	59	(58%)	42	(42%)
Shovel pitted areas, raised beaches	6	(55%)	5	(45%)
Total	83	(56%)	66	(44%)

Table 3: Archaeological evidence by type of site

NB: sites which were defined by the existence of finds, such as lithic scatter sites have been excluded.

When the caves, rockshelters and shovel pitted areas with no archaeological evidence are removed, 129 sites remain ([Table 4](#), below). In all following discussions of sites, only those containing archaeological material will be included (as in [Illustration 34](#)).

Site types	Numbers
Caves	18
Lithic scatters/find spots, raised beaches	43
Open middens/sites	9
Rockshelters	59
Total	129

Table 4: Sites with archaeological evidence by site type

The archaeological evidence in these 129 caves, rockshelters and shovel pitted areas comprises mainly lithic scatters, shell middens and walls ([Table 5](#), below). Sixty shell middens were recorded, seven of which are open-air sites, and 53 are in caves or rockshelters. Several sites had shell middens that were visible but inaccessible as they lay below rock fall (or, in one

instance, water). Although these were recorded as middens they could not be test pitted. Rock fall also prevented test pits reaching bedrock on 23 occasions.

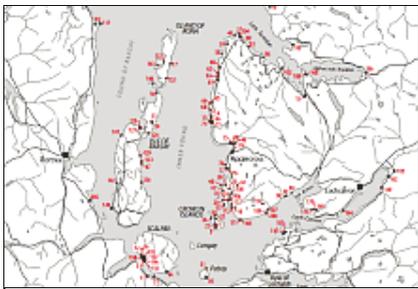
Table 5

Site types	Numbers of sites
Shell middens	61
Lithic scatters, find spots, rockshelters with surface lithics	45
Walls	23
Slab floors	2
Total	131

Table 5: Types of archaeological evidence

NB: total = more than 129 as some sites have both middens and walls.

### 2.1.3.1 Walkover survey – techniques of analysis and results



The study area was subdivided into eight sub-areas in order to examine the distribution of sites (see [Illustration 35](#), right). These areas are defined on a purely geographical basis and do not reflect parishes.

A total of 197 locations was visited. Sites were sub-divided into five categories as follows (see [Illustration 36](#), left):

- caves and rockshelters, with or without midden and other archaeological evidence
- open-air sites including shell middens

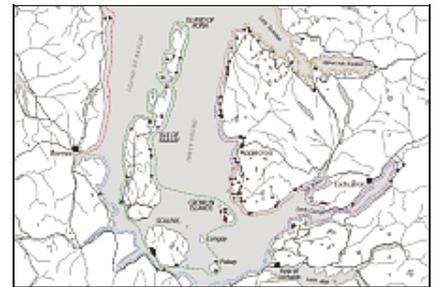
- lithic scatters – surface lithic finds of more than one artefact, including those found in sand dunes
- find spots – one artefact only (usually a flaked stone tool)
- open sand dune sites with material later than flaked lithic remains

In addition, raised beaches which had been shovel pitted were recorded, whether or not they produced artefacts.

### 2.1.3.2 Test and shovel pitting – techniques of analysis and results

Seventy-six sites were test pitted or shovel pitted while three rockshelter sites were both test and shovel pitted. For the sake of clarity, sites that were both test and shovel pitted will be included in the test pitting category for analysis.

Forty-nine sites were visited with the aim of test pitting. All were accessible with midden or other apparent remains that were not obscured beneath rockfall. Of these, five cave and rockshelter sites were discounted as inappropriate for test pitting, due to being too wet, too small or too exposed for human occupation. In the event it was not possible to dig two pits in every site so that a total of 86 test pits were dug in 44 sites ([Table 6](#), below). Of these, 41 (93%) contained archaeological remains. (Full details of individual test pitted sites are given in [Section 2.2](#) and [Appendix 1](#).)



Illus 35: Map of Inner Sound with the sub-areas defined and those sites with archaeology

Table 6

Type of site	No of sites test pitted	No of sites shovel pitted	Total

Rockshelter / cave	34	23 (+3)	57
Open midden	4		4
Lithic scatter / raised beach	6	9	15
Total	44	32 (+3)	76

Table 6: Types of site test pitted or shovel pitted

Thirty-five sites were shovel pitted: 26 caves and rockshelters, and nine areas of raised beach (Table 6, above). Three rockshelter sites were revisited and test pitted following shovel pitting. In total, 16 (61%) shovel-pitted sites were found to contain evidence for past human activity: one cave, nine rockshelters and six areas of raised beach. Of the 26 caves and rockshelters that were shovel pitted, a total of ten (38%) were found to contain archaeological deposits and the remaining 14 appeared to contain no archaeological deposits. Shovel pitting was thus a good technique by which to assess the archaeological potential of a site as it provided useful information regarding the presence/absence of archaeological remains. Efficient test pitting could then take place.

With respect to the raised beaches, two sites (Applecross Manse, Nead an Eoin) were identified prior to shovel pitting by the presence of surface lithics; the other sites had no previous indication of archaeology. The high number of positive determinations, five of seven unrecognised sites (71%) highlights the value of shovel pitting as a survey technique. This is something that has been seen elsewhere (Bang-Andersen 1989), but it is little used in Scotland. In this case shovel pitting helped to identify the resource of lithic material that lies hidden on the raised beaches, and to raise awareness of the value of these parts of the landscape in prehistory.

#### 2.1.3.3 Geographical distribution

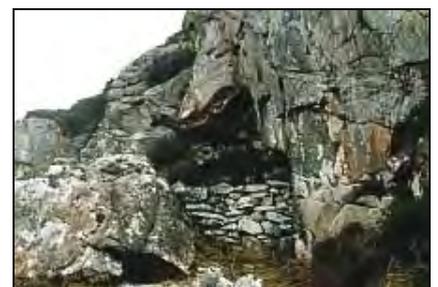
The locations of the test pitted and shovel pitted sites are shown in Table 7 (below), which also highlights the value of test and shovel pitting by sub-area. All sites with archaeology are presented in Illustration 36 (above).

Location of sites	Number of test pitted sites	Number of shovel pitted sites	Positive evidence for past human use
Loch Torridon	2	9	4 (36%)
Loch Carron		6	3 (50%)
North Applecross	6		6 (100%)
Mid Applecross	9	2	11 (100%)
South Applecross	13		13 (100%)
Islands	13	15	21 (75%)
Trotternish			
South Skye	1		1 (100%)
Total	44	32	59

Table 7: Locations of test and shovel pitted sites and the contribution of the technique to the recognition of archaeological sites by sub-area

#### 2.1.3.4 Caves and rockshelters

Despite the potential for skewed data because of a slight change in method, whereby caves and rockshelters were routinely shovel pitted on the islands of Rona and Raasay and also around Lochs Carron and Torridon (see above), there may be a difference in the use of caves and rockshelters around the sea lochs, in particular around Loch Torridon, where the use of caves and rockshelters is substantially less than elsewhere (Table 8, below). This is supported by the number of caves and rockshelters containing



Illus 37: SFS 19, Toscaig 1 –

visible remains of middens, floors or walls (see [Illustration 37](#), right).

rockshelter enclosed by wall

Table 8

Location of caves and rockshelters	Total number of caves and rockshelters in area	Number of caves and rockshelters with visible archaeological evidence	Test pitted caves and rockshelters with visible evidence		Test pitted caves and rockshelters without visible evidence		Total number of test pitted caves and rockshelters by area
Loch Torridon	12	4	1	(16%)	5	(84%)	6
Loch Carron	17	5	1	(33%)	2	(66%)	3
North Applecross	13	9	5	(100%)	0		5
Mid Applecross	17	10	6	(86%)	1	(14%)	7
South Applecross	25	23	12	(100%)	0		12
Islands	53	25	17	(71%)	7	(29%)	24
Trotternish	3	1	0		0		0
South Skye			0		0		0
Total	140	77	42		15		57

Table 8: Archaeological remains in caves and rockshelters by area and the contribution of test pitting

#### 2.1.3.5 Open middens

Four open middens were test pitted (see [Illustration 38](#), right). In each case, test pitting enabled at least one part of the midden to be assigned to a cultural phase, but the basal layer was reached in only two sites. For two sites, thus, the midden was thought to extend substantially below the base of the test pits so that the period determination ascribed here is likely to be minimal.



Illus 38: Open midden at SFS 100, Fraser's Croft

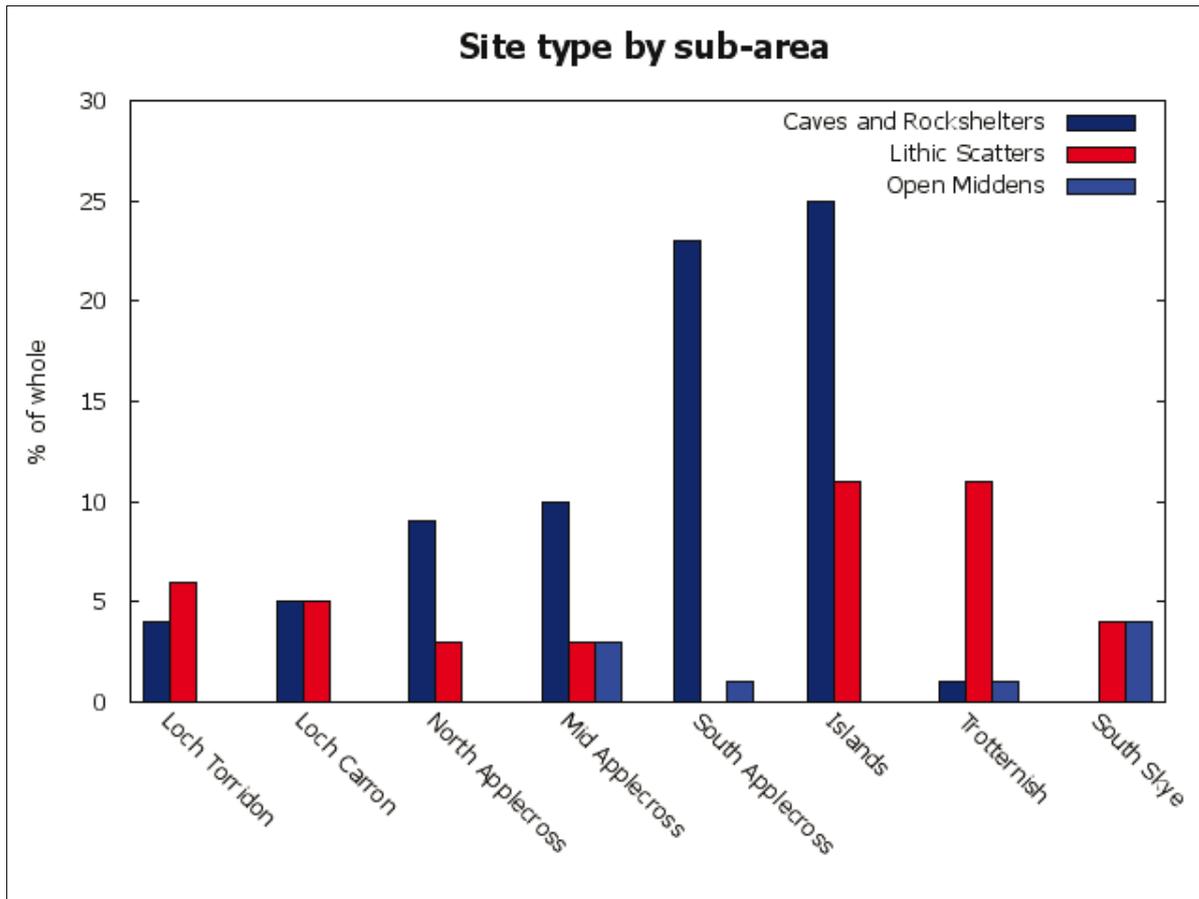
#### 2.1.3.6 Overall distribution of sites

The distribution of sites reflects the local geology and topography (see [Table 9](#), below; [Illustration 35](#), above & [39](#), below). The coastline between Portree and Kyleakin, for example, comprises low-lying, open ground and does not contain caves and rockshelters.

Table 9

Sub areas	Caves & rockshelters	Lithic scatters & find spots	Open middens	Total	
Loch Torridon	4	7		11	(8.5%)
Loch Carron	5	5		10	(8%)
North Applecross	9	2		11	(8.5%)
Mid Applecross	10	3	3	16	(12.4%)
South Applecross	23		1	24	(18.6%)
Islands	25	11		36	(28%)
Trotternish	1	11	1	13	(10%)
South Skye		4	4	8	(6%)

Table 9: Sites with evidence for past human use



Illus 39: Site type by sub-area (in %)

To the south of An Corran, and round the coast of Skye to Kyleakin, few sites were found. This is partly due to the geology, in that the coastline between An Corran and Portree is made up of steep cliffs with few available caves and rockshelters. Only one natural landing place exists in this stretch of coastline, at Port Earlish, where a prehistoric lithic scatter site is recorded. To the south of Broadford there is a wide coastal plain. This is the busiest area of Skye today and the lack of sites here is likely to be a reflection of the destruction of archaeological sites by longstanding developments such as farming and building.

#### 2.1.4 Loch Torridon

Loch Torridon lies at the northern-eastern corner of the survey area (see [Illustration 35](#), above). A total of six definite prehistoric sites was found as well as two indeterminate open-air lithic sites. Two (undated) Mesolithic lithic scatter sites were already known – SFS 15, Shildaig, near the head of the loch; SFS 9, Redpoint, on the northern tip of the loch (see [Illustration 40](#), below). A find spot containing one prehistoric lithic artefact was also found near the northern shore of the Loch (SFS 190, Diabeg; see [Illustration 41](#), below). A rockshelter with shell midden containing lithic artefacts characteristic of an early prehistoric date was identified halfway up the northern side of the loch (SFS 10, Allt na h Uamha; see [Illustration 42](#), below), almost directly opposite Fearnmore (SFS 104; see [Illustration 43](#), below), an open-air site with an extensive lithic scatter of general Mesolithic period on the south side of the loch. Additionally, an indeterminate lithic find spot (SFS 102, Ardheslaig 1) and one lithic scatter (SFS 186, The Mains) are also located near the loch shore.



Illus 40: The blow out at SFS 9, Redpoint



Illus 41: Loch Diabeg, Upper Loch Torridan, general view



Illus 42: SFS 10, Allt Na Uamha, Loch Torridon



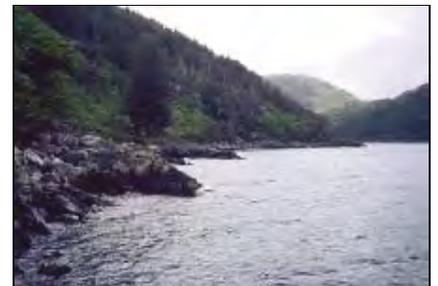
Illus 43: SFS 104, Fearnmore, general view, the site lies on the hill to the left of the small inlet

The number of sites suggests that Loch Torridon and its environs may have been quite intensively occupied in prehistory. However, the evidence does suggest some differences with that elsewhere. Although 12 caves and rockshelters were located here, only four showed any evidence for past human use (see [Illustration 39](#), above). There are, however, six open-air lithic sites of prehistoric or indeterminate date and this suggests that activity may not have been tied to the presence of caves or rockshelters in this area.

No sites later than the prehistoric period were recorded in this area.

#### 2.1.5 Loch Carron

Of the 17 caves and rockshelters recorded in the Loch Carron sub-area, only five have evidence of use. One cave has been dated as prehistoric (SFS 171, Meall-nalh-Airde 2; see [Illustrations 9](#), right & [44](#), below left), the other four are currently undated. An additional four lithic scatter sites were located in Loch Carron, all of which are prehistoric (see [Illustration 45](#), below right) on the grounds of the types of artefact recovered. The proportion of lithic scatters to used caves is high and suggests that, in prehistory, occupation was less tied to the use of caves and rockshelters than in other places around the main Inner Sound coastline.



Illus 9: Staffin Bay opens into the heartland of north Skye



Illus 44: SFS 171, Meall-nalh-Airde 2, close up view of entrance



Illus 45: SFS 185, Achintee, general view of the raised beach on which shovel pits revealed a lithic scatter of general prehistoric date

#### 2.1.6 North Applecross



Much of the North Applecross coastline is very exposed, with few natural harbours and landing places (see [Illustration 46](#), left). Nine caves and rockshelters contain evidence of past human occupation, out of a total of 13, and two indeterminate lithic find spots were recorded. No sites were identified as early prehistoric, though one cave site contains evidence of use in later prehistory (SFS 49, Creag na h Uamha; see [Illustration 47](#), right). The lack of prehistoric sites, despite the lack of



Illus 46: The North Applecross shoreline showing SFS 58, Rubha Chuaig

Illus 47: SFS 49, Craig-na-h-Uamha rockshelter showing the walling across the entrance

modern development in this area, is notable and may be linked to the relatively exposed coastline.

Three cave and rockshelter sites have evidence for occupation during the medieval period or later, such as Rubha Chuaig (see [Illustration 46](#), right), while the remaining five produced no diagnostic or datable material.

### 2.1.7 Mid Applecross

The sub-area of Mid Applecross centres on the main shell midden site of Sand and the modern village of Applecross. Here, both the bay at Sand (see [Illustration 48](#), below left) and Applecross Bay offer excellent and protected environments for human settlement, and have done so since early prehistory. Seven sites were confirmed as prehistoric, two of which yielded Mesolithic artefacts (see [Illustration 49](#), below mid left). In addition to the midden site associated with the rockshelter at Sand (dated by radiocarbon determination to the earlier part of the Mesolithic in Scotland, [Section 4](#)), a Mesolithic lithic scatter was found in Applecross Bay (undated; SFS 75, Applecross Manse; see [Illustration 50](#), below mid right). Five other sites contain evidence of activity in prehistory: two rockshelters, two lithic scatters and one find spot.



Illus 48: General view of Sand bay, in the foreground lies the steep and active sand dune

Illus 49: The rockshelter at SFS 4, Sand

Illus 50: SFS 75, Applecross Manse Mesolithic site, lithics were first noted in the disturbance caused by a digger and the site was subsequently shovel pitted



Illus 51: SFS 99. Clachan Church. Test Pit 2, post excavation general view

Nine other sites had archaeological evidence. These include one cave, five rockshelters and three open-air sites. The artefacts and radiocarbon determinations confirm a range of use

throughout history, using both open-air and rockshelter sites, including an Iron Age rockshelter, two sites with Norse artefacts (one rockshelter and one open-air midden), and medieval and post-medieval material on two more open-air sites (see [Illustration 51](#), above right) and four rockshelters.

### 2.1.8 South Applecross

South Applecross has more sites containing evidence for past human use than any other sub-area. Interestingly, all of these are caves and rockshelters (see [Illustration 52](#), right) except for one open midden (SFS 100, Fraser's Croft). Parts of the South Applecross sub-area, particularly around Toscaig, have more evidence of relatively recent land use and development, and this may well have affected the survival of open-air sites here. South Applecross contains several very sheltered marine environments and must have afforded a protected and resource-rich landscape throughout the past so that the apparent emphasis on cave and rockshelter sites is noteworthy and may be a consequence of a bias of preservation (see [Illustration 21](#), in 2.1.1 Introduction, above).



Illus 52: SFS 105. Uags 1, view of rockshelter and coastline



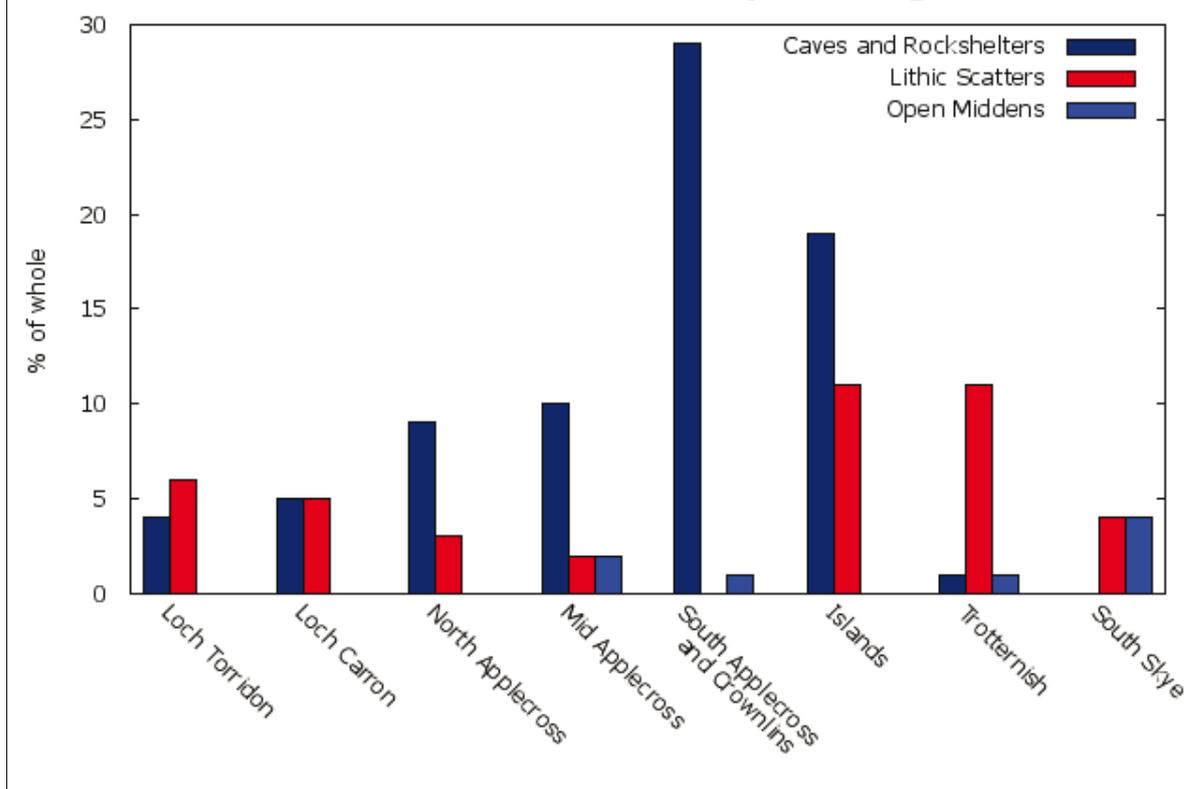
Illus 53: SFS 88, Kishorn 4, internal view showing shell midden exposed on the surface

Two rockshelters have evidence indicating prehistoric activity, while eight suggest medieval or post-medieval use. All sites contain shell middens (for example see [Illustration 53](#), left).

Though for the purposes of the SFS study the Crowlin islands were separated to be part of the islands group, they lie very close to the South Applecross coastline and show a similar level of use of caves and rockshelters to South Applecross. Indeed the pattern of site use also appears similar (see below [Section 2.1.11.6](#)). It is thus possible that the Crowlin islands should be linked more naturally into the South Applecross sub-area. Although the Crowlin islands are currently uninhabited, there is an historical basis for a link to the east as they used to be settled by previous generations of current Toscaig residents. Indeed the Crowlin islands today are farmed and fished from Toscaig.

If, therefore, the distribution of sites around the Inner Sound is re-examined with the Crowlin islands and South Applecross brought together, then this sub-area stands out for the importance of caves and rockshelters (see [Illustration 54](#), below), particularly during the post-medieval period.

## Site type by sub-area if South Applecross and the Crowlin Islands are placed together.



Illus 54: Site type by sub-area if South Applecross and the Crowlin Islands are placed together

### 2.1.9 Trotternish

Although the Trotternish sub-area covers the whole of the north-east coast of Skye, most of the sites are focussed in a very restricted area, around An Corran, at the south end of Staffin Bay (see [Illustration 55](#), below left. The excavated site lies among the screes in the centre background. The outcrops above the site include seams of baked mudstone which also occurs as pebble nodules in the lower screes and gravels. Flaked lithics may be picked up from exposures along the shore to the left of the picture). This is due partly to topography and partly to geology in that the coastline to the south of Staffin has few caves and rockshelters and relatively little sheltered or habitable land. In contrast, Staffin Bay provides a remarkable concentration of useful resources together with both shelter and space (see [Illustration 56](#), below mid left; and see below. In the background lie the deposits of baked mudstone which occurs both as seams in the outcrops high up in the crags and as pebble nodules in the lower gravels).

From the perspective of the Inner Sound as a whole, An Corran and Staffin stand out because of the number of sites in the vicinity and the density of the lithic assemblages recovered there. Ongoing erosion means that flaked lithic material is still being recovered (see [Illustrations 57](#), below mid right & [58](#), below right, shows the eroding turf with lithics are to the right of the coin). In all, a total of seven open-air sites has been recorded, in an arc stretching northwards along the bay, from just below the excavated rockshelter of An Corran (SFS 1; [Hardy et al forthcoming a](#)), which lies at the south-east of the Bay (see [Illustration 10](#), right). All sites contain lithic artefacts generally characteristic of early prehistory (Mesolithic and/or Neolithic). The spread of the scatters means that it is difficult to define the extent of individual sites and it may be that a single large and widespread scatter has been identified in distinct places where it happens to be visible due to erosion.



Illus 10: View across the Inner Sound from Sand; the island of Raasay lies in the background in front of the Skye coastline

The intense use of this area in prehistory is likely to be linked to its resources. Both baked mudstone (as a primary source in local rock outcrops) and chalcedonic silica (as a secondary source in local beach and river gravels) occur here in abundance ([Section 5](#)), but the resources

are not just lithic. Staffin is a sheltered bay with plentiful fresh water. There is safe, easy access to the sea and also into the Skye hinterland. It is a fertile spot, likely to have offered a variety of vegetation (see Green, [Section 8.1](#)). The An Corran rockshelter is the only accessible cave or rockshelter in the area, and it has a record of human occupation dating from the mid seventh millennium BC to the first century AD ([Hardy \*et al\* forthcoming a](#)).



Illus 55: View towards An Corran, from west.



Illus 56: Find spot of SFS 29, An Corran B, in Staffin Bay



Illus 57: SFS 29, An Corran B – general view of the erosion



Illus 58: SFS 29, An Corran B – close up view of eroding turf

Staffin Bay was visited on numerous occasions by the SFS survey team, particularly following an upgrade to the nearby road and consequent disturbance, as well as an increase in the use of the area by cattle. As at Scalpay (see [Section 2.1.11](#) below), sites would appear and disappear and each visit revealed different material so that it was only through the frequency of visits to this area that such a detailed picture of the lithic distribution could be built up. This is obviously a location that should be prioritised for further work.

No sites later than the prehistoric period were recorded for this area.

### 2.1.10 South Skye



Illus 59: SFS 13, Strollamus 1 – general view of site

Only eight sites were found in this sub-area. This is largely due to the lack of caves and rockshelters here but, in addition, the amount of modern development in the coastlands between Broadford and Kyleakin must be taken into account. A number of caves lie in the cliffs to the north of Portree, but they are only accessible from the sea and all are washed by the sea. They were not included in the SFS survey as it was thought unlikely that any surviving archaeological deposits would be found in them. Four open midden sites were found in this area, two of which are linked to old chapel sites and are likely to be medieval (SFS 6, Ashaig 1; SFS 14, Skeabost). The midden at Ashaig 1 (SFS 6), was test pitted and has been radiocarbon dated to cal AD1240–1297 ([Section 2.2](#)). Two open oyster middens lying adjacent to house

ruins are located at Strollamus (see [Illustration 59](#), left. The midden is visible as a low mound in the background from which midden erodes in the foreground).

Two lithic scatters occur at Ashaig near to the midden site (SFS 92, Ashaig 3; SFS 93, Ashaig 4); both suggest prehistoric activity which is also supported by SFS 7 (Ashaig 2), a single find spot. The final lithic scatter, at Achnahannait Bay, once again has material that suggests a prehistoric presence.

### 2.1.11 Islands

The islands sub-area is made up of the islands that lie within the Inner Sound, rather than the sea lochs, and they have very individual characteristics. SFS survey work recorded a total of 18 sites in the islands, of which 13 are prehistoric and five are medieval or later. Although the islands were originally grouped together into one sub-area, it is more instructive to examine them individually.

#### 2.1.11.1 Rona

Rona is a long, thin, rugged island that lies in a north-east/south-west direction at the northern tip of the central island chain. There is little fresh water here and it is currently intermittently inhabited by only one household. Although there is an active submarine sounding base at the northern end, employees are flown in and out by helicopter on a daily basis.



Illus 60: SFS 17, Church Cave, Rona – general view



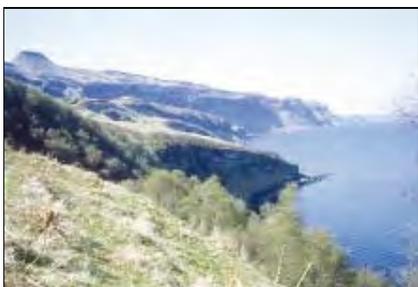
Illus 61: SFS 17, Church Cave, Rona – view of entrance during test pitting

Twelve caves and rockshelters were visited on Rona, but only four had evidence of past human use, two had middens and one contained a wall. One of the shell midden sites (SFS 152, Doire na Guile; see [Illustration 24](#), in 2.1.1 Introduction, above) contained a sizeable lithic assemblage and, though the lithics are undiagnostic, the balance of evidence suggests that this site is prehistoric. Only one other site (SFS 17, Church Cave; see [Illustration 60](#), right) produced diagnostic evidence. This substantial cave was used as a church until 1912 and still contains pews, a font and an altar. A test pit revealed evidence of its use from the Iron Age onwards (see [Illustration 61](#), left). No open-air sites were recorded on Rona.

The lack of evidence from Rona suggests that it has never been as intensively occupied as other parts of the Inner Sound. One of the reasons for this may be the lack of fresh water on the island. It is also relatively infertile and difficult of access with a mountainous interior and a steep rocky coastline. There are only two safe landing spots, Big Harbour and Dry Harbour, both on the west coast.

#### 2.1.11.2 Raasay

Raasay, to the south of Rona, is another long, thin island; the biggest of all the Inner Sound islands and the only one with a permanent population today. Fresh water is more abundant here and, though it too becomes more mountainous towards the north (see [Illustration 62](#), below left), it is more fertile and more easily accessible than Rona. Thirty-three caves and rockshelters were recorded here (see [Illustration 63](#), below middle), of which 14 contain evidence of past human use, in the form of both middens and walls.



Illus 62: The east coast of Raasay



Illus 63: SFS 136, Raasay – rockshelter



Illus 64: SFS 8, Loch a Sguirr, Raasay – showing banding in the rock

The site at Loch a Sguirr in the far north of Raasay has been confirmed as Mesolithic on the basis of both the lithics and radiocarbon determinations. This is an interesting site because it is not particularly easy to access, but is a highly visible rockshelter halfway up a cliff face on which there are striking bands of red and white rock (see [Illustration 64](#), above right). No other sites here provided diagnostic artefacts but several rockshelters contain obvious middens that were not test pitted.



Illus 65: SFS 144, Clachan harbour – general view; the site lies in the intertidal zone

There were no open-air sites, but an intertidal site at SFS 144, Old Clachan Harbour in the south of the island, was recorded (see [Illustration 65](#), left). This site comprises mainly environmental material: peat and the preserved remains of trees (see [Illustration 66](#), right), but it is interesting because there is a strong local tradition that 'stone tools' were found among them. One mudstone flake was found in situ during project work, but sadly this was not diagnostic and the earlier finds could



Illus 66: SFS 144, Clachan harbour – close up of preserved tree trunk among the inter-tidal deposits

not be traced by the project. Sediment cores taken from here form the basis for detailed sea-level and environmental work ([Sections 7.1 and 7.2](#)).

#### 2.1.11.3 Scalpay

Scalpay is a relatively large, round, high island located to the south-east of Raasay, very close to Skye. It is currently inhabited by only one household. There were no cave and rockshelter sites in Scalpay, and no later sites, but an interesting concentration of open-air, lithic scatter sites was discovered. At the time of survey work, one of the SFS surveyors lived in Scalpay and it is likely that the concentration of lithic scatters here (nine) has been biased by his work. The effect of enthusiasts who find sites in the vicinity of their homes is well known ([Wickham-Jones 2004a](#); [Woodman forthcoming](#)) and Scalpay was walked regularly over a period of four years. This intensive survey means that Scalpay provides an idea of the potential of other areas. The regular nature of work in Scalpay has also provided a vivid illustration as to how archaeological visibility in a given landscape can change from day to day. Sites were recognised as the surface cover and daily conditions altered; factors such as animal activity and the weather all play a part (see [Illustration 67](#), right). At no time were all of the sites visible and no sites were visible all of the time. There were times when no sites were visible, while on other days much material was to be found.



Illus 67: Scalpay, general view of the location of the lithic scatters

All nine sites are prehistoric, and all but one was classified as early prehistoric. Three sites contained microliths, which confirms them as generally Mesolithic.

Though survey work in Scalpay was more intensive than elsewhere, it still took in the whole of the island on a regular basis so that the concentration of sites on the west coast can safely be assumed to represent the focus of prehistoric, probably Mesolithic, activity in Scalpay.

No other sites were found on Scalpay.

#### 2.1.11.4 Pabay

Pabay is a small low-lying island slightly to the east of Broadford. It is currently uninhabited except for one holiday home. It has abundant fresh water and is used for grazing, with an area in the east of the island under woodland. Two sites were found here: a large shell midden in the north-east corner (SFS 51, Pabay 2) and a lithic scatter, in the south-east (SFS 50, Pabay 1). The shell midden did not contain any diagnostic material but the lithic scatter is likely to be prehistoric.

#### 2.1.11.5 Longay

Longay is a small, high island lying to the east of Scalpay. It is rugged and has no fresh water. The vegetation is largely overgrown heather. No archaeological evidence was found here.

#### 2.1.11.6 Crowlin

Crowlin comprises two islands linked together at low tide. Both

islands are overgrown with heather and bracken, and there is a fresh water loch in the middle of the main island. There are seven caves and rockshelters, six of which contained evidence of past human use; there were no open-air sites. One site (SFS 2, Crowlin 1; [Illustration 6](#), right: 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) produced a small lithic assemblage, all of which was undiagnostic except for a single gunflint, as well as some undistinguished metalwork and enough organic material for four radiocarbon determinations. The latter suggests sporadic activity from the early centuries AD, throughout the historic period and into the 16th century AD.



Illus 6: SFS 2, Crowlin 1 – the relationship between sites and the sea was of crucial importance

Three other sites on Crowlin also produce evidence for post-medieval occupation (SFS 22, Crowlin 3; SFS 23, Crowlin 4; SFS 26, Crowlin 7). All contained undiagnostic lithics, though only Crowlin 3 produced a sizeable assemblage (60 pieces). A variety of other finds, including glass and metalwork, was recovered from the sites ([Section 2.2](#)). As a group the Crowlin sites are interesting not only because they produced coherent evidence for later activity, but because they yielded by far the best body of evidence relating to the use of firearms, in the form of shotgun pellets, pistol balls and gunflints, as well as strike-a-lights. Other metal finds at Crowlin 3 related to small-scale metalworking, perhaps involving boat repair.

Crowlin is not a fertile place, though it does provide shelter and easy access to the mainland of Scotland. The nature of the evidence suggests that its caves and rockshelters were in demand in historic times and it is not hard to imagine that it might have provided a safe base for groups such as poachers or Jacobites who wished to avoid the gaze of local authority.

#### 2.1.12 Use of caves and rockshelters

Many of the caves and rockshelters with no evidence for past use were uninhabitable at the time they were visited ([Table 10](#), below), though it is important to remember that elements such as sea ingress and waterlogging vary with time. In one case, a shell midden was clearly visible beneath the fresh water within a rockshelter (SFS 170, Meall-na-h-Airde 1).

Inaccessible	1
Too small	1
Wet or water filled	14
Sea ingress	7
Too exposed	1
Total	24

Table 10: Natural explanations for caves and rockshelters with no archaeological evidence

Even within areas of naturally occurring caves and rockshelters their use is uneven (see [Table 11](#), below; [Illustration 68](#), below). The sea loch coastlines of Loch Carron and Loch Torridon, for example, have potential sites that are both dry and of a good size but they were less frequently selected for use than other types of site. In contrast, in South Applecross almost every cave and rockshelter contained evidence of past human use.

Location	Number of caves/rockshelters	Number of caves/rockshelters with evidence of past human occupation	Percentage with evidence for past human occupation
Loch Torridon	12	4	33

Loch Carron	17	5	29
North Applecross	13	9	69
Mid Applecross	17	10	59
South Applecross	25	23	92
Islands	53	25	47
Trotternish	3	1	33
South Skye	0	0	0
Totals (579)	140	77	362

Table 11: Past human use of caves and rockshelters, by sub-area

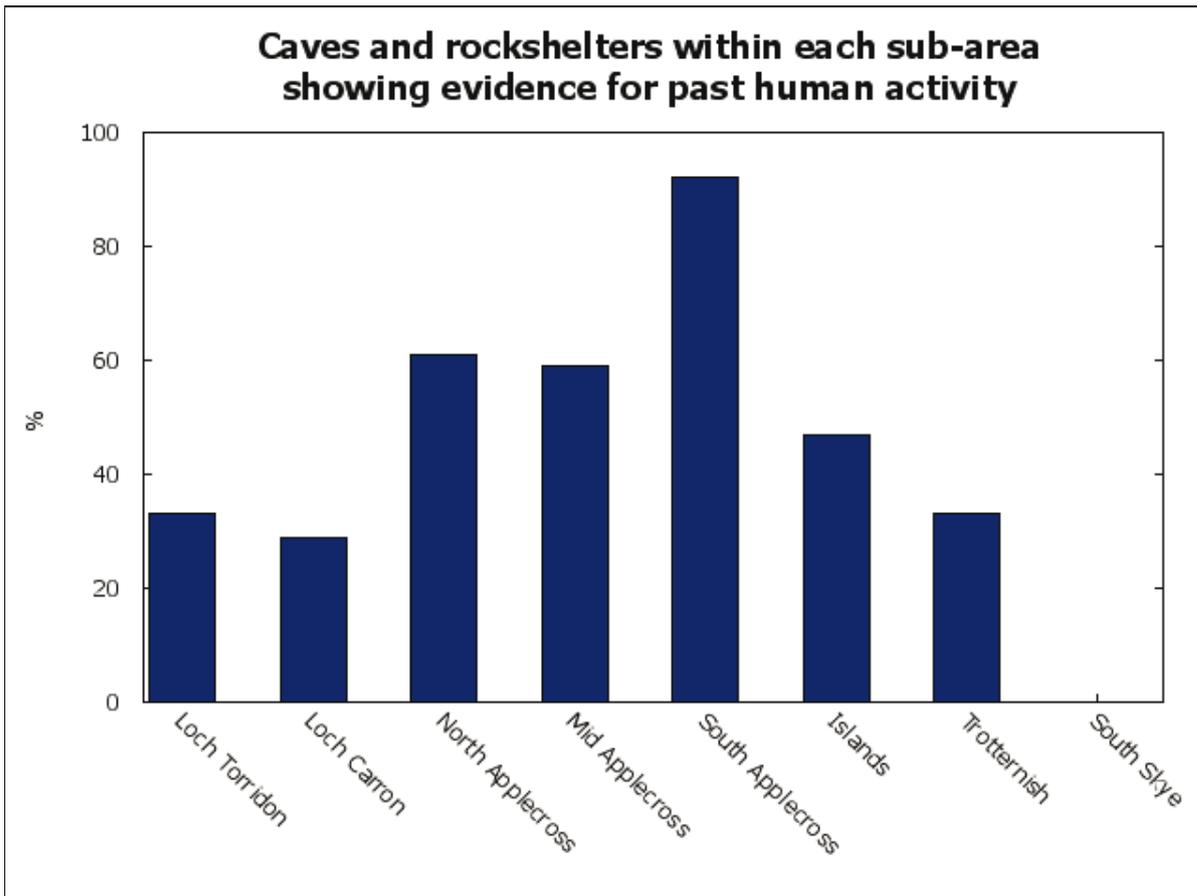


Figure 68: The percentage of caves and rockshelters within each sub-area that show evidence for past human activity

Examination of the islands shows that, in the Crowlin islands, proportionately more caves and rockshelters have evidence for use than the main mid islands of Raasay and Rona (see [Table 12](#), below). This is interesting because Crowlin lies adjacent to the South Applecross coast which it mirrors. The similarity between the occupation levels of caves and rockshelters in South Applecross and the Crowlin islands (see [Tables 11](#), above & [12](#), below) suggests that they should be considered as one coherent geographical unit. This is supported by the similarity of evidence from the two areas both of which contain mainly post-medieval sites.

Table 12

Location	Number of caves/rockshelters	Number of caves/rockshelters with evidence of past human use	Percentage with evidence of past human use
Crowlin	7	6	86%

Raasay	31	13	42%
Rona	12	4	33%
Totals (73)	50	23	

Table 12: Caves and rockshelters with evidence for past human use in islands

The evidence shows clearly that caves and rockshelters have been used throughout the period of human settlement around the Inner Sound from the earliest times to the present day (see [Section 2.1.13](#) below). Not surprisingly some sites have evidence of repeated, if sporadic, use.

### 2.1.13 Relative age of sites

Seventy-two sites contain lithic material; 45 of these can be confirmed as generally prehistoric, while 27 are undiagnostic. These sites occur in all of the survey areas (see [Table 13](#), below). It is clear that the islands and Trotternish have more prehistoric material than elsewhere, though this may have been biased by the more intensive survey methods here. Only sites that contained microliths were classified as Mesolithic, other prehistoric assemblages were separated into those that appeared to be early prehistoric (Mesolithic / Neolithic) and those that appeared to be prehistoric but without a specific date. Within the Mesolithic it is as yet impossible to separate sites that fall within the earlier part of the period from those relating to the later Mesolithic in Scotland without secure radiocarbon dates ([Section 9](#)) so that only a general Mesolithic affiliation can be given to most of the SFS sites.

Table 13

Location	Number of microlithic sites	Number of early prehistoric sites	Number of indeterminate prehistoric sites	Total number of prehistoric sites
Trotternish	4	1	5	10
South Skye			3	3
Loch Carron			5	5
South Applecross			2	2
Mid Applecross	2		4	6
North Applecross				
Loch Torridon	4		2	6
Islands	4	5	4	13
Totals	14	6	25	45

Table 13: Prehistoric sites by sub-area

Stone tools are obviously a common find on earlier prehistoric sites, but the presence of lithics is not a secure indicator of a prehistoric date, so that the number of sites with lithics is greater than the estimate of early sites. Flint and other lithic materials have been used on an occasional basis until well into historic times, for example to make strike-a-lights. Pieces that are not culturally diagnostic are therefore of little help in dating a site. It is, however, interesting to note that a prehistoric lithic presence has been identified in every sub-area except North Applecross (see [Table 13](#), above).

The use of caves and rockshelters is clearly not limited to the prehistoric period in the survey area. [Table 14](#) (below), highlights the later human presence. This table suggests that a concentration of medieval and post-medieval sites occurs in mid and South Applecross. This ties in with work by Hardy (2002; 2003), Tolan-Smith (2001) and Mercer (1978), who have all identified the use of caves and rockshelters in more recent periods.

Table 14

Location	Iron Age	Medieval	Later medieval and historic

Trotternish			
South Skye			
Loch Carron	1		
South Applecross			7
Mid Applecross	1	4	4
North Applecross		2	1
Loch Torridon			
Islands	1	2	3
Totals (26)	3	8	15

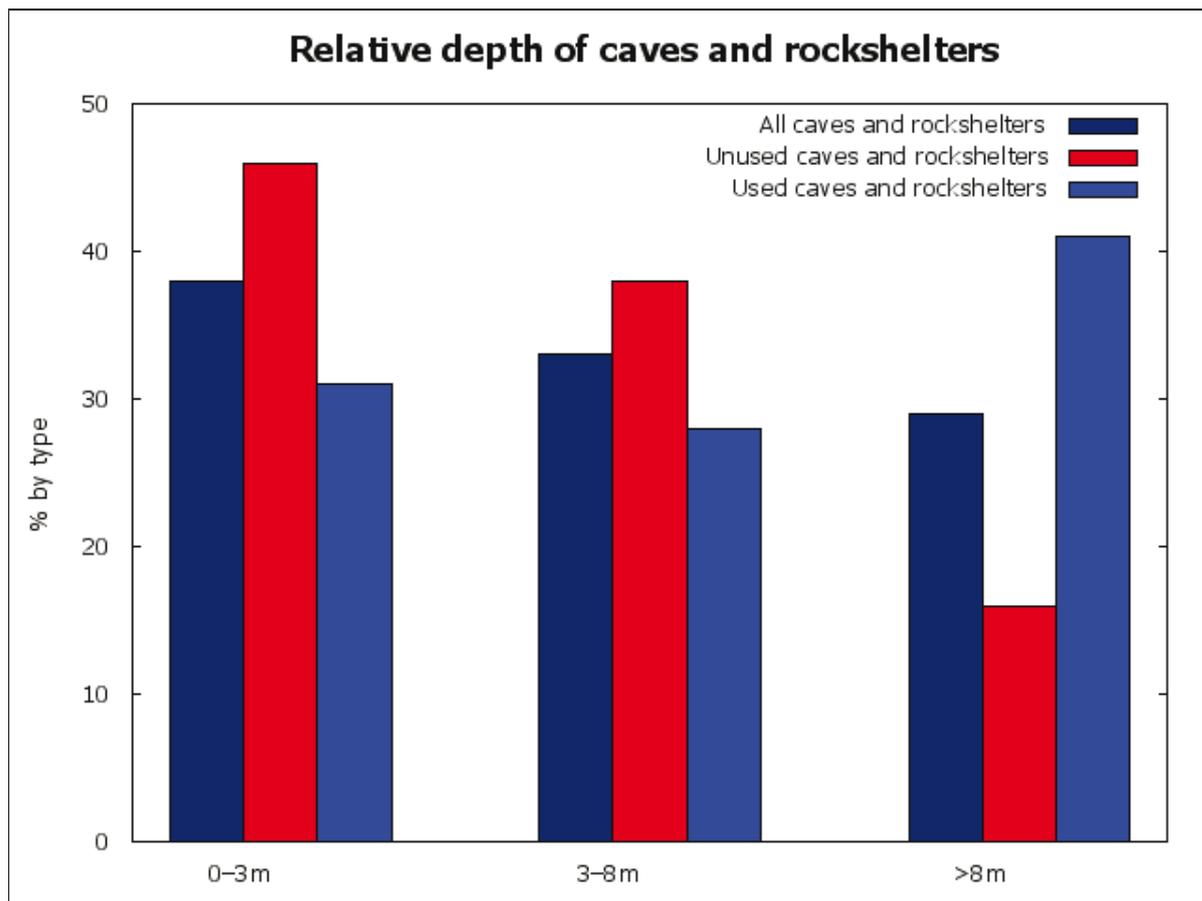
Table 14: Later and post prehistoric sites by sub-area

#### 2.1.14 The selection of caves and rockshelters

Various aspects of the used caves and rockshelters can be examined by comparing them to the entire assemblage of caves and rockshelters. This enables the assessment of preferences in the past selection of caves and rockshelters.

##### 2.1.14.1 Size: Cave and rockshelter depth

Illustration 69 (below) suggests that while sites of any size were selected for use, where possible people seem to have chosen sites that extended deeper into the hillside. This could also be influenced by enhanced preservation in deeper sites.

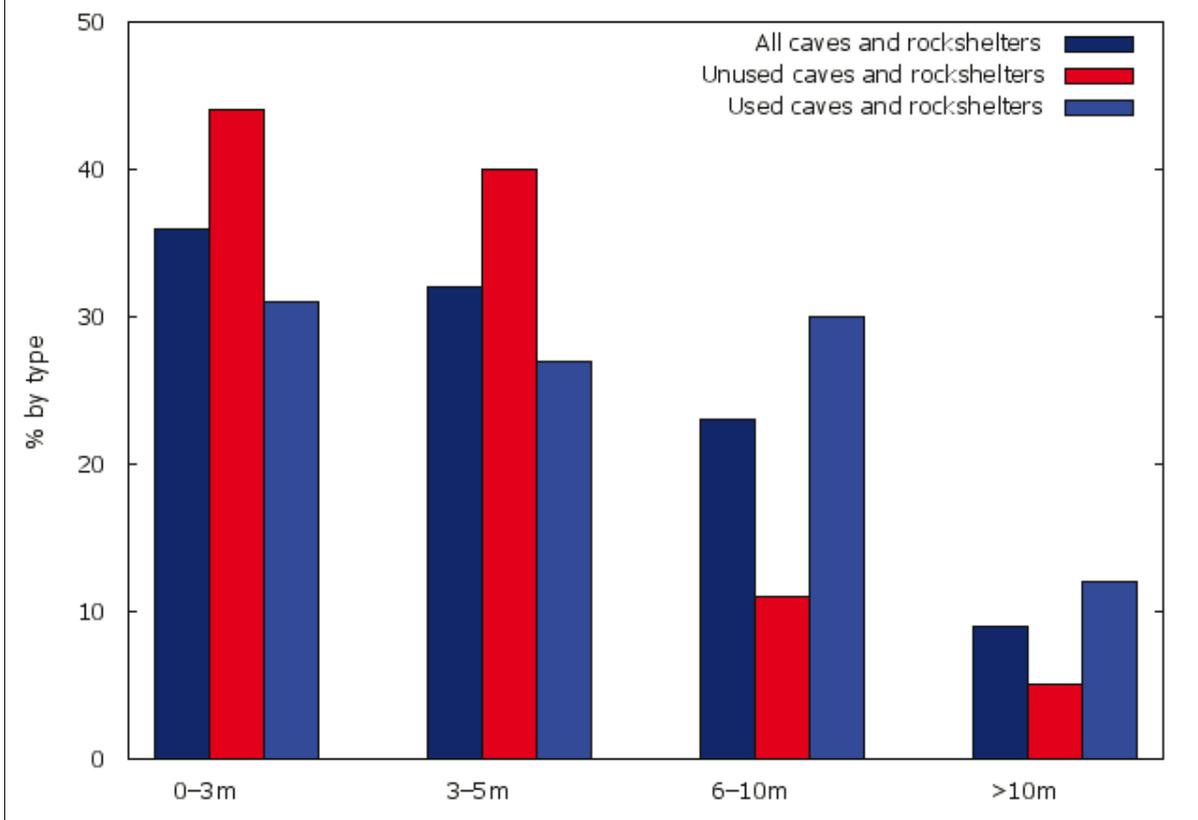


Illus 69: Relative depth of caves and rockshelters

##### 2.1.14.2 Size: Cave and rockshelter width

Illustration 70 (below) also suggests that, though sites of any size may be selected for use, there is a clear preference for larger caves and rockshelters.

### Relative width of caves and rockshelters

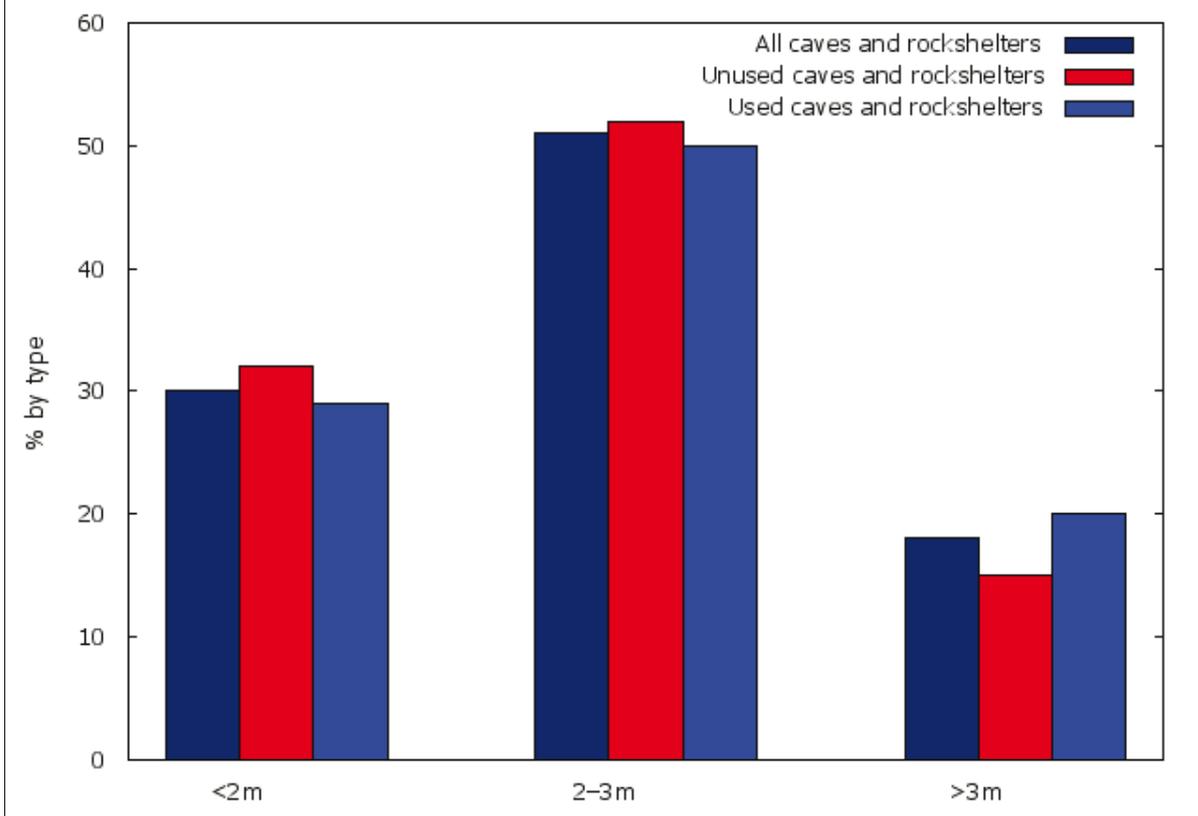


Illus 70: Relative width of caves and rockshelters

### 2.1.14.3 Size: Cave and rockshelter height

Illustration 71 (below) suggests that, though the height of a cave or rockshelter had very little influence as to whether or not a site was selected for use, there is a slight preference against low caves and rockshelters.

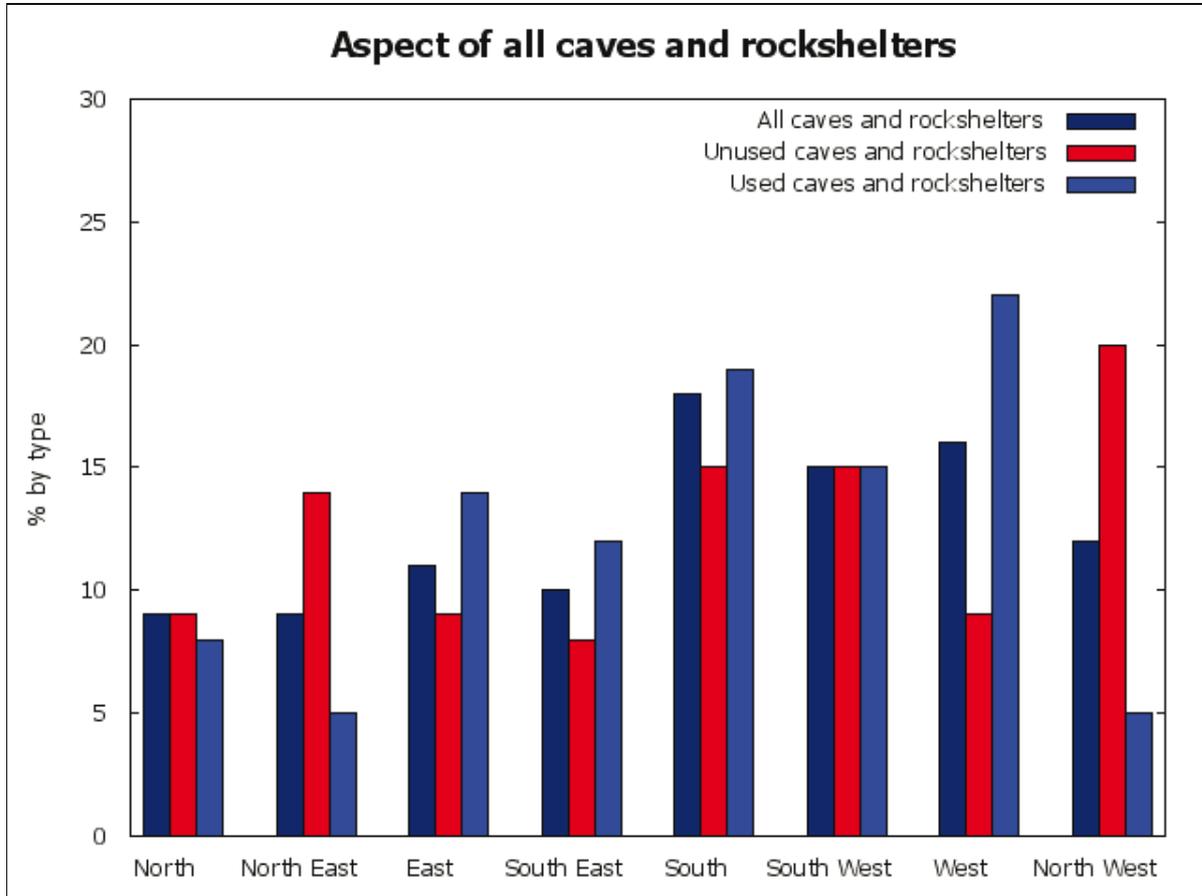
### Relative height of caves and rockshelters



Illus 71: Relative height of caves and rockshelters

#### 2.1.14.4 Aspect

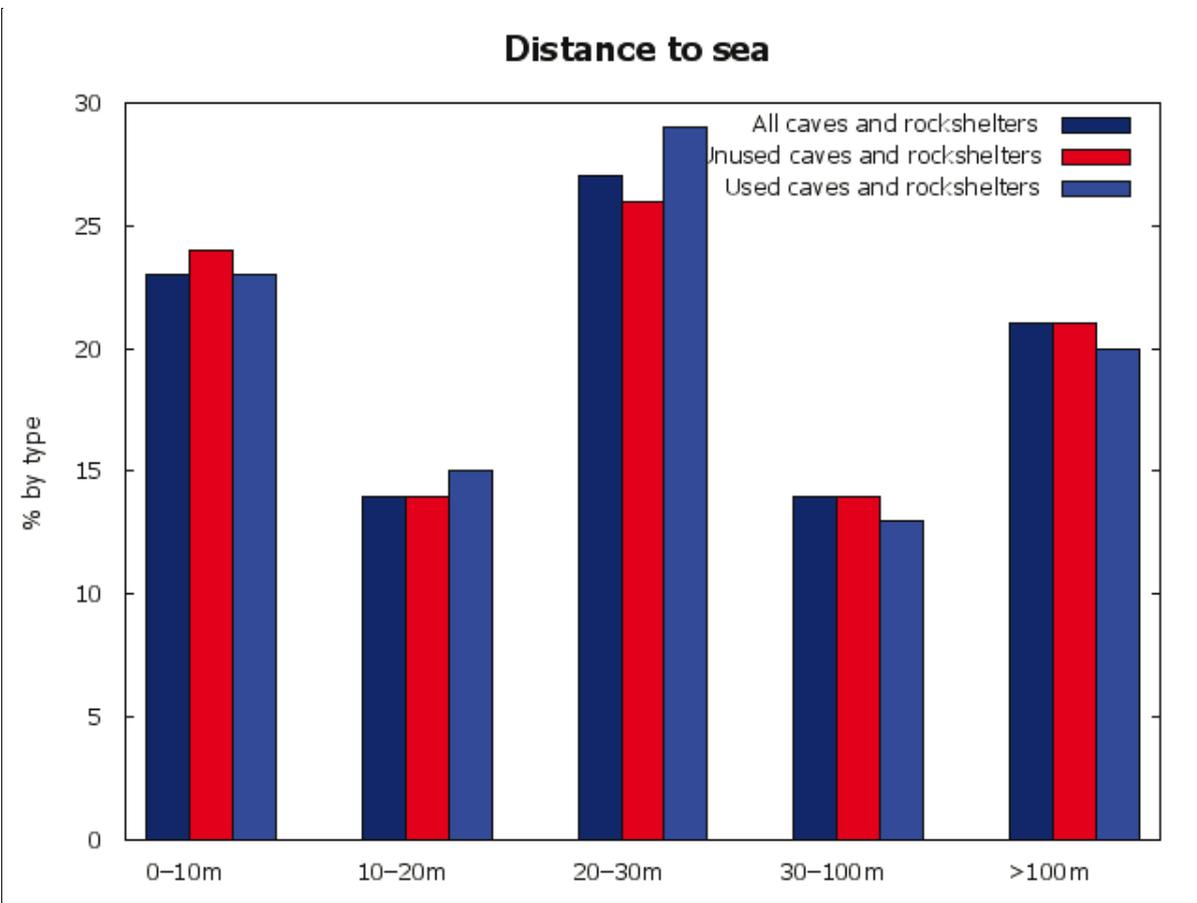
Aspect was defined as the direction faced from the mouth of the cave or rockshelter. This is interesting because it shows, perhaps not surprisingly, a very clear preference for sites that get more sun (see [Illustration 72](#), below). Caves and rockshelters that face west, south, south-east and east were preferred. Sites that face north, and particularly north-east and north-west, were much less likely to be used.



Illus 72: Aspect of all caves and rockshelters

#### 2.1.14.5 Distance to sea

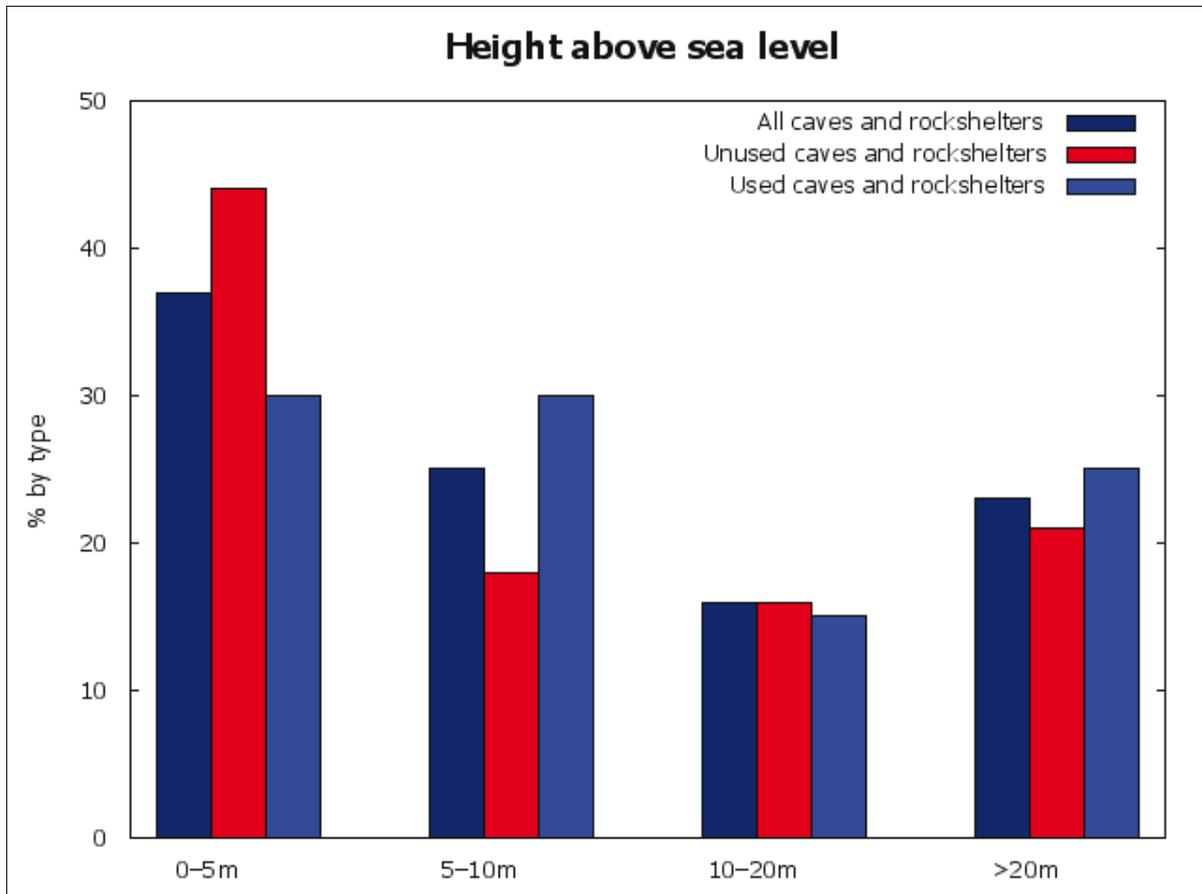
[Illustration 73](#) (below) suggests that distance to the sea was not a strong criterion for cave and rockshelter selection.



Illus 73: Distance to sea

#### 2.1.14.6 Height above sea-level

Illustration 74 (below) suggests that a selection for sites between 5 and 20m OD is apparent, though this may also have been influenced by the washing out of lower sites at times of relatively higher sea-level.



#### 2.1.14.7 Discussion

The evidence suggests that the use of caves and rockshelters was subject to certain simple criteria. Caves and rockshelters that are deeper and wider were more likely to be selected for use, though height is less important. The distance to the sea was not an important criterion, but sites that lie below 5m above sea-level are less likely to have archaeological remains. This criterion should be viewed with caution, however, because these low sites may well have been washed out by the sea at some point. Light was also a factor and sites that face west, thus getting the long afternoon and evening sunlight, were particularly likely to be selected, while south- or east-facing sites were also commonly chosen. Locations that are very small, face north, north-east, or north-west, and lie close to the sea are least likely to contain archaeological remains.

#### 2.1.15 The location of open-air sites

Lithic scatters occur in all sub-areas except South Applecross. Concentrations occur in Trotternish and Scalpay. Though the sites at Trotternish are likely to represent a genuine focus due to the raw material sources here, the concentration in Scalpay and the high success rate following the shovel pitting of raised beaches is interesting and suggests that more intensive or invasive survey methods are of value for locating scatter sites. It also suggests that scatter sites are likely to occur in higher numbers elsewhere within the research area. This has implications for any assessment of prehistoric population and landscape use. Based on the evidence from the lithic scatters, it is reasonable to propose that the prehistoric population of the area was widely spread across the landscape and may well have been greater in numbers than previously thought. It is likely that use of the Inner Sound in prehistory was both intensive and diverse.

Of the nine open middens recorded, five are of medieval or later age and the remaining four are directly linked to church sites. None are recorded as Mesolithic.

#### 2.1.16 Threats

Threats to the sites were recorded according to Historic Scotland's coastal survey threat categories (Ashmore 1994).

Table 15 (below) shows that, while over half of the archaeological deposits in caves and rockshelters appear to be stable, the lithic scatter sites are far more vulnerable, as are the open midden sites. Almost every lithic scatter and open midden for which threat was recorded is currently eroding. Together these sites represent an irreplaceable resource that is clearly at risk.

Erosion categories	Caves/ rockshelters		Find spots, lithic scatters		Open middens	
Accreting, and definitely eroding	22	(31%)	32	(76%)	7	(88%)
Eroding or stable	8	(11%)	3	(7%)	1	(12%)
Stable	37	(51%)	4	(10%)	0	
No data	5	(7%)	3	(7%)	0	
Totals (122)	72		42		8	

Table 15: Threat categories

#### 2.1.17 Discussion

Although SFS was targeted at an understanding of the Mesolithic period, the interpretation of survey work for Mesolithic sites is notoriously imprecise, especially in Scotland. The ground surface of the Mesolithic is rarely visible, and fieldworkers are subject to both local ground conditions and the weather, both of which may

change from day to day (Mithen 2000). In order to gain a detailed understanding of Mesolithic sites in a landscape, survey needs to be a long-term commitment with visits planned at different times of the year and following different weather, particularly heavy rain. This is something that has been confirmed by other projects (Mithen 2000; Richards 2005).



Illus 12: North Applecross coastal scene by Lonban looking south down the Inner Sound. SFS survey work involved walking landscape such as this.

The SFS survey was primarily undertaken by walking across the landscape and looking for material. Illustrations 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 (see also Illustration 75, below left). This proved very effective for the location of caves and rockshelters and also in identifying lithic scatters. As noted above, however, the lithic sites found in this way reflect only those that were visible on the day of survey. Sites recorded thus reflect an unknown percentage of the original number of sites. To supplement this, test pitting and some shovel pitting were undertaken (see Illustration 76, below right). Together with the more intensive and repeated surveying of two specific areas, notably Scalpay and Staffin Bay, these indicate that many more sites are likely to exist. In this way, though the project has undoubtedly led to a better understanding of the human history of the landscape, it is difficult to quantify early settlement across the study area.



Illus 75: The coast at Toscaig gives an idea of the variety of landscape encountered by the surveyors



Illus 76: SFS 75, Applecross Manse: shovel pitting and dry sieving



Illus 77: SFS 152, Doire na Guaile, Rona: test pitting; test pits could only sample a site

An assessment was made of the value of the test pitting and shovel pitting as archaeological techniques. The aims of the test pitting programme included the recovery of information on site preservation, and diagnostic or datable material and it certainly produced a range of finds from many sites, from different archaeological periods and including much datable material. While test pitting was invaluable to highlight the broad sweep of human use of caves and rockshelters across the area, it did, however, have its limitations.

From a total of 44 sites test pitted, 41 contained archaeological material. Of these, 38 were either radiocarbon dated or contained diagnostic material, or both. While it was well worthwhile as an indicator of human activity, test pitting could not, however, provide a full picture of the archaeology of a site. Spatially, test pits only sampled a small proportion of any one site (see Illustration 77, above right) so that it only provided a partial view of the archaeology, and in 23 cases (27% of all test pits dug), the SFS test pits did not reach the basal layers. This was normally due to roof fall which prevented further excavation. Test pitting is thus a useful technique by which to provide preliminary information about a site in advance of (or instead of) full-scale excavation as long as its limitations are fully understood (and see below).

Although it was more limited in extent than the test pitting, shovel pitting also proved to be a useful technique, though in a different way. With regard to raised beach areas, shovel pitting was very successful at providing information on early prehistoric sites, in particular regarding lithic sites where no surface evidence was visible (67% hit rate). This is a particularly useful result as lithic scatters rarely leave surface traces in areas of pasture or wild land such as north-west Scotland and the use of geophysical techniques or aerial photography is in its infancy for these sites (see Finlay, Section 3.17; McCullagh 1989). Shovel pitting is labour-

intensive and time-consuming, but it clearly has great potential, both within the SFS study area and outside it. Around the Sea Lochs and in Applecross, the high success rate of this method suggests that many more sites await discovery, especially given the small sample size examined.

In caves and rockshelters, shovel pitting was found to be a good way to assess the presence or absence of archaeological deposits. It was less successful in providing cultural or chronological information, and achieved this at only eight sites out of 35. In more remote areas, the shovel pitting of rockshelters and caves that appeared of archaeological potential proved to be very useful in assessing the presence of archaeological deposits and potential for further work. Although it was of limited value in determining the age of a site, shovel pitting eliminated the need for further visits on numerous occasions.

Dating posed a common problem with regard to the interpretation of the survey and test pitting work. This was not only because of the limited information derived from some test and shovel pitting. In some cases the radiocarbon determinations do not correspond with the diagnostic material from a site (for example SFS 66, Ard Clais Salacher 2). While this emphasises the repeated re-use of caves and rockshelters which thus leads to a build up of deposits, it does highlight the limitations of keyhole techniques for the full unravelling of the complex human histories of sites like these.

The survey has produced definitive cultural determinations for a total of 68 sites. Of these, 48 are confirmed as prehistoric, out of which 19 can be assigned to the Mesolithic or early prehistory. Twenty-four sites were found to contain material diagnostic of the medieval or post-medieval period. The total number of cultural assignments is higher than the total number of sites as several sites had diagnostic deposits from more than one period.

Archaeologically, though the deposits in caves and rockshelters can be protected to a certain extent, it was found that other factors such as rock fall and later use had often mixed the deposits, so that work was rarely simple (see [Illustration 78](#), right). With regard to the Mesolithic sites, though caves and rockshelters were clearly often used, there are specific processes relating to the early Holocene environment that have posed their own problems for archaeologists (for example the build up of rock fall from roof collapse; [Ballantyne 2004](#)). These problems are compounded by an increase in current activity at many sites. The popularity of the area, easy access and an increase in passing boat traffic have all led to an increase in modern disturbance that includes the lighting of fires and rearrangement of stones and walling for barbecues and shelter.



Illus 78: SFS 2, Crowlin 1: interior view showing rockfall. The archaeological deposits lie among the rocks

With regard to the caves and rockshelters that had evidence of past human use, certain preferences were identified that could be used as indicators in future survey work to assist in the detection of sites likely to have been used. The clearest indicator of all was that positive selection was taking place, in all periods, for sites that received more sun. Sites that lay in full shade or right down at sea-level were more likely to be smaller or totally avoided. These factors are unsurprising but they do create a link to the past inhabitants of the Inner Sound who shared many basic human needs with those of today.

It is also important to remember that many of the caves and rockshelters with no surface evidence of past human use may have deposits. Bedrock was only visible in a few cases and sites like Sand are a useful reminder that the absence of surface evidence is not always an indication of archaeological sterility.

SFS information on the use of the Inner Sound during the later prehistoric and more recent periods targeted the use of caves and rockshelters and open-air middens. Sites that may be specifically dated include two sites in Mid Applecross with evidence of Norse settlement (SFS 77, Camusteel 2; SFS 96, Meallabhan), while there are many sites around the Inner Sound that contain material from the medieval and later medieval periods.

Of course, caves and rockshelters form only a part of the suite of later sites that exists around the Inner Sound. South Applecross and the Crowlin islands stand out for the emphasis on cave and rockshelter sites in the medieval and post-medieval periods. The evidence here suggests that they continued to be a useful human resource into recent times. There is clearly a range of

possible uses, from storage and workshops to overnight shelter. There is a concentration of finds relating to firearms and metalwork in Crowlin which may have its own explanation in the sheltered and secluded nature of the sites here, while still allowing easy access to both sea routes and the Mainland.

Around the Inner Sound many caves and rockshelters have been enhanced by walling (see [Illustration 79](#), right), perhaps suggesting more permanent use for stock or domestic purposes. In addition, almost 60 sites contain shell middens, many of which were not examined so that their period is unknown. Although SFS information does not always allow precise determination of the use of a site (and many will have changed through time), it does emphasise the importance of this oft neglected resource.



Illus 79: SFS 114, Fergus' Shelter: a series of rockshelters that have been enhanced with a long stretch of walling at the break in slope, below the entrances

Interestingly, the results suggest that caves and rockshelters were less likely to be used around the Sea Lochs in any period. No clear reason for this emerged from the SFS work, and it is likely that reasons will have changed with time. It is possible that the slightly more sheltered environment of the Sea Lochs meant that refuge from the elements was less important as a factor in site choice. Equally, the increased emphasis on open-air sites here may reflect different activities or seasonal sites to those around the outer coastlines. Of the caves and rockshelters in this area with information on period, very few have evidence from early prehistory.

The success of the SFS survey and test pitting programmes lies in highlighting a substantial prehistoric presence in the area and the extensive use of caves and rockshelters, not only early on but also into the post prehistoric period. Although this has been recognised elsewhere in Scotland ([Mercer 1978](#); [Tolan-Smith 2001](#); [Hardy 2002](#); [2003](#)), their use in more recent times has not been well studied. Hopefully this project has highlighted the need to incorporate caves and rockshelters into future assessments of landscape use, whatever the time period.

The survey has shown that there is a substantial early prehistoric presence around the Inner Sound. In a few locations there is a concentration of early prehistoric sites that may reflect both a more intensive use of an area, such as near the raw material sources at Staffin Bay, or may be the result of more intensive survey, such as on the west coast of Scalpay. Elsewhere, in many cases, specifically Mesolithic material was lacking though small numbers of undiagnostic lithics occurred amongst deposits of a later date. The problems of getting detailed information from all sites are discussed above and mean that many of these unspecific lithic assemblages are likely to reflect prehistoric activity, while some will be Mesolithic. The sites recorded thus reflect only the tip of the prehistoric iceberg around the Inner Sound. In addition, numerous middens and other cave and rockshelter sites remain to be characterised.

The continuation of the use of lithics well into the historic period is another point of interest. On excavations of historic sites, occasional lithic finds tend to be marginalised or even thrown away. The results of the SFS project have provided a comprehensive body of information regarding later sites with flint strike-a-lights and other lithic finds that shows clearly that lithics continued to have a role in everyday life well into the post-medieval period, which cannot be ignored.

With regard to the early prehistoric period, the distribution of surveyed and test pitted sites provides a picture of use that covers the Inner Sound, with increased densities of activity at the south end of Staffin Bay, up Loch Torridon and Loch Carron, on the mid islands and in Mid Applecross. This is of course only a partial picture, as discussed above. However, it provides a framework for future work, and does already show an unexpected density of sites (see [Illustration 80](#), right). From a patchy start with three known Mesolithic sites, the project has been able to show that this area provided the focus of settlement for a dynamic population in early prehistory.



Illus 80: The bay at Coire Sgamhadail, location of several rockshelters (SFS 89–90), with evidence for both prehistoric and historic

Furthermore, it is worth noting that the Inner Sound does not stand out with regard to resources or topography. The west coast of Scotland has a favourable resource base that stretches well

beyond the bounds of the SFS study area. The work of SFS has provided an unusually detailed archaeological picture of this small area and this is matched wherever equivalent archaeological work has taken place, for example the southern Hebrides (Mithen 2000; Hardy 2002, 2003). Although Scotland has often been regarded as sparsely settled in the Mesolithic (Smith & Oppenshaw 1990; Smith 1992), the sites recorded around the Inner Sound and in other locations surely suggest that Mesolithic population levels, for the west of Scotland at least, should be increased from previous estimates.

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