



Report on

Western Isles (South)

Coastal Zone Assessment Survey

South Uist & Benbecula

(East Coasts)

by

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Graeme Wilson

Commissioned by **SCAPE**
Scottish Coastal Archaeology
and the Problem of Erosion

Funded by Historic Scotland

January 2007

EASE Archaeology

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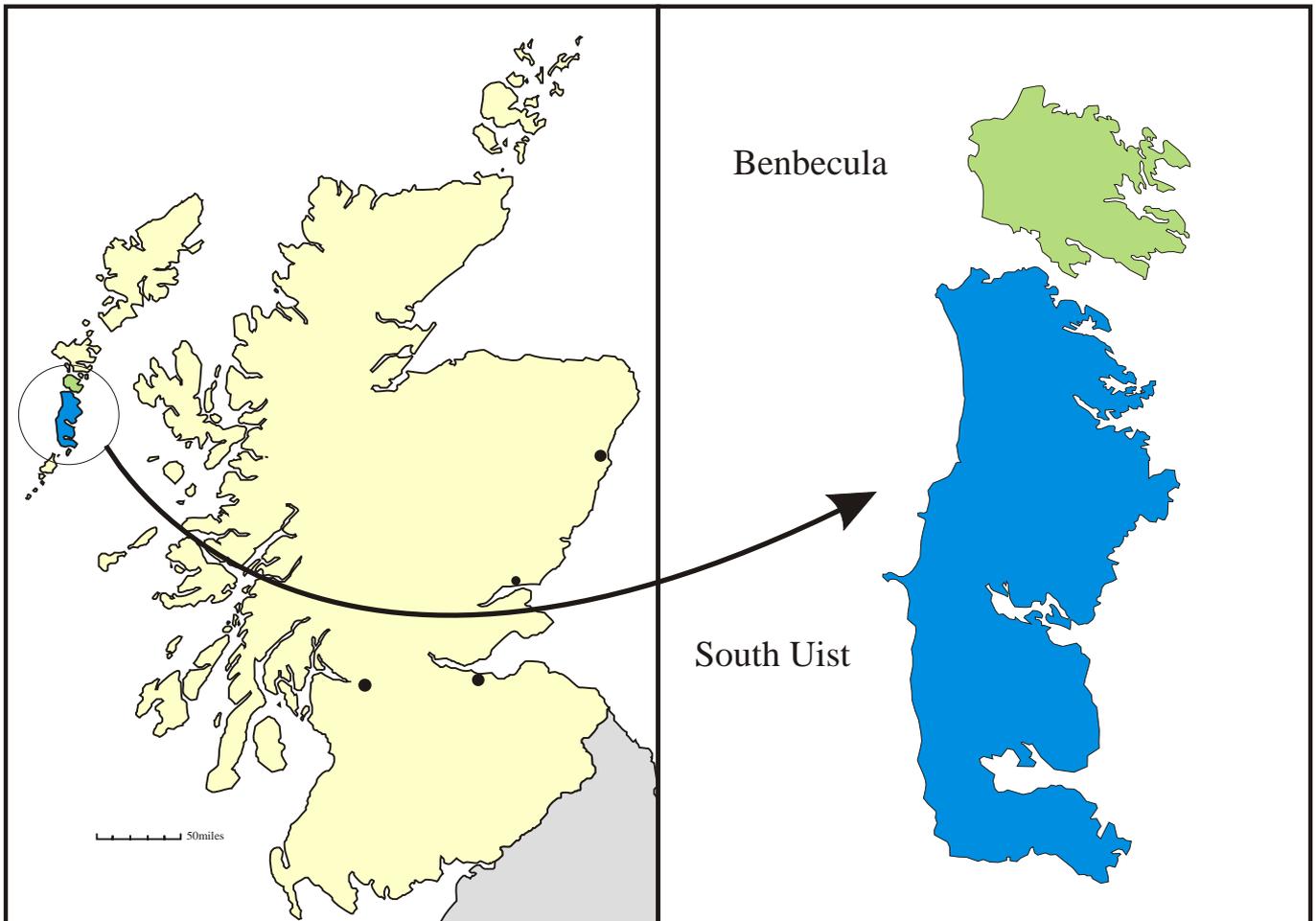
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Contents

	<i>Page</i>
The Report	
1.0 Introduction	1
2.0 Background to Survey Area	5
3.0 The Survey Report	8
4.0 Analysis of the Results of the Coastal Survey	12
5.0 Discussion	19
6.0 Review of Desk Based Study	20
The Survey Results	
Benbecula Maps 1- 3	25
South Uist Maps 1- 4	55
Site Descriptions	
Benbecula	94
South Uist	132
List of Photographs	193
Bibliography	200

1.0 Introduction

1.1 This report documents the findings of a coastal zone assessment survey carried out on the east coast of the island of Benbecula and parts of the east coast of South Uist. The survey was undertaken in November 2006. It was commissioned by The SCAPE Trust and funded by Historic Scotland.

1.2 The survey represents the second and final part of a coastal survey programme undertaken by EASE Archaeology covering the islands of South Uist, Benbecula and Grimsay. The first part was carried out in the wake of particularly severe storms in early 2005 and examined the entire coastline of the island of Grimsay, together with the west coasts of South Uist and Benbecula (Moore & Wilson, 2005).

1.3 The area to be examined by this survey was specified within the project brief, designed by the SCAPE Trust. It comprised of the entire east coast of Benbecula, together with selected parts of the east coast of South Uist. The fact that the survey of South Uist was partial rather complete was due to the logistical complexity of accessing the more remote areas of the east coast. The unsurveyed areas are accessible only by boat, or by hiking from the road and camping overnight. Neither of these options was considered suitable for the purposes of this survey.

1.4 The remit of the work was to conduct a walk-over survey (fieldwork) in order to gather data on the location, nature and condition of all archaeological sites located within the coastal zone and to assess the nature and degree of risk faced by these sites in the future.

1.5 The fieldwork followed on from and was informed by the findings of a desk-based study undertaken by GUARD (2006).

1.6 The work was carried out in November 2006 by Hazel Moore, Graeme Wilson, Claire Riley, Fiona Morris and Frances Taylor, EASE Archaeology.

1.7 The methodology employed by the survey and the format of this report correspond with specifications set out in Archaeology Procedure Paper 4: Coastal Zone Assessment Survey (Historic Scotland, 1996).

1.8 Similar data gathering surveys sponsored by Historic Scotland have been undertaken throughout Scotland over the past ten years for the purposes of informing coastal archaeology management strategy (Ashmore *in* Dawson, 2003).

1.9.0 The Survey Area

1.9.1 The area to be surveyed comprised of parts of the islands of South Uist and Benbecula. Specifically, it included:

- the east coast of Benbecula, extending from Oban Uaine (NF856 533) to Ob Saile (NF 815 486). Distance c. 82km.
- sections of the east coast of South Uist:
 - from Bagh na Creige Loisgte (NF 822 451) to Loch Sgioport (NF 82868 38654). Distance c. 62km.
 - from North Loch Aineort (NF 78923 28274) to South Loch Aineort (NF 77637 27625). Distance c. 13km.
 - from Oratobht (NF 78434 20691) to South Loch Baghasdail (NF 79768 17959). Distance c. 26 km.

1.9.2 Offshore islands were not surveyed and neither was any marine survey carried out.

1.9.3 It is calculated that the overall survey area extends to some 183 km, although this is likely to be an underestimate since much of the coastline is highly indented and intertidal areas and mud flats were also examined as part of the survey.

1.10 Project Aims and Methodology

1.10.1 The aims of the fieldwork survey were to rapidly assess:

- the nature and condition of the archaeological resource,
- the nature and condition of the hinterland geology,
- the nature and condition of the coastal geomorphology
- the condition of the coastal zone with regard to erosion

1.10.2 A further aim of the work was to collate and interpret the findings of the desk based study (carried out by GUARD, 2006) with those of the fieldwork and to present the results in report form and in a manner capable of being used to inform future coastal archaeology management strategies.

1.10.3 In order to achieve the first of these aims, the following tasks were undertaken:

- familiarisation with the results of GUARD's 2006 desk based study
- a walk-over survey of the coastal zone within the defined survey areas, comprising of the examination and reassessment of recorded archaeological sites and the identification and recording of previously unreported sites within the coastal zone
- a simultaneous survey of the geology, geomorphology and erosional dynamics of the coastal landscape

1.11 Desk Based Study

1.11.1 A desk based study was carried out by GUARD on behalf of The SCAPE Trust. The findings of the work were published in March 2006 (GUARD 2006 *Coastal Zone Assessment Survey, East Coast of North Uist, Benbecula & South Uist: Desk based assessment*. GUARD Project 2198).

1.11.2 The desk based study investigated existing documentary and cartographic sources to build up a profile of the natural and archaeological background to the survey area. These sources included aerial photographs, the Sites and Monument Record of the Western Isles, the National Monument Record of Scotland, cartographic sources and relevant published books and articles.

1.11.3 The area examined by the desk based study extended from 1 km inland to 4 km offshore and was thus substantially more extensive than the area investigated by the fieldwork survey which examined a 50m- 100m wide strip extending from the intertidal zone into the hinterland.

1.11.4 Where possible, previously recorded sites were visited during the fieldwork survey and were assessed to determine their present condition and to ascertain what change, if any, had taken place since they were last surveyed. Some sites could not be located again, whilst yet others were found to lie out with the coastal zone (i.e. over 100m inland).

1.11.5 A total of 38 sites were identified by the desk based study on Benbecula. Of these, some 20 sites (52%) lay within or close to the survey area, although only 18 sites (47.4%) were actually re-located during fieldwork.

1.11.6 On South Uist, 183 sites were identified by the desk based study, of which some 43 (23%) fell within or close to the survey area, although only 18 sites (14.2%) were actually re-located during fieldwork.

1.12 Fieldwork

1.12.1 The fieldwork programme was carried out by EASE Archaeology in November 2006 with a team of five archaeologists.

1.12.2 The survey extended around the entirety of the coastline within the designated areas. It examined a 50m- 100m wide strip extending from the intertidal zone into the hinterland.

1.12.3 The locations of archaeological sites and of geomorphological and erosion features were determined using hand held global positioning systems (GPS), providing a national grid reference with accuracy, usually to between 3m and 10m. Locations were also marked on to 1:25,000 scale Ordnance Survey maps.

1.12.4 For the archaeological survey, each site was given a unique site code and was assessed under a variety of pre-selected headings. The terminology and criteria used in the recording

of sites are described under section **3.0** of this report. The written account was accompanied, in most cases, by a photograph and a sketch drawing. No artefacts were recovered.

1.12.5 The findings of the hinterland geology, coastal geomorphology and erosion survey were annotated directly onto 1:25,000 scale Ordnance Survey maps, with more detailed commentaries recorded in notebooks. A series of photographs were taken to illustrate features of interest. The terminology and criteria used is described in more detail under section **3.0** of this report.

1.13 Fieldwork Conditions and Site Visibility

1.13.1 The weather conditions during the fieldwork varied from fair to poor but did not cause any significant impediment either to site visibility or result in undue delays in the progress of the work.

1.13.2 While the bracken cover was generally low, dense heather vegetation presented a significant problem with regard to site visibility in many areas, most notably in parts of the Rosinis peninsula on Benbecula and parts of the north east coast of South Uist.

1.13.3 With the exception of the Rosinis peninsula and the area surrounding Loch Uisgebagh on Benbecula and Rubha Caolas, Liursaigh on South Uist, most of the coastline within the survey area was readily accessible from public roads or tracks.

2.0 Background To Survey Area

2.1 The Natural Background

2.1.1 The survey area focused upon the east coasts of the islands of South Uist and Benbecula. Together with the neighbouring island of Grimsay (surveyed in 2005), these islands extend on a north-south alignment for some 44km and form part of the southern end of the chain of islands known as the Western Isles or Outer Hebrides. The islands of Eriskay and Barra lie to the south, while the islands of North Uist, Berneray, Lewis and Harris are situated to the north. Modern concrete causeways join the islands together: Eriskay to South

Uist, South Uist to Benbecula, Benbecula to Grimsay, Grimsay to North Uist and North Uist to Berneray. Ferry routes join Eriskay to Barra, South Uist to Barra and the Scottish Mainland and, Berneray to Harris and Skye.

2.1.2 The majority of the coastline within the survey area lies below 10m OD, with only a few points reaching up to 20m OD. The coastal terrain within the survey area is generally highly indented, comprising of rugged and rocky shorelines with some stony beaches and a multitude of watercourses, together with freshwater and sea lochs.

2.1.3 The islands are formed from a ridge of Lewisian gneiss, around 3000 million years old, which was scoured during the last glaciation to produce the landscape of low rounded hills and ubiquitous freshwater lochs that characterise the islands today.

2.1.4 Sea-level change has, and continues, to play a key role in the formation of the islands. Where now the islands of South Uist, Benbecula and North Uist are separated by the sea, they once formed a single land mass, some 74km long, with extensive coastal plains to the west, much of which now lies below sea level. It is thought that they became separated at some time after 2000 BC, and that up to 1.25km of land may have been lost from the west coast since Neolithic times (Barber, 2003, 21-22). Sea-level change is also responsible for the formation of the coastal machair land, through a series of complex processes (Ritchie, 1979).

2.1.5 Topographically, the west coasts of these islands as they appear today are relatively straight and low-lying with a shallow water coastline. Beyond a low central plain, the land rises to the east in a series of mountains and hills. The east coasts are steep and highly indented with a deep water coastline. This produces three distinct zones: a strip of fertile machair which extends for approximately 1km wide from the west coast; a central strip with thin peaty soils, known as the 'blacklands' and; a rugged upland moorland on the east coast.

The most intensively settled and cultivated part of the islands from at least the Bronze Age period until the end of the Norse period were the machair lands of the west coast. The machair continues to be cultivated today, although modern settlement is now more focussed upon the road system and set back from the coast. By contrast, the east coasts are less densely settled in all periods up to the post-medieval period. Nevertheless, there were and continue to

exist small scattered settlements and some larger townships in the more sheltered and favourable inlets. Up to recent times, the east coast has been important for the fishing industry; and even today fish farming continues to provide a mainstay of the local economy.

2.2 The Archaeological Background

2.2.1 The history of archaeological research within the islands of South Uist and Benbecula has been considered in some detail in several recent publications (notably Parker-Pearson, Sharples & Symonds, 2004 & Barber, 2003) but suffice to say here that little modern work had been carried out until the latter decades of the 20th C; the majority of this was focussed upon sites within the machair lands of the west coast.

2.2.2 The earliest antiquarian excavations were undertaken in the late 19th C by Captain Thomas (1868 & 1890) but the first systematic archaeological study was not carried out until the second decade of the 20th C, when the Royal Commission for the Ancient and Historical Monuments of Scotland undertook largescale field survey (RCAHMS, 1928).

2.2.3 In the 1950's excavations on a green mound within the machair lands at Kilpheder by the Cambridge archaeologist, Tom Lethbridge, uncovered a well preserved wheelhouse (1952). In the latter part of the 1950's a major programme of archaeological work was undertaken by the Ministry of Works in response to a proposal by the Ministry of Defence to site a rocket range on the machair around Drimore. This campaign saw the excavation of several wheelhouses, A'Cheardach Bheag (Fairhurst, 1971) and A'Cheardach Mhor (Young & Richardson, 1960) on South Uist and two at Sollas on North Uist (Campbell 1991), a Viking house at Drimore (Maclaren, 1974) and several hut circles. These projects demonstrated not only the range of monuments surviving within the machair, but also the remarkable state in which many of them survived.

2.2.4 In the late 1970's a survey of coastal sites in the Outer Hebrides was commissioned by HBM when it was realised that several were under threat from erosion (Shepherd, 1978, Shepherd & Shepherd, 1978, Maclean, 1978, 1981). In a follow-up campaign, launched in the mid-1980's, the majority of sites thought to be at risk were re-visited and a sample were subjected to intensive assessment and excavation (Barber, 2003). On South Uist, these included sites at Hornish Point and Gortan/ South Glendale.

2.2.5 In recent years a significant amount of archaeological research has been carried out on South Uist, much of it under the aegis of the Sheffield Environmental and Archaeological Research Campaign in the Hebrides ('SEARCH') programme. This multidisciplinary programme, begun in 1987 by Sheffield University, with input from the Universities of Cardiff and Bournemouth, amongst others, has investigated long term settlement development on South Uist and Barra from the Bronze Age to the Post-Medieval period. Projects undertaken under this programme include extensive survey of the island of Barra (Brannigan & Foster, 2000) and the machair lands of South Uist, together with the excavation of sites such as the Bronze Age settlement at Cladh Hallan, an Iron Age wheel house at Kildonan and broch at Dun Vulcan (Parker-Pearson & Sharples, 1999), Viking-Norse period settlements at Bornais and Kilpheder and post-medieval townships at Milton. These projects were largely funded by Historic Scotland.

3.0 The Survey Report

The following notes explain the terminology and short hand descriptions used throughout the report.

3.1 Site Description Entries

The gazetteer entries provide a shorthand record for each site. The categories are as follows:

CATEGORY	EXAMPLE
Site code (NMRS code)	SU524 (NF84SW 5)
Grid reference	NF 81589 44066
Placename	Loch A' Charnain
Characterisation	Structural remains
Date range	18th- 20th C
Condition	Poor
Recommendation	Nil
Status (HS Index) <i>for sites designated as scheduled or listed</i>	

3.2 Site Code

Each site has been given a reference code for the purposes of this survey. This comprises of a letter prefix which refers to the survey area and a unique number code. For example, the code BB521 refers to site number 521 on Benbecula. The prefixes used are as follows: BB = Benbecula, SU = South Uist. The number series for both islands begins at 500. The Benbecula series runs from 500 to 557 and 600 to 650: the numbers 558 to 599 were not

used. The South Uist series runs from 500 to 643 and 650 to 682: the numbers 644 to 649 were not used.

3.3 Site Type

While the categories of site types has not been restricted to a predetermined list, some standardisation of descriptions has been made. For example ruinous buildings of 18-20th C date which could be positively identified have been divided into categories such as 'settlement', 'shed', 'outbuilding' etc. Where their use was not readily apparent, they have been described as 'structures' or 'structural remains'.

Few sites within this survey area were thought to be of prehistoric date but it must be emphasised that it is impossible, on the basis of the visible elements alone, to determine the age of many site types, such as cairns and field boundaries.

3.4 Date Range

The date ranges set out for various site types within this report are based on comparison with similar sites in the area which have already been dated or characterised. These ranges represent a general consensus; it must be noted that there is much debate about the date ranges of specific site types. It is also likely that there are many local variations which provide exceptions to the rule. The date ranges used are as follows:

- Pre-4th millennium BC
- 4th-3rd millennium BC
- 3rd-1st millennium BC
- 1st millennium BC-1st millennium AD
- 10th century AD-14th century AD
- 14th century AD- 18th century AD
- 18th century AD- 20th century AD
- Indeterminate (where it proved impossible to estimate a date)

3.5 Condition

The condition of each site entry was labelled using the following criteria:

- Good: this label was applied where a site exhibited either high potential or had sufficient visible elements surviving to properly characterise it. An archaeological site was considered

to be in 'good' condition where it was undisturbed or only slightly disturbed and retained obvious archaeological potential. Further work at such sites could reasonable be expected to provide information regarding date, nature, extent and complexity. Buildings (especially the large category of 18th/20th C structures) were considered 'good' where there were multiple site elements represented and survived in a reasonable enough condition to provide information regarding their construction, development and use.

- Fair: This label was applied to sites considered to have some potential or where limited elements remained and the site could be generally characterised. Archaeological sites of this type were generally somewhat disturbed but retained some potential; a sufficient part of the site remains that it could be more fully characterised via excavation. Standing buildings were considered 'fair' when, although ruinous or disturbed, sufficient of the site remained that it could be generally characterised.

- Poor: Sites described as 'poor' have visible elements which are very disturbed and offer little potential for further characterisation. This assumption was made on the basis of the evidence available at the time of this survey and it must be noted that, without recourse to full assessment, the true potential of many sites can only be estimated.

3.6 Recommendations

Three types of action have been recommended:

- Survey: This has been used as a general term covering all forms of further archaeological investigation or site protection. It includes topographical survey, standing building survey, site assessment and rescue excavation.

- Monitor: This is recommended either to keep a site of known potential under surveillance or to check for new exposures on sites currently considered to be of low or unknown potential. This will entail regular site inspections and include cross-checking of known information against new exposures and should be carried out by an archaeologist.

- Nil: No action has been recommended where a site is not immediately vulnerable to change, or is considered to be of low potential.

3.7 Hinterland Geology and Coastal Geomorphology: Gazetteer Entries

The gazetteer entries comprise a set of characteristics for each coastal unit. The categories are as follows:

Category	Example
Label - Place name	1 Loch Sheileabhaigh
Grid Reference (to centre of area)	NF 856 400
Length of Unit	37 km
Foreshore Type	Rock Platform
Coast Edge Height	mostly <5m
Hinterland	Drift on visible rock
Description	The foreshore comprises.....

3.8 Erosion Class: Gazetteer Entries

The gazetteer entries comprise a set of characteristics for each coastal unit. The categories are as follows

Category	Example
Label - Place name	1 Loch Chill Eireabhaigh
Grid Reference	NF 833 477
Length of Unit	5 km
Characterise unit	Stable
Description	The coast edge in this section.....

3.9 Erosion Classes

The following definitions have been used:

- Eroding: Where more than 70% of the coastline is actively eroding.
- Eroding to Stable: Where there is both active erosion and stable areas, with 30-70% of either one.
- Stable: A section which is more than 70% stable. Usually any erosion is limited and local; any variation is specified in the accompanying text.
- Accreting to Stable: Where there are both accreting and stable areas, with 30-70% of either one
- Accreting: A section with accretion over more than 70% of its length.
- Accreting/Eroding: There are both accreting and eroding processes taking place and may vary from 20% to 80% of each process. The erosion and accretion may not be arranged in a linear fashion along the coastline; there may be erosion of the coastal edge and deposition of sands along the foreshore.

4.0 Analysis of the Results of the Coastal Survey

4.1 Site Density

The total length of the coastline within the survey area is estimated to be in the region of 183 km long. A total of 286 sites were found, giving an average site density of 1.56 sites per kilometre.

Length of Coastline walked	183 km
Number of site entries recorded	286 sites
Site Density	1.56 sites per km

It should be remembered, however, that this is a notional figure since the number of sites identified within the coastal zone is not exact; it includes entries for some sites which, although previously recorded, could not be relocated during this survey and also includes site entries representing multiple elements, which if enumerated individually, would have given a higher number for the total of sites found by the survey. In addition, the length of the coastline varies depending upon the scale at which it is measured.

Island	Length of Coastline walked	Number of site entries recorded	Site density
Benbecula	82km	109 sites	1.33 sites per km
South Uist	101km	177 sites	1.75 sites per km

A breakdown of these figures shows a variation in site density between the islands, with the highest density occurring on South Uist, with 1.75 sites per kilometre. This contrasts markedly with the site density compiled from the survey on the west coast of South Uist, where only 0.96 sites were found per kilometre of coastline. One explanation for this is that although it is likely that more human activity has occurred on the fertile lands of the west coast, the presence of deep sand deposits along much of this coastline has the effect of obscuring archaeological remains. By contrast, evidence for past human activity, although probably less plentiful overall, is more readily visible along the bare and rocky landscape of the east coast.

Survey Area	Site Density
Western Isles (South): Overall	1 site per km
Grimsay	1.5 sites per km
Benbecula, west coast	0.79 sites per km
South Uist, west coast	0.96 sites per km

While taking the qualifications noted above on board, it is instructive to compare the site densities found in this survey area with those calculated from coastal zone assessments carried out in other survey areas (see Ashmore, 2003, ii, 203-4). It should be noted that the surveys mentioned below were all carried out by the same team of archaeologists, using the same methodologies and inherent biases are likely to be shared equally by all of the surveys.

Survey Area	Site Density
Islay	1.36 sites per km
Coll	1.23 sites per km
Tiree	1.53 sites per km
Shetland: Overall Average	1.72 sites per km
Shetland: Northmavine	1.5 sites per km
Shetland: South Mainland	1.3 sites per km
Shetland: East Burra	2.6 sites per km
Shetland: Westside	1.46 sites per km
Orkney: Overall Average	2 sites per km
Orkney: Westray, Papa Westray etc	1.27 sites per km
Orkney: Sanday & North Ronaldsay	1.64 sites per km
Orkney: South Ronaldsay etc.	3.2 sites per km

These figures show that both of the areas investigated by this survey have site densities which are comparable with those found in the Argyll Islands and parts of Orkney and Shetland. It also indicates the degree to which the site densities for the west coasts of Benbecula and South Uist are considerably lower than any of the other areas surveyed to date.

Underlying these figures is the fact that by far the largest number of sites found within the survey area (some 91.6%) are of 18th-21st C AD date and mainly of limited archaeological interest. By comparison, in Northmavine in Shetland, an area with similar site density, only 62% of sites are of 18th-21st C AD date, with the remaining 38% representing remains of prehistoric to Medieval date considered to be of archaeological significance

Previously recorded sites	44
New sites identified by this survey	242
Total	286

The site entries represent a mixture of new and previously recorded features; with new sites representing 84.62% of the total. The apparently high number of new sites found by this survey is in large measure explained by the fact that sites of all dates within the coastal zone were recorded, often for the first time. A high number of the new sites represent remains of 18th-21st date which had been either excluded or not systematically recorded by previous surveys.

Island	Known sites (% of total)	New sites (% of total)	Total no. of Sites
Benbecula	18 (16.5%)	91 (83.5%)	109
South Uist	26 (14.69%)	151 (85.3%)	177
Totals	44 (15.38%)	242 (84.62%)	286

A breakdown of these figures shows that a slightly higher percentage of new sites were recorded on South Uist (85.3%) as compared with on Benbecula (83.5%). The high numbers of new sites found on both islands might result in part from the paucity of archaeological work carried out here previously. In opposition to this, however, is the fact that equally large percentages of new sites were found on the west coasts of both islands (89% on Benbecula, 82% on South Uist) although considerably more archaeological work had taken place. Given that by far the majority of the new sites identified by both of these surveys are of post-medieval date, it may be more likely that the high percentages of new sites in both cases can be explained by the fact that sites of this period have generally not been included in past archaeological surveys.

4.2 Date Range

The assignation of date ranges to sites was made following the field assessment of archaeological remains. In most cases, the age of a site was determined from indicators such as the presence of diagnostic artefacts or architecture. In some instances, however, there were few clues available and date ranges had to be estimated. Where even this was impossible, sites were classified as being of indeterminate date. A weakness of this type of survey is that assessment via visual inspection alone is not an ideal method, especially when the remains in question may be poorly preserved or partially buried. Even where there are clear topographic features present, these may not be sufficiently diagnostic in terms of assigning a date or function to the remains.

Site Date Range	Benbecula	South Uist	Total
18th-20th C	102 (93.6%)	160 (90.4%)	262 (91.6%)
Indeterminate	7 (6.4%)	17 (9.6%)	24 (8.4%)

The majority of sites identified by the survey are classified as being of 18th-20th C date. This group constitutes some 91.6 % of the total recorded sites. Within this category are included a large number of features associated with boats and fishing (generally categorised as landing places, but including noosts and piers), farmsteads, cultivation remains and field boundaries. The majority of these features are of limited archaeological interest as individual sites, although they have group value as elements within the cultural landscape. It is possible that a number of the sites ascribed a date within the 18th-20th C AD range may, in fact, be earlier or they may incorporate elements of earlier date.

The remaining sites (8.4%) have been assigned to the 'indeterminate' date range. These include cairns, mounds, and indistinct structural remains.

The lack of sites assignable to earlier date ranges contrasts with the findings of the survey of the west coasts of both islands, where 3 prehistoric/early historic period sites were identified on Benbecula, with another 9 sites found on South Uist, furthermore it was suspected that many of the sites categorised as being 'indeterminate' on both islands (22 sites in all) were likely to date to the medieval or earlier periods. This discrepancy would appear to reflect a real difference in settlement patterns, with earlier settlement being located on the lighter and more fertile soils of the west coast, whilst the east coast contains more post-medieval settlement and features related to the fishing industry.

4.3 Site Types

Sites were assigned to one or more categories according to what they were used for. These categories were set prior to fieldwork to aid progress and to permit some degree of standardisation in the interpretation of the results. In some cases, sites were found to wholly conform to one type (i.e. a landing place was designated as 'Maritime'), while in others more than one site type was found to be present. An example of this might include a landing place ('maritime') with an enclosure nearby (agricultural/pastoral), possibly for the storage of peat or animals destined for subsequent transport. The + symbol is used in the table below to indicate where two or more site 'types' have been assigned to a single site record.

Site Type	Benbecula	S. Uist	Totals
Agricultural/pastoral	25	53	78
Agricultural/pastoral +	8	10	18
Maritime	49	77	126
Maritime +	7		7
Domestic	15	18	33
Domestic +		11	11
Industrial	1	1	2
Industrial +	1		1
Indeterminate	11	17	28

The best represented site type within the survey area was the 'maritime' category, which accounted for some 46.5% of all sites recorded. The majority of the sites within this category have been generally recorded as 'landing places' but in reality include a variety of features such as boat noosts, harbours, piers and hulks.

Sites either exclusively of a maritime nature or containing maritime elements comprise some 51.4% of all sites recorded on Benbecula and 43.5% of all sites recorded on South Uist. This reflects the fact that such sites are specific to the coast and therefore likely to be well represented within this survey and also indicates the importance of fishing and sea transport to life on these islands.

All of the sites of this type found by the survey are of 18th-21st C AD date, but the majority have fallen into disuse, illustrating both the downturn in the fishing industry and the replacement of the boat by the car as a means of transport in the latter part of the 20th C.

The second largest group of sites, totalling some 33.6% of all sites found by this survey, represent agricultural or pastoral remains. These include cultivation remains, land boundaries, tracks, enclosures and sheds or outbuildings. The largest number of sites within this category was found on South Uist, where they represent some 35.6% of all sites recorded in this area.

Sites classified as 'Domestic' generally represent settlements comprising of one or more elements including houses, outbuildings, enclosures and sometimes found in association with cultivation remains and/or landing places. Such sites comprise 15% of the total of all sites recorded by this survey, with 13.8% on Benbecula and 16.4% on South Uist. The evidence of

the desk-based assessment indicates that there are also old townships present within the wider coastal hinterland which have not been recorded by this survey because they lie out with the designated survey area.

The indeterminate category, forming some 9.8% of all recorded sites, includes a range of sites varying from ill defined structural remains to cairns and mounds. Most of the sites within this category exhibit too few diagnostic features from which to deduce their likely function; in most cases it is also impossible to ascribe a date to these remains.

4.4 Site Condition

The sites were inspected to determine their physical condition and to assess both their archaeological potential and the nature and severity of any threat to their survival. This is a highly subjective interpretation which is based upon a number of criteria assessed rapidly in the field. These include (i) assessing the type of site represented by the visible remains, (ii) reconstructing how the site might have been constituted in its ‘original’ form, (iii) determining the degree to which the remains currently visible may be considered representative of the ‘original’ site and (iv) evaluating the potential of the remains to yield useful information and the means by which this information could best be recovered. These steps are stated here explicit terms in order to demonstrate the assumptions behind what might otherwise appear to be straightforward statements about the condition of the sites in the survey. The notes provided in section 3.5 above set out the guidelines used in making such decisions.

Condition	Benbecula	S. Uist	Totals
Good	15	42	57
Fair	72	102	174
Poor	19	28	47
Good/Fair	1		1
? - site not located	2	5	7

Overall, the majority of the sites (60.84%) were found to be in fair condition. This reflects the fact that the majority of sites recorded by this survey are of recent date, are not eroding, and, preserve sufficient of their original form or quantity to be readily interpreted.

The 'good' category (19.9%) includes sites of 18th-20th C date which remain in use and/or are regularly maintained, managed or have been consolidated in the recent past.

Sites in poor condition account for the smallest percentage (16.4%) and generally comprise of features which have been robbed out or decayed through lack of maintenance. Within this category are land boundaries where the majority of the boundary formerly comprised of a fence which has not survived, buildings which have been demolished and landing places which were probably originally only roughly built structures.

The condition of a site should be considered in tandem with the matter of whether or not it is currently eroding. Sites currently considered to be in good condition may change rapidly if they have already begun to erode, whereas sites considered to be in fair or poor condition but which are not currently eroding may remain virtually unchanged for some considerable time.

	Benbecula	South Uist	Totals
Sites Eroding		13	13
Sites not Eroding	108	159	267
Sites not Assessed	1	5	6

Within the survey area, the highest proportion of eroding sites were found on South Uist, but even here such sites represent only 7.3% of all the sites recorded. Many of the eroding sites are situated within salt marsh areas and are degrading slowly, mainly as the result of wave action. No eroding sites were found on Benbecula.

4.5 Recommendations

A recommendation for future action was attached to each site entry in the field. The factors taken into consideration when deciding the optimum course of action were (i) the present physical condition of the site (ii) the archaeological potential of the site, and (iii) the degree of risk to the site from forces other than development.

Recommendation	Benbecula	South Uist	Total Sites
Survey	0	0	0
Monitor	0	2	2
Nil	109	175	284

Within this report, the word 'survey' is used in a broad sense to mean thorough assessment. This may be by means of topographical and geophysical survey, trial trenching, full excavation or rescue excavation, depending on the individual site context and circumstances.

In terms of risk from coastal erosion or other factors, it was considered that none of the sites found by this survey required urgent survey work. That is not to say that such work may not be desirable for other reasons and it is to be hoped that the findings of this survey may be of some assistance in determining priorities for future work in the area.

It is recommended that monitoring should be undertaken on 2 sites (0.7% found by this survey). This work should be non-invasive and designed to record any changes which occur in the future.

The largest proportion of sites found by this survey, some 99.3%, are considered to be either not at risk or of low archaeological potential and therefore no future course of action is recommended. This does not imply that their full archaeological potential is known, however, but merely that, on the basis of what is currently visible, no further work is recommended. It is likely, however, that a proportion of these sites have been misidentified or that the full potential has not been recognised and for this reason it is urged that these remains are not consigned to oblivion. It might be recommended, for example, that many of the maritime, agricultural remains and domestic settlements of 18th-20th C date could be investigated as part of a project which also examined documentary sources to build up a better picture of 18th- 19th C life in this area. Such a project may throw up questions which can only be answered through further archaeological work.

5.0 Discussion

5.1 This project aimed to carry out a rapid visual assessment of the archaeological resource of part of the coastal zone on the islands of Benbecula and South Uist. It has achieved this aim, with some 286 sites being recorded over approximately 183 km of coastline. A further aim was to characterise the natural background and assess the dynamics of the coastal landscape. This has also been achieved and the information gathered will assist in determining localised dynamics within the coastal zone and in pinpointing those areas most at risk from erosion.

5.2 In summary, the findings of the work indicate the potential for the discovery of new sites, with 84.6% of all sites recorded within this report representing new additions. The average

density of sites found throughout the islands, at 1.56 site per kilometre, is comparable with similar surveys carried out in the Northern Isles and the Inner Hebrides.

5.3 Within these statistics, however, it should be noted that the majority of sites recorded by this survey were remains of 18th -20th C date (91.6% of all sites) and only 4.5% of sites were considered to be at risk from erosion. The majority of sites were considered to be of limited archaeological potential or importance as individual entities, although as a group they provide information on patterns of past settlement and landscape use.

5.4 The fieldwork found that in general all of the coastline within the survey area can be classified as stable. The only exceptions to this are instances of very localised erosion, usually located at the heads of inlets, where soft valley floor sediments are being eroded out. In such cases, wave action was identified as the cause of the erosion.

6.0 Review of Desk Based Study

6.1 The desk based study for this coastal zone assessment survey was undertaken as a separate project and completed substantially in advance of the survey fieldwork. Furthermore it was undertaken by a different team than the one responsible for the fieldwork. In these details, the situation differs from the modus operandi established for all preceding coastal surveys, which integrated the desk based study and fieldwork into a single project. In view of this departure, it has been requested that a review of the outcome of these changes be included within this report.

6.2 As has been stated earlier (see **1.11**, above), the area examined by the desk based study was substantially more extensive than the area investigated by the fieldwork survey. The desk based study looked at an area ranging from approximately 1 km inland to 4 km offshore, while the fieldwork survey was restricted to a 50m- 100m wide strip extending from the intertidal zone into the hinterland.

6.2.1 As a result of this discrepancy, a large percentage of the sites identified by the desk based study lay out with the area designated for the fieldwork survey. This means that much

of the data collated within the desk based study was not relevant to the fieldwork survey and could not be verified by it.

6.2.2 In examining the wider hinterland, however, the desk based study benefited the fieldwork in providing a background insight into the areas under consideration. It is probable also that, if more detailed analytical work of this area were to be undertaken, the findings of the desk based study would provide a valuable data resource.

6.3 One reason for undertaking the desk based study in advance of the fieldwork was to discern priority areas for survey, in the event that the entire coastline could not be examined. A series of recommendations were thus provided within the desk based study report (GUARD 2006, section 10.00).

6.3.1 Two areas were recommended as being of 'high priority' for survey on the islands of Benbecula and South Uist (GUARD 2006, section 10.00, Area 7, Benbecula & Area 15, South Uist). Both of these areas had already been subjected, at least in part, to coastal survey in 2005 (Moore & Wilson, 2005), although it appears that the findings of this work were not incorporated into the desk based study. It is not stated what further work should be undertaken in either area, although since the criteria for recommendation appear to be based upon predictive analyses of vulnerability to erosion, it would appear that the recommendation concerns further geomorphological and erosion analyses, potentially beyond the remit of the present coastal zone assessment survey.

6.3.2 Several areas defined within the desk based study as being of medium priority were subsequently subjected to field survey (Areas 8 and 9 on Benbecula, Area 10, Area 14 and part of Area 11 on South Uist). A further area, designated as low priority (Area 12, South Uist) was also surveyed. The outcome of the survey work discerned no appreciable difference between the archaeological potential of these areas and, as such, the degree to which the desk based study was capable of successfully identifying priorities is questionable. It should be acknowledged, however, that the particular area under consideration is rather atypical, both in the lack of physical differentiation of the coastal geography and in the paucity of previous archaeological work undertaken. Both of these factors are likely to adversely affect the ability

to predict the locations of areas of high archaeological potential or of areas at most risk from erosion.

6.3.3 A minor point to note is that the results of the already completed coastal zone assessment survey (Moore & Wilson, 2005), parts of which lay within the areas under consideration (i.e. parts of the north coasts of Benbecula and south Uist and part of the south coast of South Uist) were not included within the desk based study. It is unknown if the inclusion of this data may have effected the perceived archaeological profile of these areas and thereby altered the recommendations set out within the report.

6.4 For the most part, the desk-based survey provided an accurate background to the coastal geology and hinterland geomorphology; it was also largely correct in predicting where areas of erosion might occur. The only minor discrepancies noted by the fieldwork occurred around Loch Aineort, where it was predicted that some sand deposits might occur on the foreshore, but none were actually found. Furthermore, in this area and others, it was predicted that the hinterland geology would comprise of peat and rock, whereas fieldwork found that it consisted of drift over visible rock.

6.5 The individual site data entries within the desk based study were necessarily brief and where, for example, the information was derived from map-based data, descriptive summaries rather than map based information was provided. In many cases, this level of information is sufficient. In situations where, for example, a group of buildings on an old map have been grouped together under the heading of a township, there is usually insufficient information provided to make it possible to determine if these are one and the same as structural remains found during field survey. This problem would be eliminated if the desk based study data and the field study data were collected and analysed by the same team.

6.6 Despite the issues outlined above, in general the impressive breadth of research and the high quality of the desk based study report are to be commended and it is acknowledged that this work informed and greatly assisted the undertaking of the fieldwork. The detailed geomorphological insights and reliability of the archaeological data provided a firm context in which the findings of the survey could be set.

