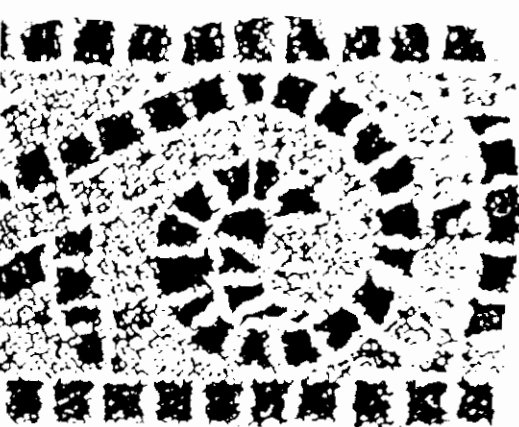

NORTH SUTHERLAND SURVEY: COASTAL ZONE ASSESSMENT

KYLE OF DURNESS TO TORRISDALE BAY

VOLUME 1: Report for Historic Scotland

G·U·A·R·D

516



carried out by

*The Viking and Early Settlement Archaeological Research
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managed by

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KYLE OF DURNESS TO TORRISDALE BAY

VOLUME 1: Report for Historic Scotland

by

Kevin Brady

and

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with contributions by Derek J McGlashan

1998

Glasgow University Archaeological Research Division
Glasgow

Abstract/ Executive Summary

A coastal zone assessment survey was conducted in the Autumn of 1997 on the North Sutherland coast between the W side of the Kyle of Durness and the W side of Torrisdale Bay, a distance of approximately 141 km (excluding an area immediately N of the Mhoine). The principal aim of the survey was to document the built heritage and archaeology of this coastal zone and to assess the impact of erosional processes upon this cultural heritage. The survey involved a visual inspection and rapid recording of a coastal strip between 50-100 m wide above the high water mark and the intertidal zone below.

A total of 485 sites of the built heritage and archaeology are recorded here, of which 378 are newly added to the overall NMRS archive. The range extends from Prehistoric sites to those relating to the recent past. The majority are from the historical periods, especially the Post-Improvement and Modern periods, although there are significant additions to the understanding of earlier periods and this survey complements the detailed survey work and associated excavations undertaken over three decades ago on the Prehistoric archaeology of Durness Parish.

Several significant areas of this stretch of coastline are actively eroding, especially around low-lying parts of the north-south indented Kyles of Durness, Erriboll and Tongue, but there are particularly vulnerable sand-dune areas on the exposed north coast. A significant number of sites have been recorded in low-lying and exposed positions, which would be vulnerable to changes in climatic regimes and/or sea-level changes. It is estimated that 39.4% of the coast is actively eroding and approximately 25% of sites are vulnerable.

The dramatic find of a Viking burial in Balnakeil Bay in 1991 exemplifies the vulnerability of archaeological deposits in such positions and the unpredictability of exposure; less immediately dramatic, but no less important are the severely eroding deposits at Sangobeg, which appear to contain remnants of Norse settlement.

This report consists of two volumes: Volume 1 comprises the background to the project; the methodology of the survey; map-based descriptions of the built heritage and archaeology, erosion class, hinterland geology and coastal geomorphology; analyses of these data; and summary of the erosion in relation to the built heritage and archaeology, together with recommendations for action. Volume 2 consists of a detailed gazetteer of the built heritage and archaeology of this coastal area, on a site-by-site basis, suitable for incorporation into the national and regional monuments' records of such sites.

Caveat

This field survey was undertaken during September and November 1997 and represents the state of the study area at that time. The documentary research relates to a similar period. The collation and assimilation of the site data, together with the preparation of the gazetteers, has been disrupted by events outside the control of the principal authors, and preparation of this report has therefore taken an extended period of time since then. Any information added to the regional SMR or national NMRS since the time of the survey has not been taken into account here.

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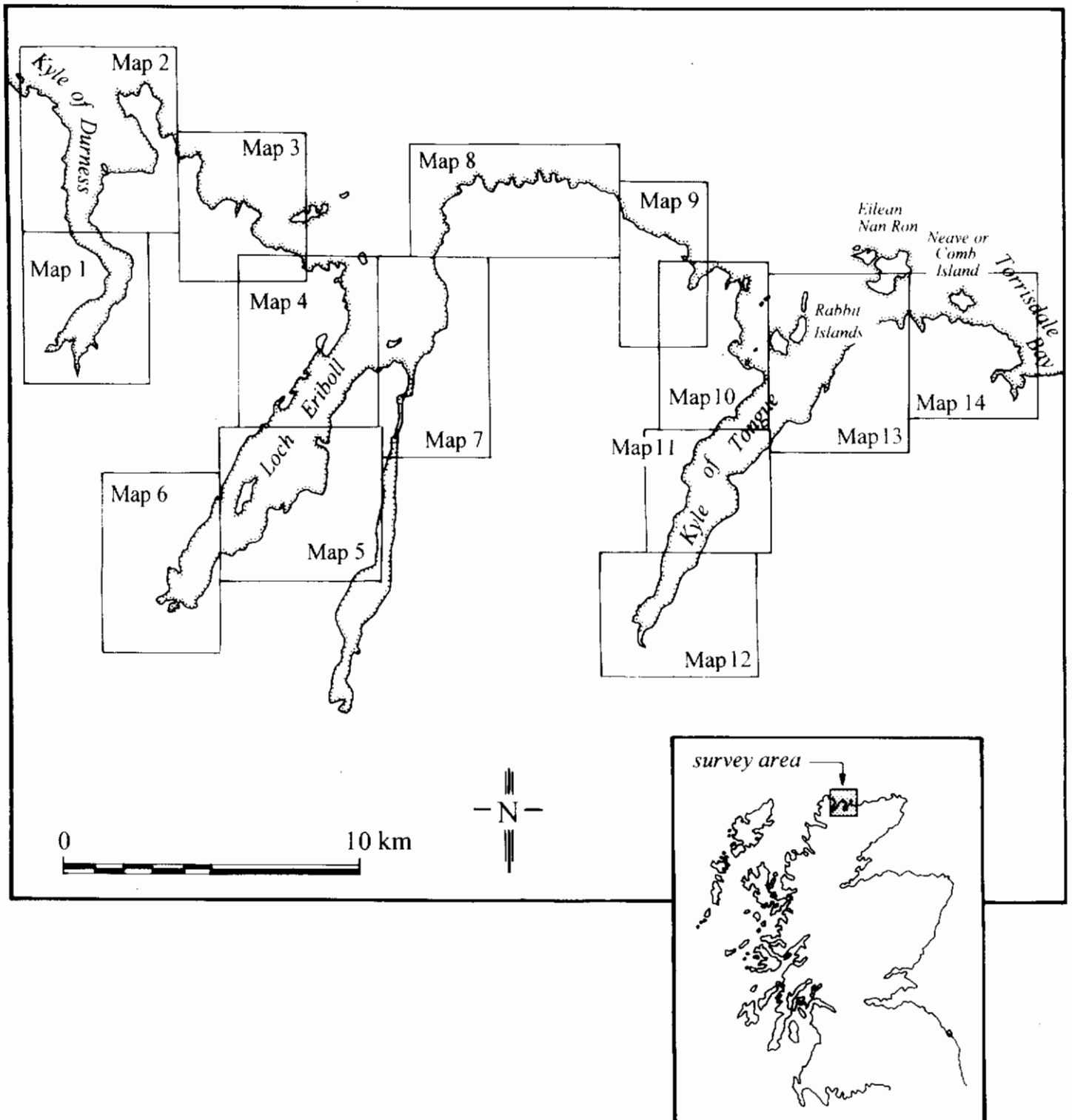
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1.0 Introduction

1.1 Background

This report presents the results of a rapid coastal zone assessment investigating both the Built Heritage and Archaeology and the effects of coastal erosion along the N Coast of Sutherland between the Kyle of and Torrisdale Bay. Historic Scotland (hereafter 'HS') commissioned the survey from the Viking and Early Settlement Archaeological Research Project (hereafter 'VESARP') based at the Department of Archaeology, University of Glasgow (hereafter 'GUAD'), as part of a broader project to characterise the threat of coastal erosion for each region of Scotland and its implications for the management of the cultural heritage of Scotland in general. The geographical limits were imposed by HS and relate in the W, to the present eastern limits of the Ministry of Defence (hereafter 'MoD') restricted area E of Cape Wrath. In the E, it was to adjoin the western limits of that part of the survey programme undertaken in Northern Scotland in the 1970s/1980s by the Department of Archaeology, University of Edinburgh, under the direction of Mr Roger Mercer along the Caithness/Sutherland coast (Mercer 1981). Only one part of this coast (immediately to the N of the Mhoine) was not examined, due to Health and Safety factors (see Section 1.4 below), represented by Map 8 in this report. In total, the area examined amounted to some 141 km as measured on the 1:25,000 Ordnance Survey (hereafter 'OS') maps for the area (but see Section 1.4 below), and some 485 sites have been recorded in the relevant Maps and Gazetteers (Section 4 below).

Figure 1:
Map of N
Sutherland
Coastal Zone
Assessment.

The work was under the overall direction and management of Professor Christopher D Morris and directed by Mr Kevin Brady, Project Officer for VESARP within Glasgow University Archaeological Research Division (hereafter 'GUARD'). The survey was undertaken by Christopher Morris and Kevin Brady with Olivia Lelong and Andrew Baines in September 1997 and by Kevin Brady with Olivia Lelong, Andrew Baines and David McCullough in November 1997. The other three members of the team involved were all undertaking post-graduate study at GUAD on topics either directly concerned with this area, or partly related to it.

1.2 Project Aims

The background to this survey from an HS perspective lies in the realisation within that organisation that a more proactive and uniform approach had to be adopted to the problems of coastal erosion in relation to the cultural heritage, and two discussion documents were produced in 1994 (Ashmore 1994; Barclay & Fojut 1994), followed by an Archaeological Procedure Paper in 1996 (Ashmore 1996). There is no need, consequently, here to traverse the ground covered in those documents, in terms of justification, rationale or procedure for the survey in question. Suffice it to say that the aims of the work and the procedure followed have been as close as possible to the desires and requirements of HS, as stated in these documents.

The survey on the N coast of Sutherland complements similar surveys elsewhere, such as that undertaken by GUARD along the Firth of Forth (James 1996) or by the University of Edinburgh in Lewis (Burgess & Church 1997). Its primary aims were specified by HS, but in addition it contributes to the broader research programme of VESARP and GUAD. Indeed, VESARP have long had an interest in undertaking work in this area, to follow up earlier work in Caithness (see Morris, Batey and Barrett 1994) and GUAD has a long history of involvement in the archaeology and built heritage of this area, as represented particularly by the work of Dr Alex Morrison (Morrison 1987; forthcoming). However, it must be emphasised that this survey was multi-period in focus, Early Prehistory until the Modern day, and the team members reflected this range of research interests.

Of more direct relevance, both geographically and in terms of the nature of the cultural heritage, is a similar survey in a nearby area of Wester Ross undertaken for HS in 1996 by Andrew Long, another postgraduate student of GUAD supervised by Dr Alex Morrison (Long 1996). The VESARP team drew significantly upon Andrew Long's approach and experience, following discussion with Mr Patrick Ashmore, the responsible Inspector in HS. In addition, Mr Ashmore specifically called for more specialist geomorphological input than was available to Andrew Long, and this has been provided by Mr Derek J McGlashan of the Department of Geography and Topographic Science at Glasgow University - although within the parameters of the commission, this assistance has had to be more selective than comprehensive.

The primary aims of this survey project are therefore:

- to locate and rapidly record all sites relating to the Built Heritage and Archaeology within the 50-100 m coastal zone, the coast-edge and the intertidal zone of this area.
- to assess the erosional state of these sites of the cultural heritage within this coastal strip.
- to define the erosional condition and geomorphological characteristics of the coastline across the area as a whole.
- to utilise the resulting data both in terms of a characterisation of the most important aspects of the built heritage and archaeology and an overview of the nature and effects of erosion on both a site-specific and broader scale within this area.
- to make recommendations for action in respect of the impact of coastal erosion upon this cultural heritage.

Secondary aims relate to the utilisation of this material for ongoing research in the area:

- to provide data for a more comprehensive multi-period survey of this area extending inland from the coastal margin.
- to examine the nature of Prehistoric settlement in the area of Durness, as a follow-up to the earlier work of Reid et al.
- to specifically examine evidence that may relate to settlement in the Viking and Late Norse periods and the preceding pre-Norse/"Pictish" period in this area, as part of VESARP's ongoing research agenda.
- to initiate a renewed study of sites associated with Early Medieval Christianity (pre-Viking-Late Norse) in the area, in parallel with work elsewhere (eg Shetland) within the broader research programme on Norse Chapels in the North Atlantic region initiated by Christopher D Morris.
- to provide the opportunity within the project for the development of other areas of research associated with the postgraduate programmes of individual research students.

1.3 *Report Format*

Naturally, HS's own guidelines have informed the layout of this report, in order that the requirements of their commission may be met. In this respect, Andrew Long's report in the area from Ullapool to Lochinver has provided a basic model for the present report - which has also taken account of some of the features of the more recently-completed Edinburgh Lewis survey - although it has not been followed slavishly.

All data is, of course, to be deposited in the National Monuments Record for Scotland (hereafter 'NMRS') and also copied to the Highland Archaeologist's Sites and Monuments' Record (hereafter 'SMR'), so that with the issue of this report all the material will be available in the public domain,

There are some minor variations from Long's report (eg in respect of the order of the maps and gazetteers) and the present authors have followed his practice of assigning numbers to the sites per map, rather than simply using the cumbersome (and somewhat unsightly) NGRs and/or NMRS numbers, as was the practice in the Lewis report. There is (of course) full cross-referencing in the relevant gazetteers. Long's survey also provided a greater level of detail for individual sites in its area than was strictly required solely for HS's management purposes, and a more detailed Gazetteer was provided in Volume 2. That pattern has been followed in the approach to both the recording and the reporting of this survey - although there are, again, some small variations in terms of layout between the two volumes, hopefully as an aid for the reader.

In summary, Volume 1 contains introductory information (Section 1); study methodology (Section 2); a brief overview of Survey results (Section 3); the core of the data in a series of maps covering the Built Heritage and Archaeology, Erosion Class and Solid Geomorphology, and associated gazetteers (Section 4); an analysis of both the archaeology (Section 5) and the coastal erosion (Section 6); followed by a Summary and Recommendations for action (Section 7). Acknowledgements and abbreviations follow, together with the Bibliography (including cartographic references) for both Volumes 1 and 2. Volume 2 consists of the 14 relevant Built Heritage and Archaeology maps repeated, together with the detailed gazetteers of the 485 sites going with these.

1.4 *Study Area*

As stated above, the project study area for this survey extended from the Cape Wrath peninsula to Torrisdale Bay to the W of the settlement of Bettyhill. The area examined consisted solely of the mainland coastal strip and did not include offshore tidal islands, unless they were accessible on foot at low-tide. Clearly one implication for future work would be the extension of the survey to these islands, all of which are presently uninhabited, but which in several cases have clear traditions of settlement in the past.

The mainland coastal strip was, as required by HS, limited to the 50-100 m 'corridor' alongside the shore-line, together with the high water mark ('HWM'), and - where feasible - the intertidal zone. The latter can prove problematic for a number of reasons, most notably safety (as in the case of the 'quicksands' of the Kyle of Durness) and the time of year and day a particular area is visited (because of the varying tidal conditions). During the November survey period, a number of areas were re-visited specifically by a member of the group experienced in coastal and underwater archaeology (D McCullough) and amendments/additions made to the data record. However, it cannot be claimed that the survey of the intertidal zone is as comprehensive as that of the adjacent coastal strip. As with Long's survey, it is probably reasonable to estimate a mean extent of 20-30 m perpendicular to the shoreline. Despite the, at times forbidding (and unforgiving), nature of parts of the coastal margins, the coastal zone has been comprehensively examined, with very few individual stretches found to be impenetrable.

One area was quite consciously excluded on health and safety grounds: the area immediately to the N of the Mhoine, which is well-known as a treacherous peat-bog area and one which would require a different basis of survey, involving outdoor camping and a number of days away from a base. It would also require a higher level of experience in high cliff situations and rock-climbing on the part of the surveyors, together with safety and emergency arrangements for the individuals concerned in an area which is completely out of contact, for instance by mobile phone. It might be possible to arrange in the future for part of this area to be covered from a landing by sea in good weather, but essentially overall a different basis of surveys would be required from that undertaken in these routine coastal surveys.

The marine zone was not examined, being outside the brief of the HS commission, but there may be a potential for future work here. A number of wrecks have been recognised and recorded from the foreshore and intertidal zone, but it is extremely unlikely that they constitute the total of such archaeological sites. The potential archaeological resource here may be considerable, although again a different basis of survey would be required, with specialist diving skills and experience an essential pre-requisite.

The difficulties of measuring any given length of coastline is considerable, and have been discussed elsewhere both by HS (Ashmore 1994, 25-7), and in Long's and the Lewis reports. It was expected by HS that the area to be surveyed would be in the region of 150 km. In fact, at a scale of 1:25,000, the area was measured at approximately 141 km, and at 1:10,000/1:10,560 at approximately 148 km (both figures *exclude* the area of the Mhoine). There is very little doubt that, with the highly indented and fractal coastline involved, the overall distance for the purposes of survey and fieldwork on the ground was considerably greater than this. There are clear implications here for the commissioning and costing of such surveys which need to be taken into account in the future by HS.

For the purposes of production of the required series of maps reflecting the Built Heritage and Archaeology, Erosion Class, and Hinterland Geology and Coastal geomorphology, the area has been divided into 14 sections, based upon the 1:25,000 OS maps. All sections reflect comprehensive examination on the ground, with the exception of Map 8 (as explained above). These are described overall in Section 3.2 below and individually in the Map Content Descriptions in Section 4.

1.5 *Previous Archaeological Research*

The northern Scottish counties of Sutherland and Caithness were early recognised as having a rich archaeological and built heritage, in that the Second and Third reports of the newly-established Royal Commission on the Ancient and Historical Monuments of Scotland (hereafter 'RCAHMS') were devoted to the 'Inventory of Monuments and Constructions' in each of these respective counties (RCAHMS 1911a; 1911b). These amounted to the record of work undertaken, essentially single-handedly, by Alexander O Curle, Secretary to the Commission during the summer, and autumn months of 1909 and 1910 respectively. In addition to the individual monument descriptions (ordered by parish), Curle provided an 'Introduction' to the Sutherland monuments (RCAHMS 1911a, xv-xlvi). Although previously there had been an important article on prehistoric monuments by J Horsburgh in an early volume of *Proc Soc Antiqs Scot* (Horsburgh 1868), this was the first systematic ordering and account of the archaeology of this area "from the earliest times up to 1707" (RCAHMS 1911a, v). This focused upon the following groups of monuments: Ecclesiastical structures, Castellated and Domestic structures, Defensive constructions, Hut circles etc, Earth-houses, Cairns, Stone circles, Cup-marked stones, Crosses,

Standing stones, Iron smelting, Stone rows, and Rectangular settings of stones.

These accounts have formed the basis for all subsequent work and discussion of the archaeology of this northern area of the mainland of Scotland, although it is unfortunate that a volume for Wester Ross was not produced by RCAHMS: as Long has pointed out for Wester Ross, "Prior to 1994 no previous systematic archaeological research had been conducted in the survey area" (1996, 5). As for the NW corner of Scotland (Strathnaver), it would not be out of place to quote here from the introduction to Batey's Caithness Coastal Survey (for the NE corner): "Despite the promising beginnings of Curle's survey work in 1910, very little further survey work had taken place until the Ordnance Survey work of the 1960s" (Batey 1984, 5). At this period, however, in one part of the area - the Durness Peninsula - a survey was undertaken by students from the University of Glasgow in 1966, to supplement the information held by the OS and as a study of prehistoric settlement in this sub-region. This was published subsequently and listed 82 sites, of which a mere five had been listed by Curle, but 30 were in the OS Card Index (Reid, David & Aitken 1967).

This significant increase in the number of sites recorded as a result of systematic blanket surveying was in part both the reason for, and the outcome of, the campaigns of survey undertaken mainly in Caithness in the 1970s and 1980s by Edinburgh, Glasgow and Durham Universities (Mercer 1976; 1981; 1985; Batey 1984; Batey 1985; Morrison 1996). Some parts of Sutherland were surveyed as part of Mercer's work, but his work went no further W than Torrisdale Bay, and for this region, additions to the record have been dependant upon individual enthusiasts (either from, or visiting the region) and then supplying information to the OS or the NMRS/RCAHMS either directly or through entries in *Discovery and Excavation in Scotland* (hereafter *DES*). The entries current in the NMRS prior to the time of this survey record important work by, among others: J R Hume, J A Johnston, I Keillar, R G Lamb, E R McKay, J Powell, K Reid, R Reid, D W Ross, K Sabine, Dr C S Sandeman of Durness, J R Sherriff, and T C Welsh. Similarly, according to entries in the NMRS, various OS surveyors had been active in the area in 1957, 1959, 1960, 1964, 1971, 1977, 1978, 1980, 1981 and 1983 often checking such individual entries. One pre-afforestation survey was undertaken in 1993 on the Eriboll estate by S Carter and M Dalland, then of AOC (Scotland) Ltd.

More general works have concerned themselves with the built heritage and archaeology of this region, and these have, in some cases, provided further new material. There have been a number of overview papers (Henshall 1982; Reid, Omand & Blood 1982; Omand & Talbot 1982) and an excellent guide to "Exploring Scotland's Heritage" in the Highlands by Joanna Close-Brooks (Close-Brooks 1986/1995). Some of the more obvious prehistoric monument types, such as chambered cairns and brochs, have understandably generated specialist studies (eg Henshall & Ritchie 1995; MacKie 1994; Armit (ed) 1990). However, more generally, rarely have prehistoric monuments of this area provided other than exemplars for a broader picture.

For the post-prehistoric period, there has been some general interest in the Viking impact on the area (eg Small 1982; Cox 1994; Fraser 1995), now intensified by the discovery of the Balnakeil Viking grave in 1991 Batey (1993, 155-8; Morris, Barrett & Batey 1994, 152-3; Waugh forthcoming). The current concerns with Medieval or Later Rural Settlement in Scotland (or 'MOLRs') have stemmed directly from an awareness of the importance of the pre-Clearance settlement remains as an archaeological form of some longevity (Hingley (ed) 1993). This approach stems directly from the pioneering work of Horace Fairhurst of Glasgow University on pre-Clearance settlements (Fairhurst & Petrie 1964; Fairhurst 1964; 1969), and the follow-up to Fairhurst's approach in Strathnaver can be seen in an important publication produced by the Scottish Vernacular Buildings Working Group, following a conference in 1985 at Bettyhill, which highlighted work here on aspects of rural settlement by Alex Morrison, Malcolm Bangor-Jones and James B Caird (Morrison (ed) 1987).

Increasingly, also there has been a realisation that there is a wealth of built heritage and archaeology from the period after the date of 1707 previously taken as the termination point for the RCAHMS's interest. Mr John Hume (then of Strathclyde University) provided a pioneering study of industrial archaeology (1977), and Elizabeth Beaton considered some aspects of the building types and traditions in the area in her paper to the Bettyhill conference (1987). More recently, Elizabeth Beaton has published an invaluable and comprehensive *Illustrated Architectural Guide to Sutherland* (Beaton 1995).

Excavations have been few and far between. Beyond the area, work by Glasgow University at the Neolithic chambered cairn at The Ord, Lairg by J X W P Corcoran in 1967, following previous excavations on similar sites in Caithness have been of great significance for Neolithic studies (Sharples 1981; Henshall & Ritchie 1995, 10-11). This has since been followed up by a significant landscape survey and excavation project directed by Roderick McCullagh (Wickham-Jones n d; McCullagh 1992, McCullagh & Tipping 1998). Horace Fairhurst's survey and excavations at the Clearance township of Rosal in 1962 (Fairhurst 1968) provided a promising start at the other end of the chronological spectrum. The Glasgow work within the area of this survey continued with both the general survey of the prehistoric settlement of the Durness area undertaken in 1966 (Reid 1967) and the excavations at the Iron Age souterrain at Fouhlin, at the S end of Loch Erriboll (see Map 6: Site Gazetteer no 23), whose post-excavation work has recently been completed for publication shortly (Morrison forthcoming). Dr Colleen E Batey has also recently collated the work by the then Highland Regional Archaeologists at Balnakeil beach on the Viking grave discovered by accident in May 1991 by Mr and Mrs J Powell (Low, Batey and Gourlay forthcoming: see Map 2: Site Gazetteer no 30). Dr Tony Pollard of GUARD undertook rescue excavations prior to consolidation at Smoo Cave in 1992 (Pollard 1992: see Map 3: Site Gazetteer no 26). This site interestingly provided evidence

not only of Iron Age occupation, but also both earlier (Late Neolithic) and later (Viking-Late Norse). Even before this latest work, the implications of the Balnakeil find and the future potential for Viking/Late Norse settlement in this area had been laid out (Batey 1993, 155-8; Morris, Barrett & Batey 1994, 152-3).

All of these studies mentioned above (unco-ordinated though they are) have demonstrated the quality and importance of the database of built heritage and archaeology from this area. They both amply justify the attention paid to it in this survey, and provide an important backdrop to the work undertaken in 1997.

2.0 Methodology

2.1 Introduction

In this section, the research methodology and field recording techniques are briefly described. The procedures adopted are standard for this type of survey and did not involve any particularly innovative approaches. The main intention was to undertake the work in as effective a manner as possible, within the guidelines set by HS.

2.2 Background Research

A background study complying to the methodology specified in the HS Procedure paper was conducted, essentially to gather the primary information required prior to undertaking the fieldwork. The bulk of this information came in the form of printout from the NMRS of material originating from the former OS record cards, sites marked upon OS map sheets and directly-inputted data in the CANMORE information system. There is very little aerial photographic coverage for this area, partly because of its remoteness, and partly because of the MoD involvement.

2.3 Fieldwork

2.3.1 Field Methodology

The fieldwork was undertaken by the group of archaeological surveyors working closely together, but essentially in pairs. Depending upon the nature of the landscape involved and, particularly, Health and Safety implications, the pairs either took discrete sections of the coastline or operated in parallel. In all cases, the procedure involved walking parallel transects along the coast, paying particular note to the HWM and the intertidal zone and the first break of slope inland from, and above, the HWM. In some parts of the coast, it was not possible to walk along the HWM, in which case visual inspection was made from the cliff-edge above. Occasionally, there was no alternative but a deviation inland, but such occasions were rare. As noted above, some parts of the intertidal zone were separately examined during the second session

of fieldwork in November. During the walk-over phase, a note was made upon the maps of the state of the coast-line itself and any erosional features. The geomorphological information was gathered either on site during the visit in November by the specialist, Derek McGlashan, or during the post-survey phase of the work.

The primary concern of the surveyors was to accurately, yet rapidly, characterise each site without engaging in any elaborate surveying techniques. Essential measurements for dimensions etc were taken, either by pacing in the case of large field features, or using tape measures for smaller ones. Where the sites had been previously characterised, the emphasis was upon checking the earlier records. Within the overall site dimensions, significant details were also checked and this was then followed up with a brief description of the remains and their current condition. Usually a sketch plan would be added to the recording sheets, and a photographic record made where this was feasible. The sites were then added to the relevant map sheet copy and given a temporary site number.

The archive is to be deposited in the NMRS.

2.3.2 *Recording Criteria*

As with Long's survey, a distinction was made between discrete sites within the coastal zone and broader cultural landscapes which extended beyond the coastal zone. In general, record sheets have been completed for both sites and landscapes, although some of the features of the latter were marked upon the 1:10,000 (or 1:10,560) map sheets, and only the dimensions within the coastal zone have been measured and recorded. The relationship between individual sites and broader cultural landscapes is reflected in the survey maps contained within this report: a good example would be the township of Laid (Map 5). Again, as with Long's survey, the only remains of human activity which have been consciously omitted are 20th century structures, although modern sites reflecting a traditional lifestyle or technology (eg boat-nousts) have been recorded.

2.3.3 *Survey Conditions*

In general, the conditions for survey were reasonably favourable, given that the work was undertaken in the late summer and autumn. Both the September and November periods concerned were generally dry, with some individual rainy days. Some field time was lost through bad weather (and principally the Health and Safety implications of this), but this was generally compensated for with work upon the primary documentation. The principal seasonal condition affecting the survey - especially in September - was the occurrence of high bracken, which obscured details of a number of sites. Some smaller sites may not, therefore, have been

noted, although it is not likely that they are many in number. As mentioned above in Section 1.4, coverage of the Intertidal zone is patchy as Health and Safety issues intervened in some cases (eg Kyle of Durness) and in others the extent of the visual search was dependant upon the state of the tides at any particular point of the coast. It is clearly impossible to examine all of the coast at the period of low-tide!

2.3.4 *Survey Coverage and Effectiveness*

There were no gaps in survey coverage of the study area, with the exception of the area of the Moine (see Section 1.4 above), and one small area of impassable vegetation S of Daill. The surveyors are confident that they have - within the limitations of, for instance, high bracken cover - covered the ground effectively in terms of a rapid, visual and walk-over survey. There is no doubt that, despite the previous work of the OS surveyors and others, this survey has uncovered a significant number of new sites. Comprehensiveness may be an aim but it is, ultimately, an unattainable ideal. Any subsequent repetition of the exercise (particularly if covered at a different time of year) would uncover further new sites. The lesson is obvious and well-known ie that identification of archaeological sites and cultural landscapes is dependant upon regular inspection of the ground at different times of the year.

3.0 *Survey Results: Overview* ---

3.1 *Introduction*

Following this section are the detailed results of the Coastal Zone Assessment for N Sutherland carried out between September and November 1997. The coastline has been divided up into 14 geographical sub-sections, as marked clearly on the accompanying location map (Figure 1). Unfortunately, it has not been possible (due to the deeply indented nature of the coastline of this part of Scotland) for these to be entirely consecutive in terms of 'following' the coastline from W to E, but the sections approximate as far as possible to that principle. The coastline was, indeed, examined overall from W to E, although logistical considerations meant that some individual parts of the sub-sections were surveyed 'out of order' or in the opposite direction.

3.2 *Format of Gazetteers and Maps*

As required by the HS contract, for each of the 14 sub-sections, there have been produced three gazetteers, accompanied in turn by three maps: firstly of the Built Heritage and Archaeology; secondly, of the Erosion Class; thirdly, of the Hinterland Geology and Coastal Geomorphology. This order of reporting is in line with Historic Scotland's revised Procedure Paper (Historic Scotland 1996, 12-18) and the most recent survey (of Lewis: Burgess & Church 1997), rather than Andrew Long's order for Wester Ross (Long 1996). We believe this to be a logical order for a survey that is primarily archaeological in focus. Were geomorphology to be ascribed primacy, then it would require (as mentioned below) a different approach to the work on the ground, and a greater specialist input.

Preceding the maps and gazetteers for each sub-section is a brief summary and analysis of the 'Map Content Descriptions' for each of the three categories, which attempts to draw out the salient features and/or results of this work. Of course, there are more detailed analyses of the Built Heritage and Archaeology, essentially by period/category, and of the Coastal Erosion in relation to both the Hinterland Geology and Coastal Geomorphology and in terms of the impact upon the Built Heritage and Archaeology, in Sections 5 and 6 below. This part of Section 4 attempts to give a concise overview of the situation in each geographical sub-section.

The Gazetteer for the Built Heritage and Archaeology lists the following characteristics for each site (where available):

Name; Grid Reference; Location (especially in relation to the Intertidal Zone, HWM, Coast-edge and/or Hinterland); OS map number; Site Type; NMRS number; notice if Scheduled as an Ancient Monument or as Listed Building; Date; Condition; and Recommendation for action required.

Fuller site descriptions, dimensions and more detailed recommendations are contained in Volume 2 of this report, which was strictly outside the brief of the HS commission and funded separately.

The accompanying map utilises the symbols indicated by HS (Historic Scotland 1996, 13).

The Gazetteer for the Erosion Class lists the following characteristics for each sub-section (where available):

Name; Grid Reference; approximate Length (in km); Erosion Class; followed by a general description.

The details of the Erosion Class in the Gazetteer and the accompanying map are as indicated in the HS Procedure Paper (Historic Scotland 1996, 14).

The Gazetteer for the Hinterland Geology and Coastal Geomorphology lists the following characteristics for each subsection:

Name (or Description of Location); Grid Reference; approximate Length (in km); Coastal Geomorphological characteristics; Coast-edge type; Hinterland Geology; followed by a general description.

The descriptions used in the Gazetteer and the symbols on the accompanying map are (where possible) as indicated in the HS Procedure Paper (Historic Scotland 1996, 15).