

3. METHODOLOGIES

with Gary Tompsett, Charlotte Francoz & Christine Rennie

The first stage of the survey was undertaken in 2004, and comprised the study of archaeological desktop sources, such as the 1st Edition Ordnance Survey maps and Name Books, and subsequent map editions, the National Monuments Record of Scotland (NMRS) and local Sites and Monuments Record (SMR), antiquarian sources, local historical sources, local information and tradition and previous archaeological survey. It was found that many sites had multiple references, each repeating the same information. In this case the first mention of the information is reproduced and then cross-referenced where possible. Many of the sources, especially the RCAHMS inventory (1928), Muir (1885 – later reproduced by MacGibbon & Ross 1896), and the Ordnance Survey visits of 1964 and 1969, are directly quoted at length as being the most definitive account of any particular site. This is then added to where extra information has been recorded. The desktop study was used to produce a gazetteer of chapel-sites in Lewis, which was added to as the project progressed (see Table 1).

Walkover survey of all identified sites and their immediate locale was then undertaken in the winter of 2004–5 when vegetation was at its lowest. The number of sites and amount of information for each site was underestimated during the planning for the project, and also a stormy autumn and winter in 2004 held up the completion of the walkover survey until February 2005. As a result, not all of the sites identified by the desktop study could be visited in the initial year of the project. Sites which were found from the desktop study to be the least well recorded, not recorded by any other source (eg another archaeological project, or a Scheduled Ancient Monument), or badly eroding, were prioritised for walkover survey between February 2004 and March 2005. Each site was sketched and photographed, and a hand-held GPS system was used to record the NGR. Detailed descriptions were then produced for each site, together with an assessment of the condition and extent of the site and management recommendations for the future. Following the assessment of each site, specific sites were chosen for further, more detailed survey. Sites were chosen

because either they were not previously recorded illustratively, were barely upstanding and therefore not recorded elsewhere, or were immediately threatened, eg by coastal erosion which was in the process of destroying the site.

The majority of the more detailed surveys were undertaken in February 2005 with a plane table. This survey method, although now superseded by EDM and DGPS technology, had the advantage of being low-key and accessible to most volunteers, and produced a plan of the site in the field, as it was surveyed, within a limited budget and without the need for expensive and heavy equipment, fine weather or charged batteries. However, there were sites and conditions for which a plane table was not suitable, particularly those for which the chapel was only a small part of a much larger suite of archaeological remains, such as an extensive graveyard, or an abandoned settlement. For these sites, an EDM topographic survey was recommended, and conducted in Year Two of the project (2005–6).

Topographic survey was conducted at two sites, Teampall Pheadair in Swainbost, Ness and Taigh nan Cailleachan Dubha (Teampall Mhealastadh) in Uig (Barrowman with Hooper 2006: 11–19). At Teampall Pheadair in Ness, the entire graveyard area was surveyed, including any walls and banks and other features, and the foundations of the church building. As many as possible of the unmarked gravestones (estimated at between 2,000 and 3,000) were surveyed in order to record the layout of the old cemetery. Even in February a large part of the cemetery was covered by thick tussocks of grass that obscured the layout of parts of the burial stones. It was decided therefore to concentrate on the inscribed gravestones and the burial lairs, and to plot as many as possible of the *lines* of unmarked gravestones, rather than the position of every single stone. In this way over half of the unmarked gravestone alignments were recorded, and the inscriptions on the memorial stones that are already recorded on a plan of the graveyard (Smith 2004) can be connected to the LCCS 2005 topographic survey. The survey was carried out using a Leica EDM total station from a single station set-up. Data was logged electronically, downloaded to LISCAD v2.02 for processing and exported to AutoCAD and Adobe Illustrator for map production.

At Taigh nan Cailleachan Dubha, an extensive medieval or later settlement with later sheep fanks adapted from the stone structures, the entire scheduled area was surveyed, and also Teampall Mhealastadh and its burial ground immediately to the north outwith the scheduled area and the ruined structures of a settlement to the east of the point Rubha an Teampall. The topographic surveys were carried out using a Leica EDM total station, and a network of several stations. Data was processed as above.

In 2007 two further sites were chosen for detailed topographic survey, and also geophysical survey at one of these sites. Teampall Pheadair, Shader and Teampall Eòin, Bragar were surveyed in 2008 using a Leica TCR 1205 total station, and the methodology was the same as that used by the Ness Archaeological Landscape Survey (Barrowman 2008; Arthur 2015). At each site the surveyor operating the instrument, and an archaeologist using a staff with a reflective prism to record the visible features, surveyed the archaeological features. Once the archaeological detail was recorded a series of spot height recordings were made so as to provide a contour survey of each site. At Teampall Eòin, these spot heights were taken on the ground surface adjacent to each gravestone in the old churchyard (over 2,000 stones), thus enabling the readings to be used to record the position of gravestones as well as the detailed contours of the site. A DGPS was not available for

this survey, so instead several known features, such as jetties, fence lines and cemetery walls, marked on the Ordnance Survey (OS) survey were recorded at each location so as to position each survey relative to the OS national grid. The data was then downloaded for processing using Leica's LISCAD (7.0) software. After initial processing in LISCAD, the maps were exported to AutoCAD (2005) for finishing.

Geophysical survey was conducted at one site, Teampall Pheadair in Shader, where the possibility of earlier Iron Age structures below the chapel-site was evidenced and the site was free from fence lines and other 'noise'. In 2008 resistivity survey was carried out using a Geoscan RM15D resistivity meter with a twin probe array. The separation of the mobile probes was 0.5m, allowing readings to be taken up to 0.5m below ground level. Then a gradiometry survey was also carried out using a Geoscan FM256 fluxgate gradiometer with two internal sensors. This instrument allows readings to be taken approximately 0.75m below ground level. A series of 10m × 10m grids were set out along a baseline that was slightly off a north/south axis. This was done to ensure that any east/west aligned linear features, such as grave cuts, would be more likely to be detected than if the survey was oriented to true north. In an attempt to detect these smaller features, readings were taken every 0.5m on both the X and Y-axis, giving 400 readings for each grid.