BUILDINGS AT RISK

Research: We can discover much about long-lost buildings thanks to new geophysical surveys

Using modern methods to see ancient keeills beneath the soil

The Buildings at Risk series covers buildings and structures currently at risk, those that have been lost, and those saved. In this week's feature, Dave Martin looks at an older, often ignored, group of Manx buildings, most of which have now been lost, and how modern scientific methods can reveal traces of long-lost buildings and other human activity.

Volunteers surveying in the field

There were hundreds of keeills - early Christian chapels - across the Manx countryside, but now there are only about three dozen known with upstanding remains.

A recently established group is working to increase knowledge of these ancient buildings – both still visible and those that have been lost - by using modern scientific methods rather than destructive excavation.

Geophysical survey techniques allow us to 'see' into the ground, revealing not only deep geology but also traces of past human activity such buildings, walls, ditches, trackways and agricultural activity, whose invisible remains can survive just beneath the turf.

These specialised techniques are allowing us to search for lost keeills and their surroundings – at the same time revealing other features in the landscape, such as prehistoric ditches, hut circles and old field boundaries that were unknown to the island's first map makers.

In 1908, the Isle of Man Natural History and Antiquarian Society established the Manx Archaeological Survey to examine and report on the island's ancient and historic monuments. As the island's unique collection of early Christian sites of worship – the keeills – were disappearing, they decided to record those remains first.

Constrained by time and resources, their investigations often went only as far as the upstanding keeill wall or enclosure and was, of necessity, only a snapshot in time and of limited geographic coverage.

A group of local volunteers, led by Mark Noel, Dave Martin and Katie Newton, has now established the Keeills Research Project to contribute to our knowledge of keeills and their wider context, updating and building on the work of the Manx Archaeological Survey.

Ms Newton explained: 'Keeills were the built environment of prehistory and the survival of those that remain - and the memories of those that do not – is a testament to their importance in local communities on the island and also to the folklore and superstition surrounding them.

'Little is known about these tiny chapels, often rarely visited and off the beaten track.

'Many were built on earlier sacred sites and by using modern methods, we have the exciting possibility to learn more about life on the island over the past 1,000 years, back to the Celts and even earlier, without disturbing what remains.'

Keeills were constructed in an already-occupied landscape and, with relatively few exceptions, not much of that context is known or remains visible on the ground today, but much can remain unseen beneath the surface.

Whilst the Manx Archaeological Survey made most of their discoveries through excavation, the Keeills Research Project is using modern scientific remote sensing techniques to investigate the landscape and to try and shed further light on the character and context of these enigmatic monuments, without the need for destructive excavation.

A small number of keeills and keeill sites have already been geophysically surveyed by the new project team, with its members finding hidden evidence of human activity through past millennia.

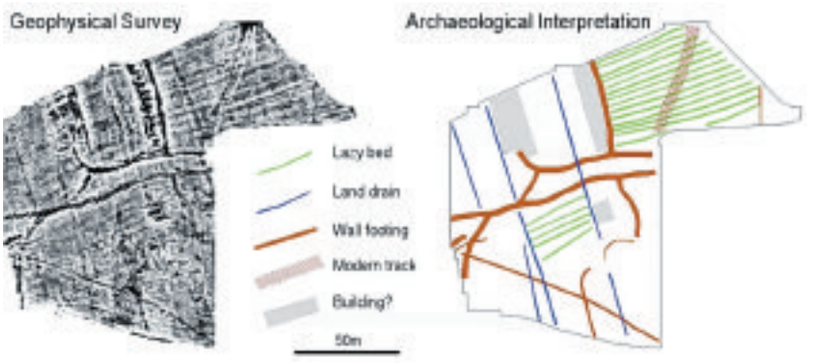
In one case the team even discovered the clear 'footprint' of a ploughed-out keeill beneath a flat field of cereal stubble.

Professor Noel said: 'The island has a tradition of community involvement, and the Keeills Research Project aims to build on that with a range of opportunities for public participation – be that carrying out geophysical surveys in the field (when you may well be the first person to see images of a buried feature that may not have seen daylight for hundreds or thousands of years), or at home analysing aerial photographs, collating data or preparing drawings for our website, reports or presentations.

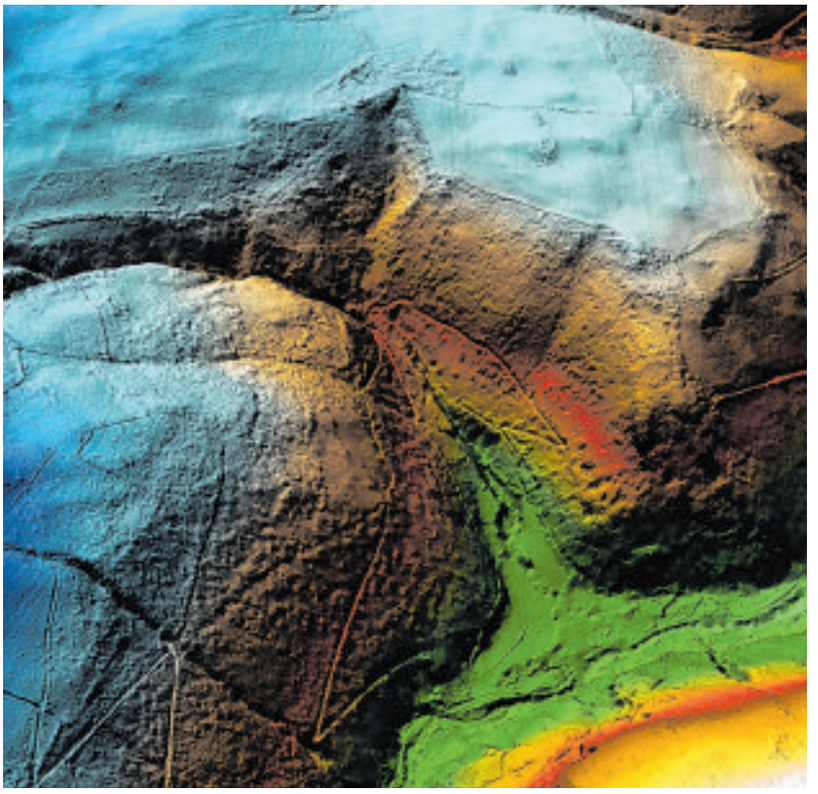
'The island harbours a wealth of skills that canplay a part in this project, both in the field (raining or not!) or at home using your computing talents as a vital part of our work. This is truly a "Citizen Science" venture with scope for many more to be involved.'

Fifteen local volunteers recently participated in an intensive archaeological geophysics training and survey week which started with an introductory and training day using the grounds and facilities at Milntown, in Ramsey, where new members had the chance to become familiar with the instruments we are

Volunteers being introduced to and trained on geophysical survey at Milntown



Results from a geophysical survey over one of the keeill sites. The image left is a detailed magnetic field map of part of the site that includes the keeill. Many unrecorded features have been detected including the remains of walls, ditches, lazy beds and possibly several buildings of unknown date



Landscape model of a keeill site from LiDAR data (IOM Government data, used under licence ACA-1040)

using.

For this venture we were joined by a team of experienced geophysicists from the Bath and Camerton Archaeological Society who helped with the volunteer training and multiplied the area that we were able to explore on two keeill sites that we had selected in the north of the island. Culture Vannin provided a grant supporting the visit by the BACAS team.

Eight of the newly qualified volunteers went on to participate in the five days of fieldwork, 'bleeping' over the ground with the geophysical instruments, and in many instances being the first to discover new unseen archaeology.

FIELDWORK

Professor Noel added: 'During the fieldwork we experienced a range of Manx weather, endured earnest enquiries from a herd of bovines – and ate some cake!

'Nevertheless, we made substantial inroads into surveying two keeill sites with a range of techniques, and the results provide clear evidence for complex multi-period histories at both locations.

'Once in the field, our Manx team members built on the primary skills they had acquired at Milntown and were able to share tips and techniques with their colleagues during the week.'

Mr Martin explained: 'The island had a tradition of amateur archaeology, but as invasive excavation fell out of favour it generally lapsed. This project provides an opportunity for volunteer involvement once again, welcoming all with an interest in keeills, our island's rich heritage, or archaeology.

'Whilst our recent survey week concentrated on "seeing beneath the soil" with geophysics, this project is not just about geophysical survey – in every sense, this is a true community venture and there are opportunities for people to make important contributions in other areas such as modern and historic air photo interpretation, documentary research, fieldwalking, graphics and presentation.

'Also, although we are focusing on keeills as a vulnerable class of sites, our training isn't keeill-specific, so we will have a trained team to survey other archaeological sites if necessary.

'We are grateful to landowners and agricultural tenants who grant vital access to sites; to the Manx government's mapping team for making data and imagery available for our research; to the Manx Museum for access to historical air photographs; and to the Milntown trustees for hosting our recent training day.

'Most of all though, we are grateful to our Manx volunteers, who have already proved they can collect and assemble new data to shed light on our ancient sites.'

Further information on the Keeills Research Project is available at www.keeills.im and the organisers would be delighted to hear from anyone who would like to volunteer to help with any aspect of the research.