



Managing the historic environment case study

Archaeological survey and woodland establishment on Ulva

Scotland is rich in the remains of past human settlement and activity spanning the past 10,000 years. Archaeological and historic sites contain information which can help us to understand not only how people lived and managed the land, but also how the development of the landscape we know today has been influenced by its previous inhabitants. They are the only sources of evidence for much of Scotland's past and it is important that the sites are recorded and preserved, where possible, for future generations.



How archaeological survey can inform and enable forest and woodland establishment – and how best to use the results.

Significance

The development of a new woodland planting scheme on the island of Ulva, just off the Isle of Mull, provided the opportunity to investigate and record the historic environment in detail and to propose mitigation measures for its future management and preservation. The results from the archaeological survey undertaken in advance of the planting scheme, viewed alongside a desk-based assessment of cartographic and written sources, produced evidence for a wide range of archaeological sites and monuments surviving within an extensive archaeological landscape. The subsequent design for the new woodland planting scheme ensured that the historic environment was taken into consideration and was integrated into the forest planning process.

Best practice

The preparation of open ground for the planting of trees can have a devastating impact on archaeological sites – and the growth and spread of tree roots and scrub can disturb and damage archaeological deposits and undermine above-ground masonry. Established, wind-blown trees can also uproot large volumes of soil, disturbing and destroying archaeological remains. All archaeological sites need to be identified, assessed and protected from these potential impacts – the archaeological survey also then informing the planning of subsequent harvesting, extraction methods, the routing of roads and tracks and the siting of fence lines. Retaining and enhancing public access to significant archaeological sites should also be considered. This can be achieved by protecting significant remains within open areas of ground. These sites can make a positive contribution to the public's appreciation and enjoyment of woodland and allow for intra-site visibility – although it can require active management to prevent them becoming overgrown.

'Wolf Island'

The island of Ulva (Ulvoy in Norse meaning 'Wolf Island') has a rich and diverse range of archaeological sites and monuments spanning the prehistoric and historic periods. Standing stones and Iron Age duns comprise the visible prehistoric monuments, while excavations at Ulva Cave (also known as Livingston's Cave) produced flint and bone tools and midden material dating to the Mesolithic period.

However, it is the post-medieval settlement remains that dominate the island landscape today, with houses, byres, bothies, shielings, enclosures, boundary dykes and rig and furrow cultivation plots forming a well-preserved relic settlement system.

It has been claimed that the Clan MacQuarrie can trace their roots on the island back to the 9th Century AD, although Lachlan MacQuarrie, the last chief to live on the island, was forced to sell Ulva in 1777 to pay outstanding debts. However, unlike other areas of the Highlands and Islands at this time, this did not signal the start of the clearance of people from the land. Seaweed played an important role in the history of Ulva during

The extensive archaeological landscape on Ulva includes deserted townships and farmsteads and areas of relict rig and furrow cultivation.



this period and in 1785 the island was purchased by a pioneer of the kelp-burning industry. It was his son, Staffa MacDonald, who was reputed to have 'trebled his income and doubled his population by careful attention to his kelp shores'.

In 1835, Francis William Clarke bought Ulva and by 1837 the population had grown to at least 604 people, living in sixteen villages across the island. Unfortunately, Clarke's high hopes for this thriving community were shattered when the kelp market collapsed at the end of the Napoleonic Wars and he was left with a great surplus of tenants. This, combined with the potato blight, resulted in the end of the crofting estate and the clearance of the island followed. At its height, before the collapse of the kelp industry, Ulva had a population of at least 800 people and even had a surplus production of potatoes that were exported from the island.

Development of the project

The woodland creation scheme at Ulva was taken forward using a Woodland Improvement Grant through the Scottish Rural Development Programme (SRDP). On behalf of Ulva Estates, Miller Harris (a forestry consultant) formulated the first draft for a planting scheme on the island based on known archaeological sites and ecological factors. The historic environment

was identified from cartographic sources and from the results of an archaeological assessment and survey of the island undertaken in 1998. The survey produced a database of recovered sites on the island, although this lacked detail relating to individual structures and wider settlement evidence (such as field boundaries and areas of relict cultivation).

Recording the township ruins during the archaeological survey.



Archaeological survey

To protect important sites a range of issues need to be considered, such as providing a protective buffer to exclude new planting and avoid inadvertent impact. On occasion the retention of a group of sites in a larger clearing area may be appropriate. Having accurate survey information is essential during planning – and marking-out surveys may also be needed to confirm the design strategy on the ground.

Evaluating an area deemed to be archaeologically sensitive usually requires a combination of techniques appropriate to the type of landform and potential archaeology that may be encountered. The most commonly used techniques are:

- **Desk-based assessment:** the identification of known or potential historic environment sites through examining existing records.
- **Prospective survey:** survey undertaken to locate and define upstanding historic environment sites. Surveys can take a variety of forms: the targeted inspection and definition of known sites; the prospective survey of ground of high potential to locate previously unidentified sites; and the comprehensive inspection of all ground covered by a proposal.
- **Protective and detailed survey:** survey undertaken to support agreed design solutions such as: a final walkover survey to mark out significant archaeological remains within the proposal and fully check the area identified for planting; or a detailed measured survey to record the landscape prior to planting.

The results from a combination of desk-based assessment and prospective survey will significantly enhance the historic environment record for a study area, providing an excellent evidence base for land management. This enables all future planting design to be integrated with the historic environment, with significant features avoided (or retained in open areas).

Following the identification of the woodland area (using the results of the earlier walkover archaeological survey among other considerations), a second, more detailed archaeological survey was commissioned in order to mark out areas of significance and record the wider archaeological landscape prior to planting.

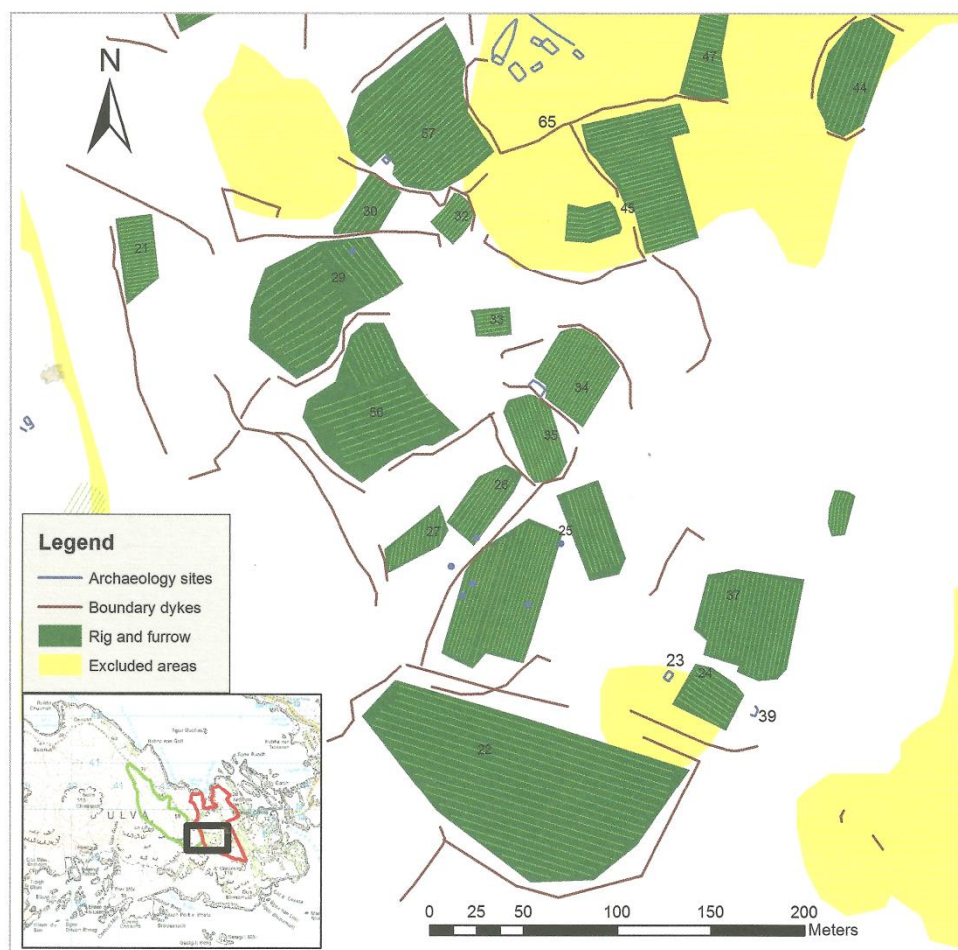
This approach ensured the protection of significant archaeology (by marking it out) and provided a useful detailed record (the measured plan) for future management use. It ensured protection in situ for significant historic environment features and a measure of preservation by record for landscape features of lesser importance. The measured plan further enhanced the Historic Environment Record and afforded more flexibility in relation to the avoidance (or not) of visible field boundaries and areas of rig and furrow cultivation.

Methodology and results

After undertaking a thorough desk-based assessment (where aerial imagery and cartographic sources covering the survey areas showed significant areas of cultivation and boundary dykes), the walkover survey was completed by two archaeologists using GPS technology with sub-metre accuracy and GIS software on a handheld computer. Archaeological sites were recorded individually and included the use of high-resolution digital photography where possible, while sketch survey drawings were produced of some sites.

The resulting GIS files from the survey data have been used to create detailed plans of the surviving archaeological landscape, while details relating to the individual recovered sites and monuments have been incorporated into a Gazetteer of Archaeological Sites. Stands of bracken are widespread on the island of Ulva, leading to significant visibility issues when identifying archaeological sites on the ground. Therefore, the walkover of the survey areas was undertaken in the spring when ground vegetation was at a minimum, resulting in improved site recovery and maximising coverage of the ground.

The walkover survey showed that the initial forest plan had been successful in isolating the major settlements within the proposed planting areas, along with some



A detail from the archaeological survey highlighting an area of extensive cultivation remains. The study allowed 'preservation by record' and the inclusion of the area within the planting.

major boundary dykes. However, the survey revealed additional stone-built structures including houses, bothies, shielings, significant areas of rig and furrow cultivation and a complex network of boundary dykes – many showing multiple phases of construction.

Incorporating the historic environment into a Forest Plan

The survey and recording of the historic environment on the island of Ulva has informed the forest plan and

final planting scheme, including the integration of buffer zones around settlement infrastructure and boundary dykes. The detailed recording of relict rig and furrow cultivation, areas that comprise some of the better quality land on the island for the planting of trees, has enabled these areas to be included in the forest plan.

The project development on Ulva Estate indicates positive management with regards to the historic environment and shows that economically viable planting schemes can be designed while protecting and managing archaeological landscapes for future generations.

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