Assynt Crannog Survey 2024

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This is an interim report for work carried out in 2024.

Full details of the broader project and finalised reporting is accessible via the Archaeology Data Service (ADS): https://archaeologydataservice.ac.uk/archives/collections/view/1006332/index.cfm.

Cover image: Eilean An Tighe, Cam Loch, Assynt

INTRODUCTION

Crannogs – artificial (or semi-artificial) islands constructed in lochs – are an evocative category of archaeological site. Geographically and chronologically dispersed, they are located across Scotland and Ireland and until recently were generally considered to date anywhere between the Iron Age and post-medieval periods. Work over the past eight years by the authors has demonstrated the widespread existence of crannogs dating to the Neolithic in the Outer Hebrides. Now, ten such sites are known, extending across the island chain from northern Lewis to southern South Uist. All of these sites have been identified through dive survey and the recovery of associated Neolithic ceramics on the loch bed; pots had seemingly been deposited directly into the water from the adjacent crannogs. On some sites, timbers have also been found; these have been radiocarbon dated to the Neolithic and indicate substantial phase(s) of architectural construction.

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Our research on these sites in the Outer Hebrides – funded initially by the British Academy/Honor Frost Foundation, and subsequently by the AHRC (Garrow & Sturt 2019; Blankshein et al. 2023) – has helped to push back crannog origins 2500 years and demonstrated the widespread presence of a new site type within the Neolithic of Britain. A strong argument can be made for them being ritual locations; these small islets were separated off from everyday life by the water and appear to have been sites of feasting and ceremony, as well as watery deposition (Copper & Armit 2018).

The work described here relates to a small-scale pilot study in Assynt, northern Scotland to see if similar sites could be identified on the mainland as well. The distribution of crannogs extends right across Scotland, but only 26% of the 385 sites have specific dating evidence of any kind, meaning that much remains unknown.

Our primary target was a crannog in Loch na Claise on the north-west coast of Scotland, located across the sea directly opposite the Outer Hebrides (see Figure 1). This site had been identified as a result of work by Dr Lou Matthews, University of Newcastle, as part of her doctoral research into 'Iron Age palaeoenvironments of northwest Scotland' (Matthews 2022). Crucially, within one of her loch cores, isotope analysis revealed a noticeable spike in C/N ratio values around c. 3400-3300 cal BC. This spike indicates a substantial and sharp increase in human activity in the vicinity of Loch na Claise – exactly at the same time as Neolithic crannogs were being built across the water in the Outer Hebrides. A hazelnut from within the core (LNC19) was radiocarbon dated to c. 3345-3025 cal BC at 95% confidence (OxA-38838). It is thus possible that this crannog could have seen Neolithic activity as well (ibid., 101).

The crannog in Loch na Claise was subject to small-scale excavation in 2016 (Cavers & Sleight 2016). Two Iron Age radiocarbon dates were obtained in association with a small, circular drystone structure in the upper levels of the site. The site's excavator, Graeme Cavers (pers. comm.), has indicated that the islet could in theory have earlier origins lower down in the sequence. The aim of our exploratory work was to see if in-water survey could identify any Neolithic pottery around the base of the crannog, or evidence for earlier construction phases.

While the initial indicators for Loch na Claise were good, our expectations were also tempered by experience from previous surveys. While three new Neolithic crannogs were discovered through our survey work in 2022, we surveyed thirty four in total, a less than 1:10 hit rate. We also found that the waters around many of the crannogs we surveyed in 2022 were completely devoid of material culture

(except for modern bottles, etc.). As such, to increase the chances of finding a new site we also identified six recorded islets in four further lochs for investigation. None of these had yet seen archaeological investigation of any sort, and thus any insights would prove useful.

METHODOLOGY

The survey work employed the same methods used in Uist in the summer of 2022 (Blankshein et al. 2023). On each site, the dive team dispersed evenly around the island, initially on snorkels (and subsequently on SCUBA if required), surveying the site to gain a basic overall understanding. The team then investigated any areas of interest in further detail. In most instances, an area extending out c. 10-20 m from the crannog was explored. A representative sample of pottery and lithics would be recovered if found. If wooden architectural components (e.g. posts, 'packwerk' twig/branch layers) were encountered, samples for radiocarbon dating would be taken.

Alongside the dive survey, we also conducted aerial surveys using a DJI Mavic 3 Enterprise with real time kinematic (RTK) GNSS correction via an internet link to provide accurate positioning. This allowed for capture of new high resolution images setting sites in context. Sonar equipment was also carried, along with a small boat, to enable broader bathymetric and side-scan surveys should the team have decided it useful.

RESULTS

In total, 5 lochs (including 9 islets) were investigated (Figure 1). Table 1 details the methods used at each site. No prehistoric material was found at any of the locations investigated. The following subsections give an account of the work carried out and conclusions reached.

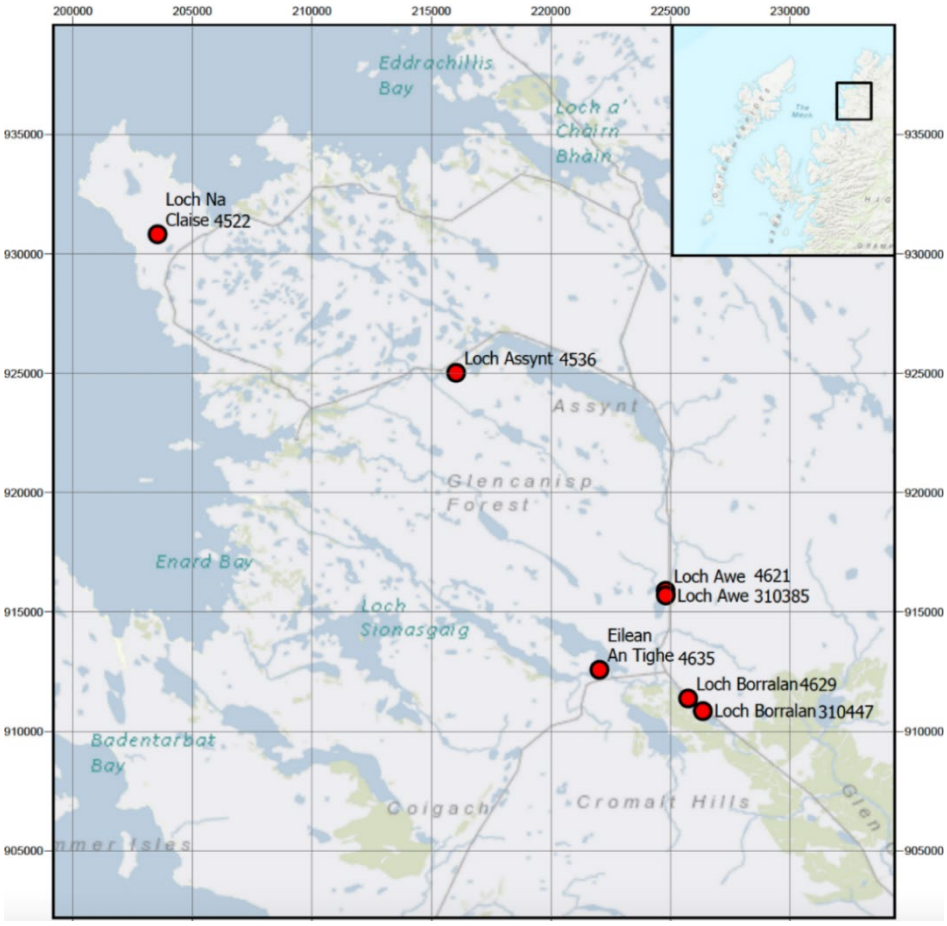

Figure 1 Map of investigated sites

Site Name	Snorkel time (mins)	Number of snorkelers	Dive time (mins)	Number of divers	Drone	Sonar
Loch na Claise	80	4	120	2	Imagery	No
Loch Assynt	90	4	No	-	Imagery	No
Loch Awe	90	3	No	-	Imagery	No
Cam Loch	60	3	No	-	Imagery	No
Loch Borralan	80	4	77	2	Imagery	No

Table 1 Survey Statistics: details of time spent and methods used at each site

Loch na Claise

Figure 2 Top: Map showing location of Loch na Claise, Middle: Location of crannog in Loch na Claise, Bottom: Orthomosaic of Loch na Claise crannog, note the substantial vegetation to the north and east of the island

Site name:	Loch na Claise
Loch name:	Loch na Claise
Canmore ID:	4522
Grid Reference:	NC 0354 3082
Region:	Assynt
Date visited:	13/07/24 & 17/07/24
Activities undertaken:	Snorkel survey, scuba survey, aerial imagery
Islet description:	Circular c. 15m in diameter, stone construction visible with a connecting causeway.
Loch description:	500m long by 300m wide. Significant reed growth along southern and eastern banks. Islet sits in shallow water (1-3m).
Sediment description:	Stones appear bedded on coarser grained (sandy/gritty) sediments.
Archaeological materials:	Historic bottles (left in-situ)
Remaining questions:	Nature of Neolithic activity in the vicinity; date of crannog?
Canmore URL:	http://canmore.org.uk/site/4522

There is no publicly available bathymetric data for Loch na Claise. Matthews (2022), however, who carried out coring in the loch, described it as 300 m wide by 500 m long (see ibid, Figure 5 & 7) with water depths in the range of 2-3 m. This was shown to be the case, when both snorkelling and diving were undertaken. No material culture beyond modern material was identified by our survey.

The islet is roughly circular with a diameter of c. 15 m (Figure 2, bottom). This extends out by another c. 2 m underwater. The surface of the islet is covered in stones, with a depression towards the centre. The sides of the islet are well faced and in places near vertical. The stones of the crannog appear to sit on a coarser grained (sandy/gritty) sediment on the loch margin. This gives way within 5 m of the current islet onto very soft sediment. There is a causeway at the northern edge of the islet connecting it to the shore. The water surrounding the northwest of the islet (up to the causeway) is very shallow and had significant reed growth during our visit. The team were confident that sufficient time was spent on site for the methods being used to have discovered surface material if it had been present. As such, any further investigation at this site would require invasive (coring or excavation) methods.

Loch na Garbh Uidhe

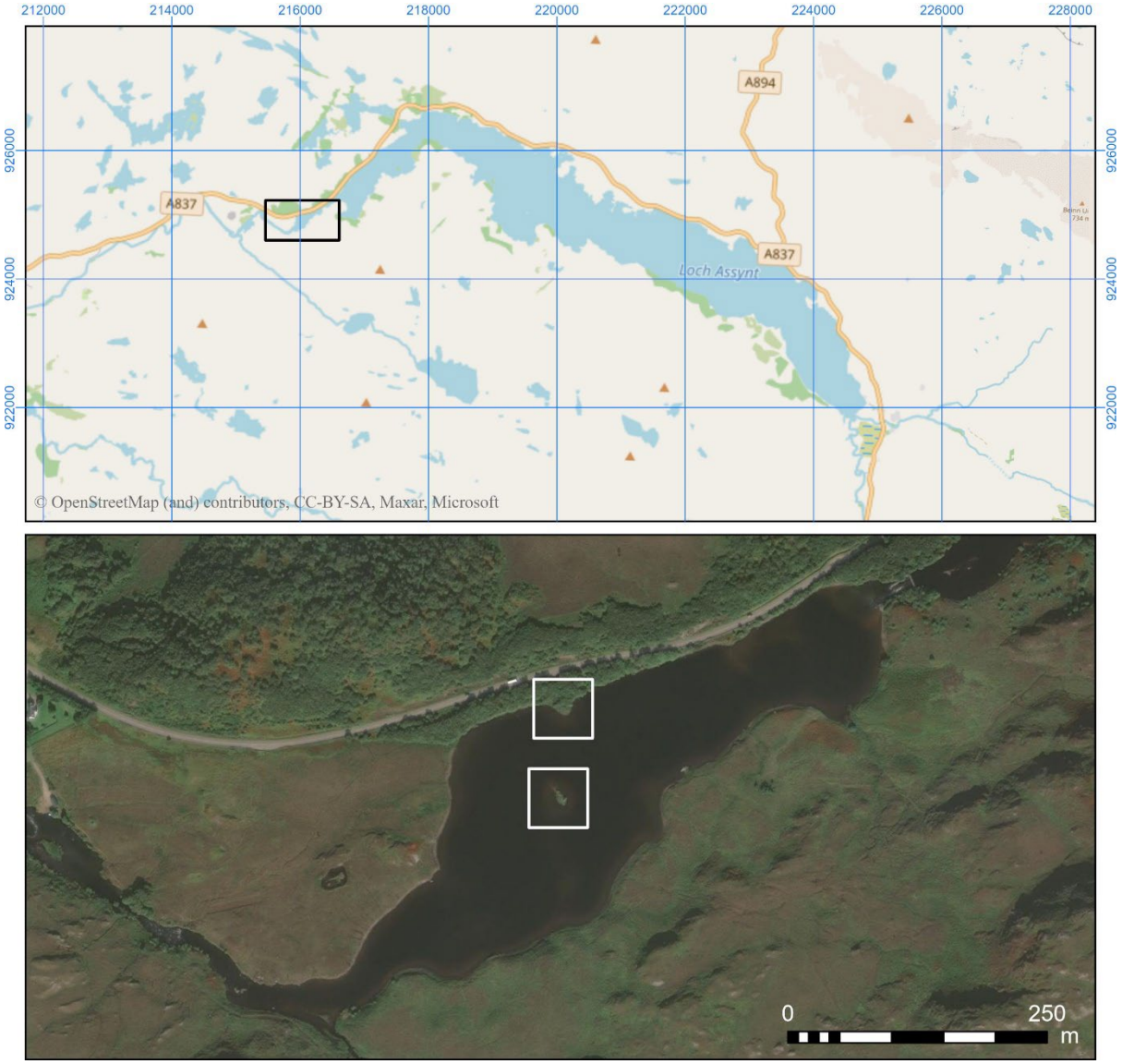

Figure 3 Top: Map showing location of Loch Assynt, Bottom: Location of Loch na Garbh Uidhe (peninsula) and unrecorded island to the south, note the dam to the northeast of the loch

Site name:	Loch Assynt
Loch name:	Loch na Garbh Uidhe
Canmore ID:	4536
Grid Reference:	NC 16032 25018
Region:	Assynt
Date visited:	14/07/24
Activities undertaken:	Snorkel survey, aerial imagery
Islet description:	Possibly natural feature c. 13m in diameter at the edge of the loch.

Loch description:	Small loch formed through the outflow of Loch Assynt. The strong flow of water has carved a deep central channel, with islets found on shallow margins in water less than 1m deep.
Sediment description:	Coarse grained sediments deposited at loch edges and around existing features.
Archaeological materials:	Historic bottles (left in-situ)
Remaining questions:	Are they anthropogenic sites or (as thought) natural features?
Canmore URL:	http://canmore.org.uk/site/4536

This site is recorded as a potential crannog. At the time of our visit the feature identified on Canmore was a semi-circular protrusion, extending from the shore c. 13 m and running c. 13 m along the shoreline (Figure 3). It is formed of small rocks in a similar way to the surrounding loch margin. It thus appears to be either natural, or possibly a modified natural spur (Figure 4). No material culture was found, and the spread of stones continues for c. 10m underwater.

Figure 4 The possible crannog from the south

There is a small islet c. 40 m to the southwest. This was also investigated in case a mistake had been made in either recording or locating the possible crannog. This islet was oval in shape, c. 20 m long (running northwest/southeast) and 7 m wide (Figure 5). Again, there were a distribution of stones

around the islet, some of which could have been arranged, but the overall impression was of a possibly minorly modified natural feature, rather than anything more formally anthropogenic. This is supported by UAV imagery, which shows the shallow, sand ridge on which the island is located.

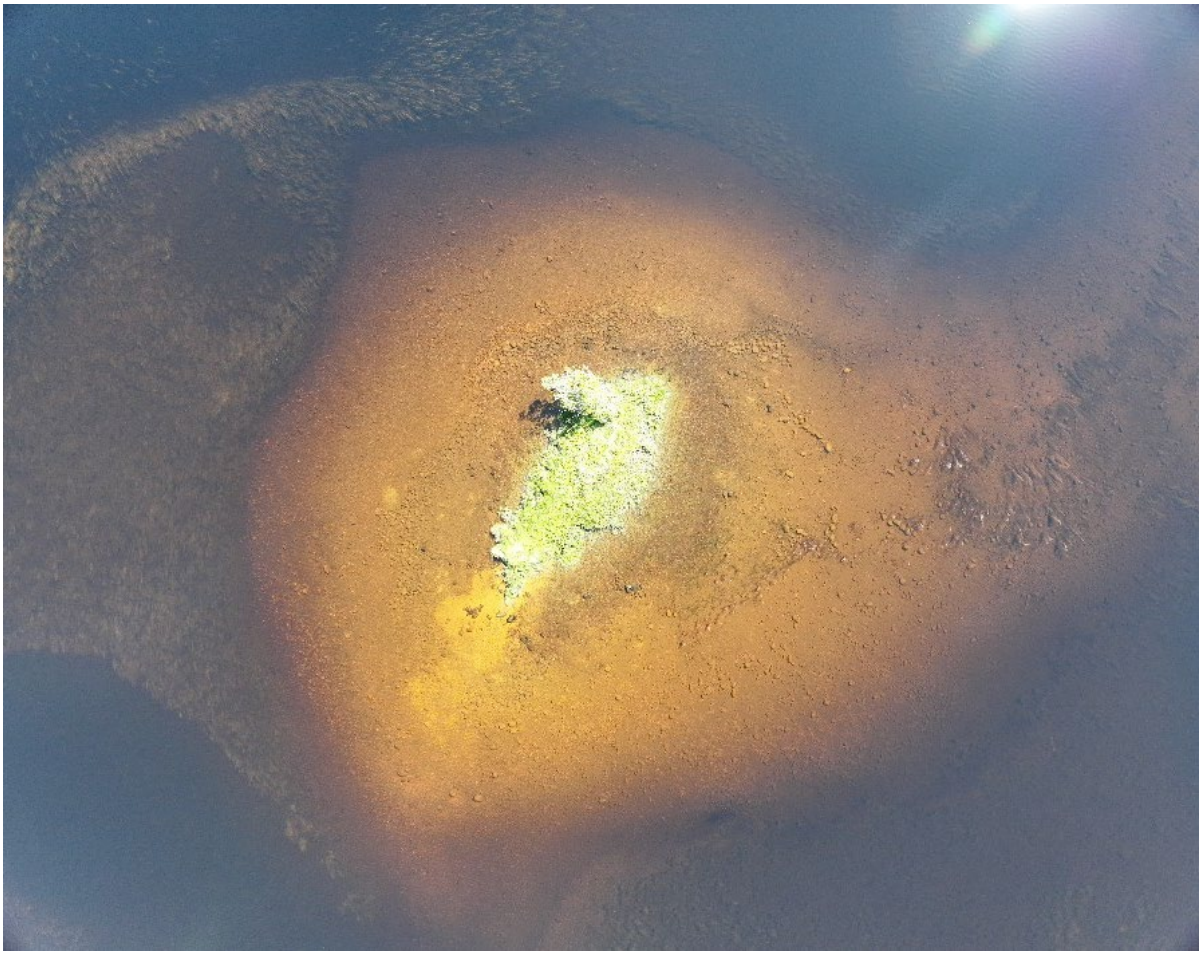

Figure 5 Islet observed to south of location marked as possible crannog. Note the sand ridge on which the islet sits

Both islets sit along the edge of what can be a fast-flowing current, the result of the outfall to the northeast from the dam that separates this portion of water from the larger extent of Loch Assynt. Whilst swimming down this body of water a significant variation in water depth was visible, with a deep channel cut into the central section of the loch.

Loch Awe

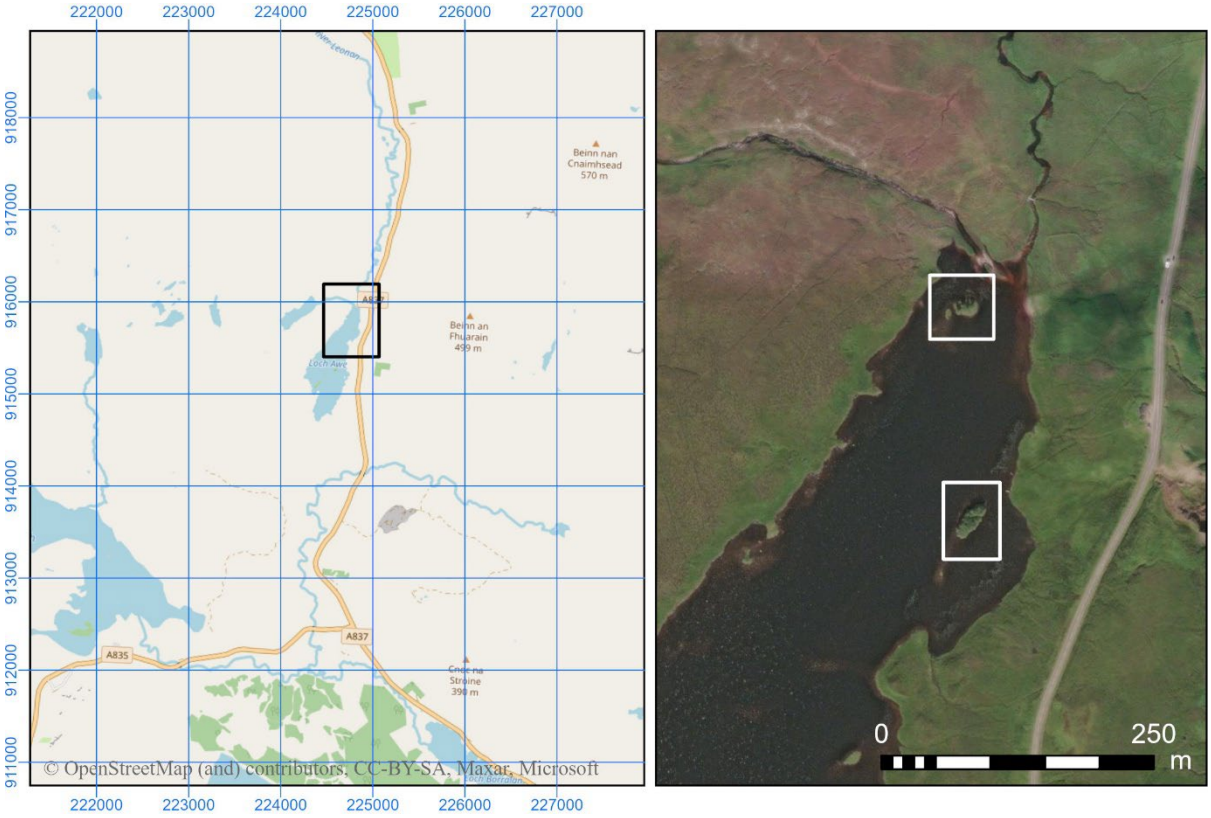

Figure 6 Left: Map showing location of Loch Awe, Right: Location of islands in Loch Awe – 4621 to the north & 310385 to the south

Site name:	Loch Awe
Loch name:	Loch Awe
Canmore ID:	4621 & 310385
Grid Reference:	NC 2480 1589
Region:	Assynt
Date visited:	15/07/2024
Activities undertaken:	Snorkel survey, aerial imagery
Islet description:	4621 is a small oval stony islet c. 15m in diameter at the northern end of the loch. 310385 is a lozenge shaped islet to the south of 4621, c. 38m long and 13m wide.
Loch description:	1km long and 350m wide. A shallow loch, with maximum depth c. 2m.
Sediment description:	Stones appear bedded on coarser grained (sandy/gritty) sediments, with softer sandy/silty alluvial deposits washing in from the north.
Archaeological materials:	Historic bottles (left in-situ)
Remaining questions:	Anthropogenic use and date of 4621?

Canmore URL: http://canmore.org.uk/site/4621
https://canmore.org.uk/site/310385/

Canmore site 4621 is a small islet at the northern end of the loch (Figure 6). It is comprised of stones similar to the surrounding loch margins. The island forms a nearly uniform circle to the east, which extends into a tear drop to the west. The oval shape is redolent of crannogs, but no further indications of anthropogenic status could be found. The output from the nearby stream has covered the northern and eastern extent around the island with a deep sandy/silty alluvial deposit (Figure 7). This, along with substantial vegetation, may have obscured any material culture in this area. Although none was encountered during the survey, there is a possibility that it exists deeper in the loch bed sediments.

Figure 7 Site 4621 from the east – note the circular form comprised of small portable stones, as well as the location of stream outlet and vegetation growth to the north

Around 180 m to the south is Canmore site 310385, a lozenge shaped islet lying close to the loch shore. The island is heavily vegetated and surrounded by small stones (Figure 8). These stones continue as a 'tail' from the islet to the southwest. To the east of the island the water shallows significantly towards the shoreline and is filled with vegetation. Overall, the islet appears to be natural. No finds were made.

Figure 8 Lozenge shaped island from the north. Note the heavy vegetation on the island which prevented adequate survey

EILEAN AN TIGHE

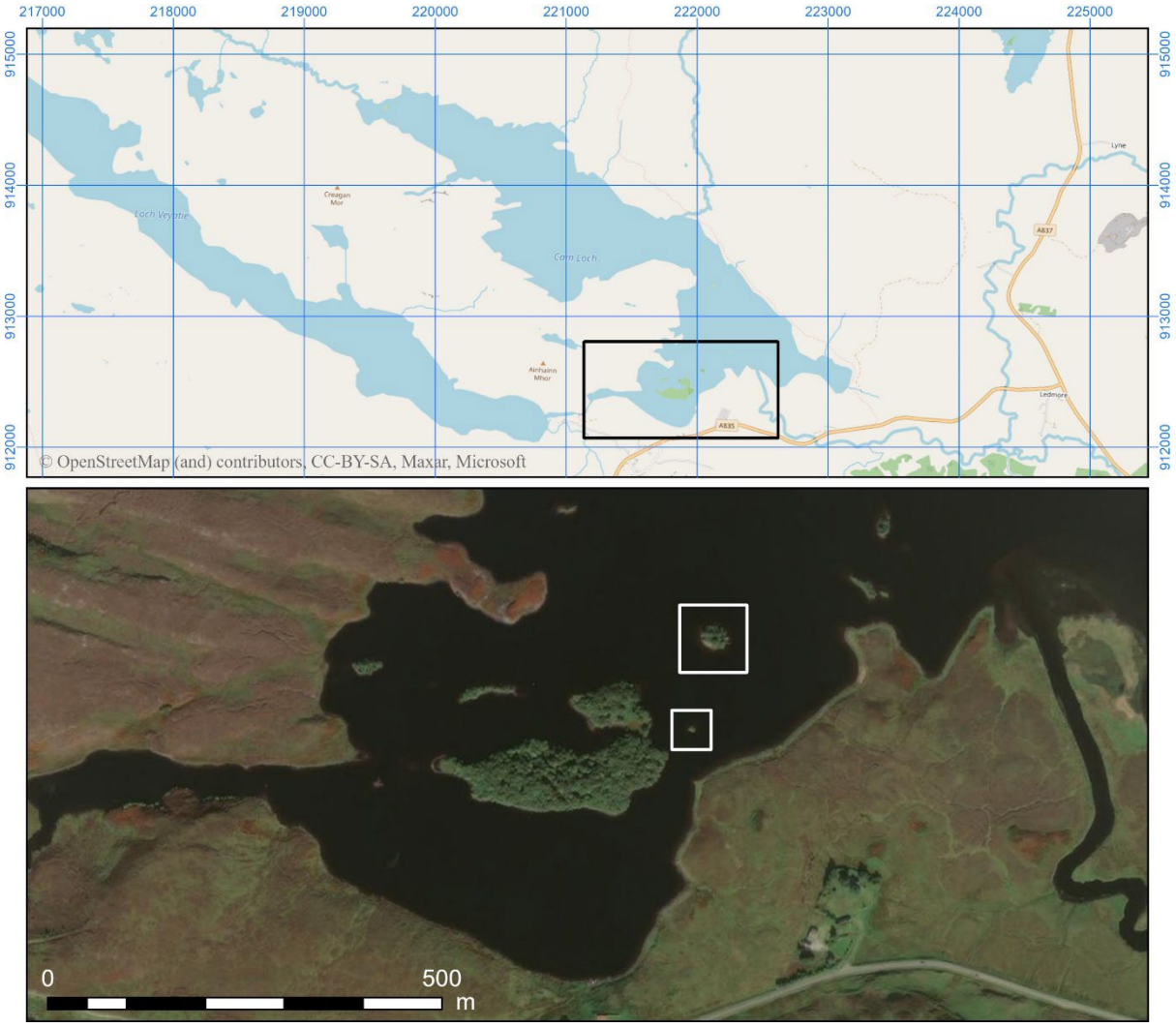

Figure 9 Top: Map showing location of Cam Loch; Bottom: Location of Eilean an Tighe (larger island) and unrecorded smaller island to the south

Site name:	Eilean An Tighe
Loch name:	Cam Loch
Canmore ID:	4635
Grid Reference:	NC 2203 1258
Region:	Assynt
Date visited:	15/07/2024
Activities undertaken:	Snorkel survey, aerial imagery
Islet description:	A circular islet c. 27m in diameter, a clear boat noost on the eastern edge.
Loch description:	Cam Loch is c. 4.5km long (northwest/southeast) and c. 1.2km at its widest. Islands are found in the southwestern lobe of the loch.

Sediment description:	Stones are overlying courser grained sediments.
Archaeological materials:	none
Remaining questions:	Is this a crannog that was later modified? Should the smaller islet also be recorded as a crannog?
Canmore URL:	http://canmore.org.uk/site/4635

The identification of this site as a possible crannog is understandable. It is very circular in shape and rests on a substantial stone mound that drops away sharply c. 4-6 m from the exposed edge of the island. The stones on which the island rests are of variable size and the stones that comprise the island are graded. Smaller stones are visible around the edge of the island and extending underwater, while larger stones can be seen on the surface, perhaps the remains of a stone superstructure (Figure 10). The site is largely overgrown today so little could be distinguished on the surface. A boat noost is evident on the eastern edge of the island. It is just deep enough for a person to swim in and is filled with sandy/gritty sediments and pebbles, deposits not visible elsewhere around the island.

Figure 10 UAV image from the southwest, showing submerged stone mound on which the island sits and graded stones on the surface of the island

No bedrock or large boulders were detected, and the island appears to be artificial. Whether the island was built with or later modified to include the boat noost is unclear (Figure 11). Modern rubbish (bottles and a golf ball) was noted, but no archaeological finds were encountered. As such, the anthropogenic use and date(s) of the site remain unknown.

Figure 11 Top down image of island. Note the boat noost to the east

A small islet was passed on the way to investigate the recorded island and was also inspected. It is around 55 m from the shore and sits c. 100 m to the SSW of site 4635 (Figure 9). It appears to likewise rest on a mound of stones which drop away c. 2-3 m from the exposed edge of the islet, although the surrounding loch bed is shallower than the recorded islet (Figure 12). The islet is much smaller in size, but its surface is also obscured by vegetation. Although no surface remains could be distinguished and no finds were made, the islet does appear to be largely or entirely artificial**.**

Figure 12 Small islet from the north. Note the submerged stone mound on which the islet rests, as well as the vegetation obscuring the surface

Loch Borralan

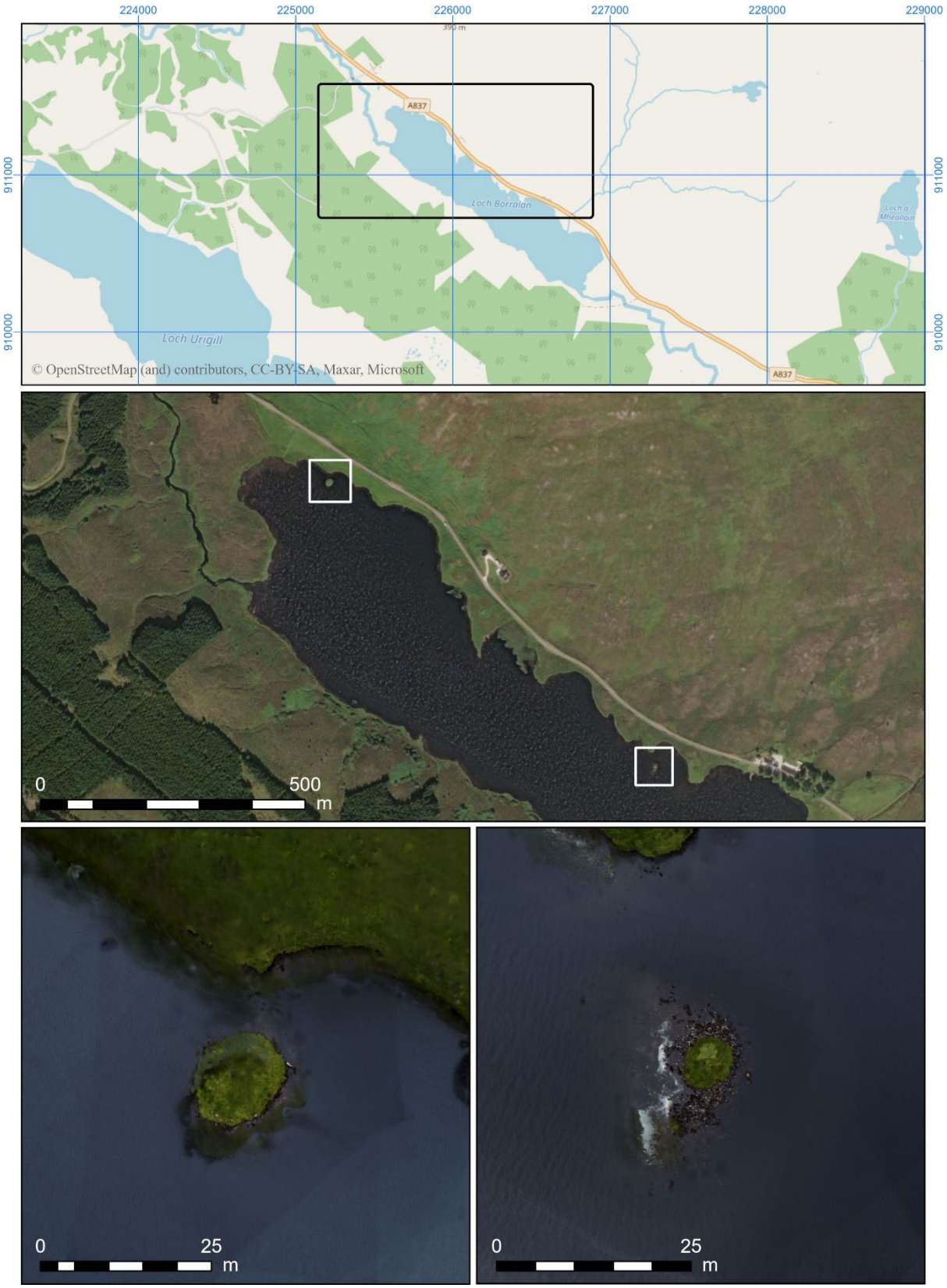

Figure 13 Top: Map showing location of Loch Borralan, Middle: Location of two islands in Loch Borralan, Bottom: Orthomosaics of site 4629 (left) and 310447 (right)

Site name:	Loch Borralan
Loch name:	Loch Borralan
Canmore ID:	4629 & 310447
Grid Reference:	NC 2574 1138
Region:	Assynt
Date visited:	16/07/2024
Activities undertaken:	Snorkel survey, aerial imagery
Islet description:	4629 is a fairly circular, likely artificial island comprised of small stones with low vegetation on top. 310447 is an incoherent pile of stones, likely natural with some vegetation
Loch description:	The loch is c. 1.6 km long and around 350 m at its widest (northwest/southeast)
Sediment description:	Both islands were surrounded by a thin sandy/gritty sediment. 4629 was also surrounded by a deeper sandy/silty sediment, likely due to in-washing and vegetation growth
Archaeological materials:	None
Remaining questions:	Anthropogenic use and date of 4629?
Canmore URL:	http://canmore.org.uk/site/4629 https://canmore.org.uk/site/310447

There are two crannogs recorded in this loch. Site 4629 lies at the northern end of Loch Borralan (Figure 13). The island is c. 14 m in diameter and reachable on land via a causeway at its northern end (Figure 14). The islet is comprised of small stones which extend into the water to a depth and distance of c. 2 m. Both snorkel and scuba survey were carried out to adequately investigate the base of the stone island, but no finds were made. However, the water in the loch is peaty and visibility was very poor. In addition, the margins of the underwater stones are covered in a deposit of silts, likely in-washing from a nearby stream, to a depth of c. 30-40 cm. Given that the islet does appear to be largely or entirely artificial in construction, there is a possibility that artefacts may exist deeper in the stratigraphy.

Figure 14 Site 4629 from the southeast

Site 310447 is mid-way along the loch close to its northern shoreline and near the modern hotel (Figure 13, middle). The islet is comprised of an irregular scatter of stones that are embedded in thin sandy/gritty sediments. It is likely natural, and the only finds were modern rubbish (bike tyres, belts and bottles).

Figure 15 The likely natural islet from the north

CONCLUSION

We had set out with the hope, rather than expectation, that this short, targeted survey would find a crannog with Neolithic origins in mainland Scotland. The indicators from Lou Matthews's work at Loch na Claise were as good an indication as can be had, but sadly the results were negative. However, our experience from the Outer Hebrides means that these results are, to some extent, not a surprise.

Of the 34 islands investigated across North Uist, Benbecula and South Uist in 2022, only 13 produced any materials and only three Neolithic materials. We know that our inability to find materials at some sites does not mean they do not exist, especially those exhibiting thicker deposits of finer-grained sandy/silty/alluvial sediments. What this work combined with our 2024 surveys show is the importance of longitudinal and wide-ranging surveys. To better understand crannogs we need to survey a greater number of sites. We also need to gather a greater variety of data.

During both our 2024 and 2022 investigations, we were struck by the large number of sites that did not produce artefacts of any kind; often these appeared as small cairns placed on solid loch bed deposits in shallow water. Our thorough investigation of these sites left little possibility that any materials exist – unless buried at the centre or bottom of the cairn – but regardless suggesting a use of these sites that is different to those traditionally indicated by Neolithic 'ritual' or Iron Age domestic deposits. These sites raise many questions about the date and use of these object-sterile islets. The only way to truly investigate these sites is through excavation and/or coring, if possible, allowing examination of stratigraphy and construction sequences as well as possible direct dating. While the results of this season were not what we might have hoped for, they pose more questions for much needed future research.

Additional materials relating to this work and that emerging from the broader project can be accessed via the Archaeological Data Service (ADS):
https://archaeologydataservice.ac.uk/archives/collections/view/1006332/index.cfm

ACKNOWLEDGEMENTS

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