



# Palaeoenvironmental assessment of the Arrochar/Tarbet isthmus

## Summary Report

22531

November 2013



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**Client:** Arrochar and Tarbet Community Development Trust; on behalf of the Hidden Heritage Project

**AOC Project No:** 22531

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**Illustration by:** N/A

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This document has been prepared in accordance with AOC standard operating procedures.

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## Abstract

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As part of the Hidden Heritage project a presentation in the Three Villages Community Hall, Arrochar provided community participants with provisional training in the sampling and assessment of deposits for specialist palaeoenvironmental analysis. Knowledge gained was consolidated through an afternoon programme of field walking, sediment probing and coring.

Sample extraction with a Dutch gouge and Russian corer demonstrated that the soft sediments in two areas of potential palaeoenvironmental significance consisted of water lain clays.

The potential of these deposits to contribute to understanding the vegetation history of the isthmus is considered low.

## 1. Introduction

AOC Archaeology Group was commissioned by the Arrochar and Tarbet Community Development Trust on behalf of the Hidden Heritage Project to undertake preliminary specialist palaeoenvironmental assessment of the low land on the isthmus between Arrochar and Tarbet. As part of the programme of works a presentation, "The Hidden Landscapes within Peat", was delivered to the local community group at the Three Villages hall by Dr Ciara Clarke, AOC Archaeology Group on November 3<sup>rd</sup> 2013. The talk provided a background on the archaeological and palaeoenvironmental potential of peat, training in the palaeoenvironmental assessment of peat, towards vegetation reconstruction, using pollen analysis and radiocarbon dating. Knowledge gained was consolidated through an afternoon programme of field walking, sediment probing and coring. The afternoon fieldwork was predicated on earlier reconnaissance work undertaken by AOC with members of the Hidden Heritage Project in September 2013.

## 2. Background

In September 2013 a rapid probing survey of the deposits to the south of the A83 between Arrochar and Tarbet identified soft sediments in excess of 1m deep.



*Plate 1: Rapid probing survey using steel peat probes.*

The survey highlighted two areas of possible palaeoenvironmental potential. The first area was situated to the south of the A83 opposite the *The Ballyhennan Restaurant and Bar*; the second area was located to the south of the intersection of the A83 with Church Road as the land begins to rise up the slope.

## 3. Methodology

In order to relocate the 1m+ of soft sediments identified during the September reconnaissance, a team of volunteers assisted in the systematic probing of the two general areas using steel peat probes. Once the location of the soft sediments had been identified again, a dutch gouge was used at both locations to extract a column of the sediment for closer examination.

At location 2 (Ballyhennan) sediment was also extracted using a Russian corer, primarily to train volunteers in the use of this specialist equipment.



*Plate 2: Volunteers assist with the probing and coring survey.*

#### **4. Results**

At both locations the soft sediments were seen to comprise of laminated silts and clays. No peat was identified.



*Plate 3: Dutch gouge chamber containing laminated silts and clays extracted from location 1.*



**Plate 4: Laminated clays from location 2 in chamber of Russian Corer.**

The sediments at both locations are characteristic of low energy depositional environments, likely flood plains, where fine particles of silt and clay settle out of suspension from sediment laden water.

Provenancing of the microfossil (particularly pollen and spores) content of the deposits would be difficult given the taphonomic complexities of fluvial deposits. Pollen present could derive from some distance from the point of deposition, carried by the flowing water. The deposits are not considered to be of high palaeoenvironmental potential towards understanding the Holocene vegetation history of the isthmus.

## 5. Discussion and Conclusions

The palaeoenvironmental assessment undertaken as part of the Hidden Heritage Project suggests that it is unlikely that the isthmus contains deposits suitable for understanding the vegetation history of the area during the Holocene.

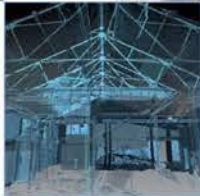
Earlier palaeoenvironmental analysis has been undertaken in adjacent areas, the closest of which is Dubh Lochan which is approximately 10km southeast of the isthmus, near Loch Lomond (Boyd & Dickson 1986; Stewart *et al* 1984). At this site two sets of cores demonstrate a classic expansion of post-glacial vegetation culminating in Oak forest with Alder and Birch. There is evidence of human activity from the time of the elm decline (4900 BP) onwards but with no substantial woodland clearance until the last 1000 years.

Fieldwalking in Glen Loin, at the lead of Loch Long adjacent to the Arrochar/Tarbet isthmus, suggests that peat may have accumulated within the palaeochannel /s in the glen and may provide a good repository of Holocene palaeoenvironmental information that could be used to towards reconstructing the vegetation history of the isthmus.

## 7. References

Boyd WE and Dickson JH (1986) Patterns in the geographical spread distribution of the early Flandrian *Corylus* rise in southwest Scotland. *New Phytologist* 102: 615-623.

Stewart DE, Walker A and Dickson JH (1984) Pollen diagrams from Dubh Lochan, near Loch Lomond. *New Phytologist* 98: 531-549.



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