

**Vegetation History, Human Impact and Climate Change During
Prehistory:
an Island Perspective of the Isles of Tiree, Coll and North-West
Mull**

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“I know not that I ever heard the wind so loud in any other place; and Mr Boswell observed, that its noise was all its own, for there were no trees to increase it.”

Samuel Johnson
A Journey to the Western Islands: Castle of Col
1775

**PhD Thesis
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June 2012**

ABSTRACT

Results of extensive site reconnaissance on the Isles of Tiree, Coll and north-west Mull, Inner Hebrides are presented. Pollen-stratigraphic records were compiled from a profile from Glen Aros, north-west Mull and from two profiles on Coll located at Loch an t-Sagairt and Caolas an Eilean. Quantification of microscopic charcoal provided records that were used to facilitate a preliminary evaluation of the causal driving mechanisms of vegetation change. Bayesian modelling of radiocarbon dates was used to construct preliminary chronological frameworks for these records.

Basal sedimentary deposits at Glen Aros contain pollen records that correspond with vegetation succession typical of the early Holocene dating to c. 11,370 cal BP. Woodland development is a key feature of the pollen records dating to the early Holocene, while records from Loch an t-Sagairt show that blanket mire communities were widespread in north-west Coll by c. 9800 cal BP. The *Corylus*-rise is dated to c. 10,710 cal BP at Glen Aros and c. 9905 cal BP at Loch an t-Sagairt, with records indicating extensive cover of hazel woodland with birch. All of the major arboreal taxa were recorded, though *Quercus* and *Ulmus* were nowhere widespread. Analysis of wood charcoal remains from a Mesolithic site at Fiskary Bay, Coll indicate that *Salix* and *Populus* are likely to be under-represented in the pollen records. Reconstructed isopoll maps appear to underplay the importance of alder in western Scotland during the mid-Holocene. Alder-rise expansions in microscopic charcoal dating to c. 7300 cal BP at Glen Aros and c. 6510 to 5830 cal BP on Coll provide records of significance to the issue of human-induced burning related to the expansion of alder in Britain.

Increasing frequencies in microscopic charcoal are correlated with mid-Holocene records of increasing aridity in western Scotland after c. 7490 cal BP at Glen Aros, 6760 cal BP at Loch an t-Sagairt and 6590 cal BP at Caolas an Eilean, while several phases of increasing bog surface wetness were detected in the Loch an t-Sagairt archive during the Holocene.

At least five phases of small-scale woodland disturbance during the Mesolithic period were identified in the Glen Aros profile dating to c. 11,650 cal BP, 9300 cal BP, 7840 cal BP, 7040 cal BP and 6100 cal BP. The timing of the third phase is coincident with evidence of Mesolithic settlement at Criet Dubh, north-west Mull. Three phases of small-scale woodland disturbance were detected at Loch an t-Sagairt dating to c. 9270 cal BP, 8770 cal BP and 8270 cal BP, all of which overlap chronologically with evidence of Mesolithic activity at Fiskary Bay, Coll. A number of these episodes are aligned chronologically with phases of Holocene climate variability such as the 8.2 K event.

Long-term reductions in woodland are recorded after c. 6400 cal BP. Deteriorating climate leading to autogenic changes in soils and an intensification of pastoral agriculture are linked to these reductions. An acceleration in the spread of blanket mire is recorded at c. 1970 cal BP at Loch an t-Sagairt and c. 1050 cal BP at Glen Aros marking an intensification in land-use pressures during the Early Bronze Age.