

# NATIVE BROAD-LEAVED WOODLAND ON LOCH LOMONDSIDE -- THERE IS MORE THAN JUST OAK

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## SUMMARY

The celebrated oak woods of Loch Lomondside have attracted a number of historical and ecological studies. This contribution to the proceedings highlights the presence of other broad-leaved woodlands, which to date have received far less attention.

## INTRODUCTION

The bonny banks of Loch Lomond are nationally, if not internationally famous for their oak woodlands, be it the remaining stands of the indigenous sessile oak *Quercus petraea*, or the commonly found hybrids which have come about through the practice of planting pedunculate oak *Q. robur* introduced from the south. Before the development of synthetic tanning agents, almost all of the oak woods in west central Scotland had been drawn into the production of bark essential to the leather trade in Glasgow and elsewhere. Coppicing the Lomondside oaks at regular intervals for their tan bark came to an end around the turn of the 20<sup>th</sup> century, the trees being allowed to resume uninterrupted growth towards the semi-natural high forest we are familiar with today.

Readily accessible, these former industrialised stands of oak on Loch Lomondside have become the most comprehensively studied by historians and ecologists of any in the country, but to the neglect of other species of broad-leaved trees present which together make up an equally important part of the region's woodland heritage. The present paper draws attention to some of these less well documented woodland types.



Fig. 1. Enclosed in the 1960s, the once virtually treeless hillsides of upper Glen Douglas now show a prolific expansion of birch.

### UPLAND PASTURE BIRCH WOODLAND

Beset by oceanic winds and heavy rains so characteristic of the mountainous West Highlands, the Lomondside oak woods running up from the loch-side begin to peter out well before the 300 m contour is reached. Birch *Betula pubescens* on the other hand is better suited to the poorer growing conditions of the higher slopes, with trees found up to the 450-500 m mark. However, unlike the birches within the enclosed low ground - which formerly had economic worth by providing tan bark or its wood used in the manufacture of thread bobbins - the trees growing above the protection of the head dyke have been continually subject to browsing by red deer *Cervus elaphus*, cattle, sheep and feral goats over a long period. As a result, regeneration of these upland stands has to a large extent been held in check. In one extreme case a presumed ancient high-level birch wood in upper Glen Falloch, which was investigated and described less than a hundred years ago, has since entirely disappeared.

Where these former hill grazings have been securely fenced against deer and domestic animals, the scattered remnants of this high level birch woodland have shown a remarkable capacity to recover and regain lost ground. Nowhere is this demonstrated more clearly than the Ministry of Defence's property at the head of Glen Douglas. Together with rowan *Sorbus aucuparia*, goat willow *Salix caprea*, etc., a covering of birch has spread over large areas of the enclosed land in less than half-a-century (Fig. 1).

### HOLLY UNDERSTORY

The evergreen holly *Ilex aquifolium* is a familiar shade-tolerant shrub or small tree occurring in most of the Lomondside oak woods. In the past, the fine-grained wood obtained from mature holly was much in demand for making the patterned blocks used in the hand printing of designs on linen and cotton, before the wood carver's art was gradually displaced by the engraved copper cylinder which greatly increased the output of printed cloth. A major source of holly for the Vale of Leven's textile print works was the Parish of Luss, almost certainly from the 'Forest of Hollies' near Aldochlay as shown on Charles Ross's 1777 map of the Colquhoun Estate. Regrettably, only a few of the surviving old trees (Fig. 2) escaped the recent felling which took place during the construction of a bypass to the village of Luss.



Fig. 2. A few veteran hollies are still to be found at Aldochlay near Luss.

Deer are especially partial to unhardened holly seedlings, and in the open Aldochlay woods no successful regeneration appears to be taking place. This contrasts with the encouragingly large number of young hollies springing-up inside the Forestry Commission and the National Trust for Scotland's woodland enclosures between Rowardennan and Ardess on the east side of the loch.

### ASH AND WYCH ELM MIXED STANDS

Whereas birch and holly can be found scattered throughout the Lomondside woodlands, mixed stands of ash *Fraxinus excelsior* and wych elm *Ulmus glabra* are confined to where there are pockets of mineral-flushed soils. Ash can be seen to advantage in some of the red sandstone ravines, alongside streams and in particular below the crumbling calciferous cementstones exposed in the Scottish Wildlife Trust's reserve at Ballagan Glen. But for an area that was once known as *Leamanonius Lacus* – or Lake of the Elms – today on Loch Lomondside the wych elm is decidedly scarce. Although elm timber had a number of marketable qualities, it was evidently not profitable enough for woodland managers to ensure young trees were planted as replacements for those taken out.

With growing on the more calcareous soils, ash and wych elm are understandably often associated with the presence of a rich ground flora, such as occurs on Creinch in the Loch Lomond National Nature Reserve administered by Scottish Natural Heritage. This small island's plant list includes several species which have few other known localities in the Clyde area.

### ALDER WOODS OR CARR

The moisture-loving alder *Alnus glutinosa* is widespread throughout the lower ground wherever drainage water gathers towards the bottom of a slope. Linear stands can also be found in many places along the periodically inundated shore zone of the loch. On examination, it soon becomes apparent that virtually every one of the region's alder woods is made up of multi-stemmed re-growth from cut stumps (Fig. 3), with few if any untouched maiden trees. Writers on woodland history never fail to mention that alder was the first choice for conversion to the high-grade charcoal necessary in the production of gun powder, but on Loch Lomondside it is more likely that most of the trees were cut by 19<sup>th</sup> c. 'cloggers'. These itinerant bands of woodcutters harvested the water-resistant material for making the wooden soles of cheap and durable footwear much favoured by mill and factory workers.



3. Secondary growth from trees felled in the past is typical of Loch Lomondside's alder woods.

Field observations on Lomondside's introduced population of fallow deer *Dama dama* have shown that the animals appear to find alder unpalatable, which would account for the alder's dominance over other tree species in large areas of the one-time fallow deer parks on two of the islands in the loch - Inchlonaig and Inchmurrin.

## **FLOOD WILLOW WOODLAND**

Located at the interface between land and water, where flooding from river or loch is a regular occurrence, grey willow *Salix cinerea* ssp. *oleifolia* – interspersed with alder, birch and occasional oak – dominates this primeval-looking woodland (Fig. 4). The few examples present on Loch Lomondside today represent the last vestiges of an alluvial forest that must have covered large tracts of the region’s low-lying flood plains before agriculturalists began clearing away the trees and draining the land to exploit the rich productive soil.



Fig. 4. In standing water for prolonged periods and only ever partially drying out, flood willow has become one of Britain’s most uncommon woodland types.

Supporting a wealth of marsh/aquatic flora and fauna, which includes species with very restricted distributions in Britain, the most extensive stand of flood willow beside the lower reaches of the River Endrick has an especially high conservation value. Like Creinch, these woodlands form part of the Loch Lomond National Nature Reserve.

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## **FURTHER READING**

Mitchell, J. (2001). *Loch Lomondside: Gateway to the Western Highlands of Scotland* (New Naturalist No.88). Harper Collins, London.