

Site Name: Bryn Mawr

Grid Reference: SN 855720

RIGS Category: Scientific

Earth Science Category: Quaternary & Geomorphology

Geology 1:50,000: BGS Sheet 179, Rhayader

RIGS Statement of Interest:

Bryn Mawr is an upland rain-fed mire situated at an altitude of c. 510m OD in the Cambrian Mountains, 13 km west of Rhayader and 15 km south-west of Llanidloes. Pollen, radiocarbon and stratigraphic evidence from the site provides one of the most significant dated records of vegetational and environmental changes during the Holocene (c. 10,000 years Before Present (BP)) in upland Wales. It provides an important comparison site of conditions in the uplands of Central Wales, with those prevalent at the nearby lowland site of Tregaron Bog.

Pollen analysis of the deposits at Bryn Mawr has shown that by c. 8870yrs BP hazel was beginning to expand into a landscape already dominated by open birch woodland. This was followed shortly after by the arrival of oak and elm, which marked the beginnings of a landscape dominated by mixed deciduous woodland. The occurrence of charcoal fragments in the peat deposits reveals the first indications of small-scale clearance of the landscape by humans at c. 8080yrs BP, during the early Mesolithic. An expansion of alder c. 7400yrs BP suggests the onset of damper conditions in the vicinity of the site. This was followed by a rapid expansion in heathland c. 6230yrs BP, and a reduction in woodland cover, with increasing evidence of human activity from the late Mesolithic onwards, and includes a very clear record of the 'classical' elm decline at the onset of the Neolithic period (c. 5000yrs BP). More extensive woodland clearance is evident from the mid-late Bronze Age (c. 3275yrs BP), with an open landscape firmly established by the Iron Age (c. 2450yrs BP), and by the Roman period c. 1200yrs BP the pattern of vegetation probably closely resembled that of the present-day landscape.

The site is also significant for providing evidence of volcanic ash (tephra) deposition in the uplands of Central Wales. A tephra layer of probable Icelandic origin has been recorded at a depth of 280-281 cm in the Bryn Mawr deposits (Buckley 2000). An age of c. 5945 yrs BP has been suggested for this event, which correlates with similar deposits found in Scotland and northern Ireland.

Surveyed by: S. E. Jones