COUNTY: CHESHIRE SITE NAME: ABBOTS MOSS

DISTRICT: Vale Royal SITE REF: 15WAT

Status: Site of Special Scientific Interest ((SSSI)) notified under Section 28 of the Wildlife and Countryside Act, 1981 as amended

Local Planning Authority: CHESHIRE COUNTY COUNCIL, Vale Royal Borough Council

National Grid Reference: SJ 594687, SJ 598691, SJ 601687 Area: 38.98 ha.

Ordnance Survey Sheet 1:50,000: 117, 118 1:10,000: SJ 56 NE, SJ 66 NW

Date Notified (Under 1949 Act): – Date of Last Revision: –

Date Notified (Under 1981 Act): 24 June 1984 Date of Last Revision: 30 September 1994

Other Information:
Site boundary extension and reduction. Part of the site is listed in 'A Nature Conservation Review' edited by D A Ratcliffe, Cambridge University Press, 1977. Part of the site is managed as a nature reserve by Cheshire Wildlife Trust. Proposed Ramsar site.

Site Description and Reasons for Notification:
The meres and mosses of the north-west Midlands form a geographically discrete series of nationally important lowland open water and peatland sites. The finest examples are considered to be of international importance. They have developed in natural depressions in the glacial drift (sands and boulder clays) left by the ice sheets as they retreated from the Cheshire-Shropshire Plain some 15,000 years ago. The majority lie in Cheshire and north Shropshire, with a small number of outlying sites in adjacent parts of Staffordshire and Clwyd.

The origin of most of the hollows can be accounted for by glaciation but a small number have become deepened by more recent subsidence resulting from the removal in solution of underlying salt deposits.

More than 200 hollows are scattered individually or in localised clusters across the Plain. Their size varies widely, ranging from less than a hectare to 70 hectares, with depth ranging from about one metre to 30 metres.

Although the majority of the meres are nutrient-rich (eutrophic) the water chemistry is very variable, reflecting the variable nature of the drift deposits surrounding each site. Both water chemistry and depth influence the development of associated fringing habitats such as reed-swamp, fen, carr and damp pasture. The different emergent and terrestrial plant communities which have developed at each mere are important to our understanding of how environmental factors affect vegetation succession in open water.

The development of swamp and carr causes the accumulation of peat which in some cases has led to the complete infilling of the basin. Eventually the vegetation growing on the peat surface becomes raised above the surrounding ground water and, supplied only by rainwater, becomes nutrient poor (oligotrophic) and acidic, thus allowing species such as the bog mosses *Sphagnum* spp. to colonise it. Hence, over many thousands of years, some meres have developed into mosses, and an invaluable record of the detail of this process is preserved in the layers of peat and mineral sediments. In a few unusual cases, where the water surface becomes directly colonised by floating vegetation and then Sphagnum mosses, a quaking bog known as a 'schwingmoor' is formed.

Abbots Moss SSSI is a complex acidic wetland site within Delamere Forest, an extensive area of glacial sands towards the north of the Cheshire plain. It is of particular importance nationally because of the presence of two large basin mires, South Moss and Shemmy Moss, one draining into the other, and a series of small peaty hollows or pools showing various types and stages of mire development. The site contains the drier sandy catchments of the mires which typically support heathland relics and open semi-natural woodland.

A mature schwingmoor has developed in both of the major basins and the underlying water lenses are becoming infilled by loose peat. The floating surfaces are dominated by common cottongrass *Eriophorum angustifolium* and cranberry *Vaccinium oxycoccos* in a carpet of the bog moss *Sphagnum recurvum.* South Moss is more varied botanically than Shemmy Moss owing to the presence of distinct wetter and drier areas, the latter with more heather *Calluna vulgaris* and cross-leaved heath *Erica tetralix*.

A number of uncommon species occur at both mires, for example, round-leaved sundew *Drosera rotundifolia*, crowberry *Empetrum nigrum*, hare's-tail cottongrass *Eriophorum vaginatum*, bog-rosemary *Andromeda polifolia* and white beak-sedge *Rhynchospora alba.* Firmer parts of the mires have been colonised by birch *Betula pubescens* and Scots pine *Pinus sylvestris*.

To the north of the disused railway which traverses the site are a series of acidic, nutrient-poor, peat-stained *oligotrophic/dystrophic* pools. These pools display several different biological processes involved in the development of mire from open water.

Gull Pool, to the north-east, is the largest. Sharply contrasting communities are found in its two parts which have developed separately since the construction of the railway embankment. To the south, the very shallow depression has rapidly developed a hummocky, *Sphagnum recurvum* lawn with abundant cranberry, very like the larger Shemmy and South Mosses. However, to the north of the embankment, mire development has been slight, leaving a large area of open water which is dominated by the aquatic moss *Drepanocladus fluitans.* Emergent vegetation is confined to a narrow margin, dominated by soft-rush *Juncus effusus* and the mosses *Sphagnum recurvum* and *Polytrichum commune*, with marsh pennywort *Hydrocotyle vulgaris* and bottle sedge *Carex rostrata*; willow *Salix* spp and, to a lesser extent, birch colonise its landward edge.

Lily Pool is much deeper, and although acidic, accumulates more nutrients from its catchment, and schwingmoor is developing in a different way. The water surface has beds of white water-lily *Nymphaea alba* and enlarging rafts of *Sphagnum* mosses. The water's edge is much steeper than in Gull Pool, but. there has been more peat development, with a broad marginal lawn of *Sphagnum* which in places coalesces with the floating rafts. Lesser bladderwort *Utricularia minor*, a Cheshire rarity, is abundant around the edges of the rafts.

The mosaic of open water and peatland habitats together with fringing heathland and woodlands, prove extremely attractive to invertebrates. Gull Pool is the County's most important dragonfly and damselfly site. Fourteen species have been recorded (with breeding confirmed for eleven species) including the nationally rare whitefaced-dragonfly *Leucorrhinia dubia*, and the downy emerald *Cordulia aenea* and black darter *Sympetrum danea* which are both rare in Cheshire.

One hundred and forty-eight species of spider, including two national rarities, have been recorded from South and Shemmy Mosses.

The Abbots Moss complex is one of only two known sites in Cheshire for adders *Vipera berus*, a protected species.