COUNTY: CHESHIRE SITE NAME: LINMER MOSS

DISTRICT: VALE ROYAL SITE REF: 15W9X

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 547707 Area: 2.35 (ha.) 5.81 (ac.)

Ordnance Survey Sheet 1:50,000: 117 1:10,000: SJ 57 SW

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

Date Notified (Under 1981 Act): 29 September 1994 Date of Last Revision: –

Other Information:
New site. Proposed Ramsar site.

Site Description and Reason 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 not 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.

Linmer Moss lies in a steep-sided asymmetrical basin within the extensive glacial sands of Delamere Forest. Although small, it is particularly important for the fen community at its

centre which is unlike the typically *Sphagnum* dominated communities of other basins throughout the Delamere cluster of peatlands.

The development history of the site has been shown to be complex, including a period around 1600 when its open water was used for washing flax, and more recently when birch and *Sphagnum* were known to dominate the wettest central area. Drainage from the basin is aided by a drainage system outflowing to the south-west, which has periodically become blocked bringing about rapid changes to water levels and water quality. Studies of peat cores from the site suggest that buoyant surface layers separated from firmer underlying peats when water levels rose, leaving an inundated floating raft with semi-fluid zones beneath.

Under these very unusual conditions the vegetation has become dominated by greater tussock-sedge *Carex paniculata* with reedmace *Typha latifolia* and several patches of marsh fern *Thelypteris palustris*, a county rarity. Also notable are small areas of *Sphagnum squarrosum* with marsh cinquefoil *Potentilla palustris* and scattered white sedge *C. curta*, marsh bedstraw *Galium palustre* and cuckooflower *Cardamine pratensis*. There is also a small patch of heather *Calluna vulgaris* and bilberry *Vaccinium myrtillus*, possibly a relic of the pre-flood community. Likewise the extensive birch cover of earlier times became flooded and died, leaving today's standing and fallen dead trunks which have been replaced by maturing alder *Alnus glutinosa* and willows *Salix spp*. which continue to colonise the fen.