

Mires in danger in Western Europe

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The mires of Western Europe are perhaps the major type of habitat in the region that is of global importance for conservation. They are as well represented in Europe as in any other part of the world, with many distinct and unique types surviving. Mires, wherever they occur, are being destroyed at ever-increasing rates, and measures for their conservation need to be effectively co-ordinated at regional and international levels. The author, who is Symposium Secretary of the International Mire Conservation Group, describes the problems faced by mires in Europe.

The term 'mire' embraces all wetlands that are peat-forming. The variation within this broad category is immense, reflecting primarily the underlying geology, topography, rainfall and species composition. As yet, no universally accepted system has been devised to classify mires, and so it remains difficult to compare and assess these important habitats for conservation purposes. As a broad subdivision, bogs are nutrient-poor mires, dependent on rainfall and other forms of precipitation for their mineral input, whereas fens are supplied by nutrient-enriched surface water. As a result of differences in nutrient supply, different types of mires can have quite different kinds of peat-forming vegetation.

In general, fens are botanically the richest type of mire, with the greatest plant species diversity. Of all the mire types, nutrient-rich fens have also been subject to the longest history of drainage for agriculture because of the relative fertility of the underlying peat. Calcareous fen is one of the most threatened habitat types in Britain, particularly the remaining undisturbed examples in the south-east. Six national plant rarities are associated with calcareous fen, the fen violet *Viola persicifolia*, fen orchid *Liparis loeselii*, Cambridge milk-parsley *Selinum carvifolia*, fen ragwort *Senecio paludosus*, and water germander *Teucrium scordium*.

Five of the 19 British plant species that have become extinct in the last 200 years have been species of bog and fen. The list includes an insectivorous plant, *Pinguicula alpina*, lost from Ross and Cromarty by agricultural reclamation, and an orchid, *Spiranthes aestivalis*, lost from sites in Hampshire and the Channel Islands by bog drainage and over-collection (Palmer and Newbould, 1983).

Vegetation studies are only one of the means by which mires are classified. Features of the peat-land surface, whether it is domed as in raised bogs, or has the complex mosaic of bog pools and fen seepages characteristic of blanket mire, are other important features taken into account. Unfortunately, attempts to classify mires for conservation purposes, even on a national scale, are frequently overtaken by advances in technology and changes in land-use policy, which result in the increasing pace of peatland loss. This has been seen clearly throughout Europe in recent years, and has brought mire conservation to the forefront of conservation campaigning in Ireland and Scotland.

In Scotland, both raised and blanket mires have been subject to unprecedented publicity and conservation concern over the last few years. Until recently these relatively remote habitats had been considered safe compared with the English fens

and had tended to be overlooked both by conservation bodies and for development. Now the traditional view of bogs as wastelands with little value is no longer allowed to rest unchallenged. The importance of mires as bird sites had become the focal point for conservation efforts, but at the same time the uniqueness, wilderness value and botanical importance of Scottish bogs are being increasingly appreciated. Bog plants that remain relatively common in Britain, such as the three native species of sundew (*Drosera*), are threatened with extinction in other parts of Europe and so their sites take on an international significance.

The battle over Duich Moss, the raised bog on Islay, has become a *cause célèbre* in Scottish conservation. The site was already classified as an internationally important Site of Special Scientific Interest (SSSI) when the fight for its future commenced in 1984. Part of the conservation importance of Duich Moss is due to the use of the raised bog by the Greenland white-fronted goose *Anser albifrons flavirostris*, one of Europe's rarest birds. This did not deter the Secretary of State for Scotland from granting planning permission to Scottish Malt Distillers Ltd for the extraction of peat at

the site, albeit with certain environmental conditions. Opposition to the destruction of Duich Moss, which would have resulted, has been strong. It has even led the European Commission to begin legal proceedings against the UK Government for breaching the EEC Directive on the Conservation of Wild Birds. The future of Duich Moss has still to be resolved, but already the mire has been damaged by preliminary work by the developers.

Perhaps of greater long-term concern is the loss of blanket mire, and particularly the extensive and unique peatland that forms the flow country of Caithness and Sutherland. The blanket mires of these two districts have only recently been surveyed by the Nature Conservancy Council, and only about 7 per cent of the habitat type has been notified as having SSSI status. Even this small proportion, officially recognized as being of conservation importance, can scarcely be considered safe in the face of intense pressures from private forestry in the area. Discussions have been taking place between the Scottish Development Department, the NCC and the Forestry Commission about the future of the flow country,



Dubh Lochs of Shielton in the flow country of Scotland (Richard Lindsay).

but no clear conservation policy has yet been devised that would protect the blanket mire landscape.

Only two National Nature Reserves have been declared in the flow country. Strathy Bogs is the NCC's oldest national nature reserve, dating back to 1949. It is now completely surrounded by coniferous plantations. The second blanket bog reserve, Blar nam Faileag, is managed under an expensive nature reserve agreement concluded in 1985. Additionally, some much broader system of land protection is required for Britain to protect the internationally important flow country. Britain has approximately 10 per cent of the world's remaining blanket mire, and the best examples are in Caithness and Sutherland. As a bird habitat alone the flow country is of great significance, with almost 70 per cent of Britain's greenshanks *Tringa nebularia* and 30 per cent of the dunlin *Calidris alpina* population. It is now important to protect the remaining area of the Caithness and Sutherland peatland system as a whole to maintain its internationally recognized ecological, wildlife and landscape values.

The future of Scotland's mires is in the balance, but may not yet be as bleak as the situation in Ireland, which originally had more peatlands for its area than any other European country except Finland. Raised bogs are the main mire type in the Irish midlands, and blanket bogs predominate in the wetter western and mountainous areas. A recent study by the Forest and Wildlife Service, Ireland's official conservation body, showed that of the 116 raised bogs surveyed, only 39 were suitable for conservation. It is estimated that, unless habitat destruction can be halted, all the raised bogs of Ireland will be lost within the next five years. Even now conservation work on Irish bogs is hampered by lack of comparative species and ecological information.

So far only two of Ireland's internationally important raised bog sites are being set aside for conservation. Clara Bog in Co. Offaly is now being acquired by the Department of Fisheries and Forestry as a result of long and intensive lobbying by conservationists. The other protected site is Mongan Bog, one of the Irish winter roosting sites for the Greenland white-fronted goose. Mongan Bog is the most intensively studied of Ireland's

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Bog rosemary, recently adopted as the county flower by one of Ireland's county councils, which has become interested in mire conservation (Richard Lindsay).

raised bogs. During recent field work three spiders and two moths new to the country were found there. The site is also botanically rich, with nearly 50 species of lichen alone. Mongan Bog will be managed for conservation by the voluntary group An Taisce. Through their work, the local County Council has taken up an interest in mire conservation and has decided to adopt bog rosemary *Andromeda polifolia* as the county flower.

Despite the cultural significance and historical importance of Irish bogs, voluntary groups such as An Taisce have been working largely in isolation within the country to save them. The national emphasis has until recently been very strongly in favour of peat exploitation. Traditionally this has been through turf cutters exercising their turbarry rights, and traditional peat cutting remains much more common in Ireland than in Scotland. Since the 1940s peat has also been heavily exploited on an industrial scale, primarily for use in power stations. Industrial extraction has been concentrated on the raised bogs of the midlands, whereas afforestation poses the greatest threat to blanket mires of western Ireland, as in the flow country of north-east Scotland.

The Irish Peatland Conservation Council (IPCC) was set up in 1982 to co-ordinate support and promote conservation action. From the start this group has looked for international support for its work. The plight of Irish bogs has now been

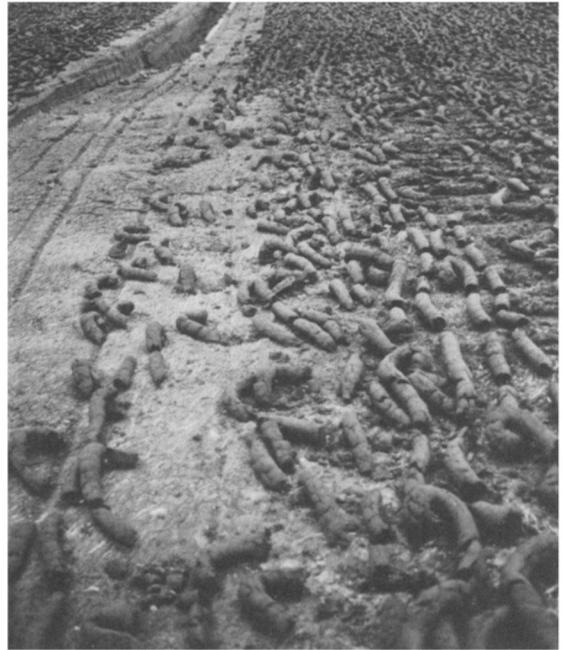
recognized both by the European Parliament and at a voluntary level by conservationists in the Netherlands. No doubt mindful of the loss of their own mires, the Dutch Foundation for the Conservation of Irish Mires is raising money to save endangered bogs in Ireland.

In contrast to the situation in Ireland, mire conservation in Scandinavian countries is relatively well developed. The same traditional pressures of peat cutting, grazing and drainage together with more intensive modern utilization exist, but national plans for the conservation of the best mire sites have been elaborated. In Finland, for example, the country that has the most diverse range of mires for its size anywhere in the world, about 5 per cent of the original peatland cover is protected or earmarked for conservation. The mire conservation sites include 22 that are internationally important, including unique European ecosystems.

The selection of peatland sites for conservation in Finland has been carried out under the comprehensive National Mire Protection Programme, which was initiated in 1979. The Programme has achieved considerable success where the mires are on state-owned land, but implementation of voluntary site protection has faltered where land is privately owned. As in Britain, the rich fens of southern Finland, which are important for a number of endangered plant species, are amongst the most severely threatened mire habitats. International interest in Finnish mires should help to maintain the conservation momentum.

International interest in mire conservation is now being co-ordinated at various levels. The Ramsar Convention obliges all signatory Governments to promote the wise use of wetlands in their territories, and an international wetlands conservation programme is being carried out jointly by the World Wildlife Fund and the International Union for Conservation of Nature and Natural Resources. Concentrating more specifically on mires, the International Mire Conservation Group (IMCG) was set up in 1984. After visiting Scottish mires in 1986 it has been campaigning for the protection of the flow country.

One of the priorities of the IMCG is to look at the



Peat exploitation on an industrial scale to provide fuel for power stations is destroying the raised bogs of the Irish midlands (Richard Lindsay).

international classification and assessment of mires for conservation purposes. In the short term, however, drawing attention to the imminent threats faced by particular sites takes precedence. Unfortunately, bogs are threatened in every country where they occur, and will continue to be lost until their conservation value is more widely appreciated. This will mean not only the loss of major bird sites, but the loss of habitats that have taken thousands of years to evolve, along with their specially adapted plants and invertebrates, and the loss of an important landscape heritage.

Reference

Palmer, M. and Newbould, C. 1983. *Wetland and Riparian Plants in Great Britain*. Focus on Nature Conservation No. 1. Nature Conservancy Council, Peterborough.

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