

CONSERVATION AND MANAGEMENT OF RAISED BOGS IN IRELAND

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SUMMARY

Irish raised bogs are a priority habitat for conservation under the European Union Habitats Directive. In Ireland only 10% of the original area of this peatland type contains active peat forming habitat. A conflict exists between peat cutters who own the sites and Government Agencies who have designated the sites for nature conservation. This review paper will analyse the state of the raised bog resource in Ireland, the methods used by government and non-governmental organisations to resolve the issue of private peat cutting on the designated sites, the issues needing to be addressed in relation to raised bogs in a peatland strategy for Ireland and the management work that is essential to restore designated sites damaged by peat cutting and drainage to favourable conservation status.

KEYWORDS: Conservation, Management, Raised Bogs, Ireland

INTRODUCTION

Raised bogs are dome-shaped massives of peat occupying former lakes or shallow depressions in the land surface. Generally raised bogs are discrete entities in the landscape, being circumscribed by low ridges and hills or river valleys. Occasionally, however, adjacent raised bogs can coalesce to form great complexes, which bury the intervening low ridges of mineral soil. Irish raised bogs are characterised by low-growing, open vegetation dominated by mosses (principally *Sphagna*), sedges and dwarf shrubs mostly of the *Ericaceae* (heather) family Cross (1990) all of which are adapted to waterlogged, acidic and exposed conditions (Fig. 1). Naturally functioning raised bogs provide a series of valuable services to mankind including flood control, water storage, carbon storage, a biodiversity refuge and a cultural and educational resource.

The Irish Peatland Conservation Council (IPCC) is a non-governmental organisation established in 1982. Their mission is to conserve a representative sample of the peatlands of Ireland for future generations to enjoy. Their strategy is documented in Ireland's Peatland Conservation Action Plan 2020 (Malone and O'Connell (2009)). In formulating such strategy IPCC continually monitor the status of peatlands of conservation importance within Ireland. The objective of this paper is to review the status of the raised bog resource in Ireland in 2012 and the steps taken to ensure the protection of sites to date. In addition this paper will conclude with a review of the issues that need to be addressed in the development of a Peatland Strategy for Ireland.



Fig. 1. The surface of Clara Bog, Co. Offaly in Ireland. This raised bog is one of 130 sites of conservation importance to be conserved for its habitat and biodiversity in Ireland. Only 10% of the original area of this peatland type contains active peat forming habitat in Ireland. Photo: C. O'Connell.

MATERIALS AND METHODS

The Irish Peatland Conservation Council maintains a database of the peatland sites of conservation importance in Ireland. The database was constructed in 1986 when the first action plan for the conservation of Irish bogs was published by the IPCC (Irish Peatland Conservation Council 1986). This database contains information on the designation status, management actions and threats to 191 raised bog sites listed for conservation. This information was consulted in the compilation of the technical component of this paper. The peatland map and report of Hammond (1979) was consulted to provide an estimate of the original area of raised bogs in Ireland.

RESULTS

Extent and Utilisation of Irish Raised Bog Resources

The original extent of raised bog in the Republic of Ireland was 308,742 ha according to Hammond (1979). Developmental pressures on raised bogs are intense, particularly the extraction of peat for fuel for domestic and commercial energy and extraction for commercial use in horticulture. Mechanical peat cutting by commercial companies has accounted for a

loss of 24% of the original area. Peat cutting by private individuals and contractors accounts for a 64% loss and afforestation for a 2% loss of raised bog habitat. This leaves 10% of the original raised bog resource remaining with a conservation value (Fig. 2).

Utilisation of Raised Bog Resources in the Republic of Ireland

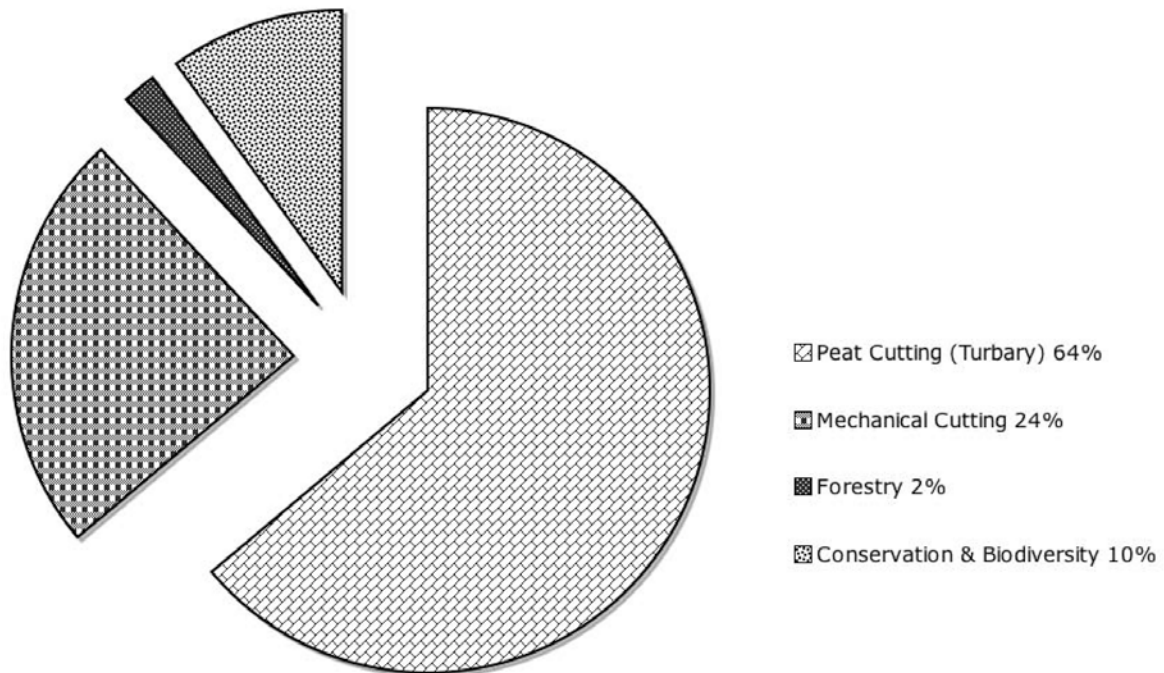


Fig. 2. The utilisation of raised bog resources in the Republic of Ireland. Of the original area of 308,742 ha, 64% have been lost to peat cutting (turbary), 24% to mechanical extraction and 2% to forestry, leaving 10% relatively intact and worthy of conservation. Source: Malone and O'Connell (2009).

Status of Irish Raised Bog Resources

An examination of the designation status of Irish raised bogs of conservation importance (Table 1) shows the area of the resource designated as either Special Area of Conservation under the European Union Habitats Directive or as Natural Heritage Areas (including legally designated NHA and proposed but not designated pNHA) under the national Wildlife Act (Amendment) Act 2000 together with the area of raised bog habitat of conservation importance but with no designation whatsoever.

IPCC's monitoring of the resource of conservation importance quantifies the continuing deterioration of the sites and the damage or loss of their ecological functionality due to a variety of factors highlighted by the National Parks and Wildlife Service (2008) including on-going peat extraction, drainage, burning, forestry planting, invasive species and the restructuring of agricultural land holdings (Table 1). The viability of raised bog habitats in Ireland is severely threatened due to the drastic decline in their area, structure, function and range.

Table 1. The original area of raised bog in the Republic of Ireland and the number of sites of conservation importance separated according to the designation of either Special Area of Conservation (SAC) or Natural Heritage Area (NHA) or their lack of a designation entirely. The table also shows the number of sites that have been damaged by a variety of threats. This table has been compiled from the Irish Peatland Conservation Council Sites Database 2012

Raised Bogs (Republic of Ireland 2012)				
Designation	SAC	NHA/pNHA	Un-designated	Total
Area (ha)	17,646	12,384	2,045	32,075
Total Number of sites	54	95	42	191
No. of sites affected by Invasive Species	21	23	8	52
No. of sites affected by Burning	44	67	3	114
No. of sites affected by Drainage	53	73	17	143
No. of sites affected by peat cutting	48	75	20	143
No. of sites affected by Dumping	8	14	5	27
No. of sites affected by Agricultural Reclamation	11	18	0	29
No. of sites affected by Afforestation	29	43	0	72
No. of sites affected by water pollution	5	2	0	7

Management, Restoration and Rehabilitation

Various state, semi-state, private and non-governmental organisations own and manage lands containing raised bog habitats or the peat soils remaining following industrial extraction from raised bogs. Their actions take place at the level of individual sites or on the landscape scale within industrial cutaway peatland that was once covered with raised bog habitat. Work on site restoration, rehabilitation and management is documented by Ryan and Streefkerk (1998), Schouten (2002), Malone and O'Connell (2009) and Bord na Móna (2010).

The ultimate goal of raised bog restoration at a site level is to promote the return of ecosystem functions, especially peat accumulation, within a reasonable time frame. Site restoration strategies involve preventing further direct damage to the peat forming vegetation from artificial surface drainage, burning and peat cutting and indirect damage from drying out during subsidence. At site level work done to date has four pillars. First sites are surveyed to

determine the extent and distribution of peat forming vegetation on their surface. This information has been used as a basis for designating sites and ranking their importance internationally and nationally. The second pillar involves the acquisition and consolidation of lands within sites so as allow conservation works to begin. This has met with limited success due to the continued presence of private land owners who cut peat. Nevertheless the National Parks and Wildlife Service do own 7,000 ha of raised bog (Renou-Wilson *et al* 2011). Conservation works are the third pillar which includes blocking surface drains on the original raised bog domes, building dams along bog margins to prevent subsidence and removing conifer tree plantations from raised bog domes. Restoration projects involving networks of raised bog sites have benefitted from EU funding programmes including LIFE and Cohesion. The final pillar of site management concerns studies of the lagg zone, the zone of contact between the peat deposits of the raised bog and the mineral soil with a view to developing management techniques within the hydrological unit of the raised bog.

There are a number of landscape level rehabilitation management projects which have been undertaken by Bord na Móna within industrial cutaway raised bogs. The goal has been to create mosaics of wetland habitats within industrial cutaway bogs which support a rich biodiversity of species and which may in the longer term support the network of peat-forming raised bog habitats and their species (Bord na Móna 2010).

Peat Cutting – Resolving an Issue

The single greatest threat to the future conservation of raised bogs in Ireland at present revolves around the issue of peat cutting by private individuals who have a legal right to cut fuel for use in their homes from these sites. By signing up to the EU Habitats Directive the country made a commitment to protect raised bog habitats and to take steps to restore damaged sites to their original peat-forming state. Sites were designated by the National Parks and Wildlife Service without adequate consultation with their landowners. The Government announced the Derogation on the Cessation of Turf (Peat) Cutting in 1999, which affected 130 designated raised bog sites, considered to be actively accumulating peat. The European Union deemed this action to be illegal and they pointed to the failure of Local Government to protect designated sites through the enforcement of the EU Environmental Impact Assessment Directive (European Court of Justice Case C-392/96). The Commission found that Ireland failed to comply with its obligations under both the Habitats and the Environmental Impact Assessment Directives. In January 2011 the European Commission issued a letter of formal notice to Ireland. The end result of this action which will proceed if we continue to break EU environmental law will be fines at the level of €26,000 per week with a large lump sum up front.

In response the newly elected Irish Government of 2011, announced the setting up of the Peatlands Council and the introduction of a series of measures to compensate peat cutters for not allowing them to cut peat in the designated sites. The options for peat cutters included: relocation to alternative peat plots or providing compensation payments of up to €1,500 per year over a period of 15 years or delivering 15 tonnes of peat from the State annually until a suitable relocation site is sourced and developed in compliance with EU Directives.

The NGO representatives on the Council have proposed a Home Energy Efficiency Programme for peat-burning households whereby they would improve insulation and switch to a wood stove as their energy system. This initiative is being considered by the Sustainable Energy Authority of Ireland (SEAI). The substantial land holdings of Bord na Móna and

Coillte Teoranta, two semi-state companies who manage natural resources in Ireland and which amount to 86,643 ha of industrial cutaway peatland have the potential to grow a renewable energy source (wood fuel) to replace the need for peat within the Irish domestic fuel market.

Peatlands Council

The independently chaired Peatlands Council was established to provide mediation between affected parties including peat cutters, farmers, industry, government and environmental NGOs all of whom are represented on the Council. The Council meets regularly and to date has been beneficial in helping all interests to reach a greater understanding of the issues involved in managing our raised bog resources.

The National Parks and Wildlife Service have data concerning the number of peat cutting or turbarry rights within the 130 raised bogs of conservation importance. They estimate that there are 20,000 turbarry rights and that between 15 and 20% of these are actively cutting peat from the 130 sites

Working with Bord na Móna who own 5,302 ha of lands classified as raised bog by (Renou-Wilson *et al* 2011), the National Parks and Wildlife Service are locating alternative sites for peat cutters. For example 30 peat cutters on Clara Bog SAC in Co. Offaly will be cutting peat from Kilaranny Bog from the 2012 cutting season onwards. The Peatlands Council are pursuing the relocation option on up to 10% of the designated sites with the assistance of Bord na Móna. As Bord na Móna are licensed under the Environmental Protection Agency to cut peat, this rules out the need for an Environmental Impact Assessment (EIA) on the relocation site. There may also be scope for other relocation projects in liaison with Coillte who own 31,725 ha of raised bog according to Renou-Wilson *et al* 2011, however the opening up of new sites to peat cutting will require an EIA. While peat cutters wait for suitable relocation sites to be developed, the National Parks and Wildlife Service are supplying them with peat (turf) to burn in their homes.

Irish Government Peatland Strategy

The Peatlands Council is also to provide advice to the Government on issues relating to the management of Ireland's peatlands in the long term. A key part of the Council's remit is to help shape the development of a National Peatlands Strategy. The aim of the strategy is the management of all peatlands in Ireland. A public consultation on the content of the strategy was completed early in 2012.

CONCLUSION

National Peatland Strategy

The IPCC have campaigned for the development of a National Peatland Strategy for Ireland since our formation in 1986. We welcome the positive steps that are being taken through the Government established Peatlands Council in this regard. In the first instance there must be an integrated approach to both the development and the implementation of the National Peatlands Strategy. The Strategy for Ireland needs to have a vision that is ambitious but with credible objectives. The Strategy needs to address the following issues in relation to raised bogs: the formal designation of all sites of conservation interest; the complete cessation of

peat cutting on sites of conservation interest; the management and restoration of sites to favourable conservation status; the management of the industrial cutaway peatlands, the co-ordination of raised bog research and expertise and the development of public awareness and education programmes focusing on raised bogs. Delivering on the Strategy will require the provision of economic instruments and a co-ordinating body that can regulate the cross-sectorial Government and non-governmental interests in peatlands within the EU and National legislative frameworks.

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