



The Lough Boora Parklands project on cutaway bogland in West Offaly Ireland: regional ecological, economic and social benefits

Thomas Egan

Bord na Móna, Boora Works, Blueball, Tullamore, County Offaly, Ireland.

Phone: +353-50645978, e-mail: Thomas.Egan@bnm.ie

Summary

The Lough Boora Parklands project is a pilot project developed on cutaway bogland on one of Bord na Móna's production complexes from which peat was harvested for energy purposes over four decades. When industrial peat production ceased the area that emerged was a bare landscape. The challenge was to develop a land use plan for this area that would maximise its potential benefit for the regions communities and also its wildlife. This paper describes some of the aspects of the Lough Boora Parklands, particularly the community involvement and the role the cutaway boglands can play in the national wildlife resource.

Key index words: cutaway bogland, Bord na Móna, Lough Boora Parklands, land use plan, communities, Landscape

Introduction

The Lough Boora Parklands project encompasses an area of over 3,000ha of cutaway bogland in the mid west region of County Offaly. Bord na Móna harvested the peat resource from this landscape for approximately forty years for the production of electricity, domestic fuel and horticulture peat. When this land use ceased the area was presented with a barren land bank that had its own distinct and variable characteristics. The land bank was released sequentially over two decades and this will continue to be added to over the next two to three decades. Initially the focus for the re-use of this land concentrated on grassland development (over 500ha) for agriculture and afforestation for coniferous forestry (over 2,000ha).

During the course of these developments however it became apparent that there were many large areas of cutaway bogland that would not suit these land use options due to the variable nature of their soil and drainage characteristics. This pointed to the requirement for a more integrated land use planning approach so as to maximise the potential of this land bank for its local area, region and also for its surrounding communities both rural and urban. The *Lough Boora Parklands* integrated land use plan was developed in 1995 by a group that comprised of representatives from Bord na Móna and local community groups (Barron *et al.*, 1994; Egan, 1998). The plan embraced all the developments that Bord na Móna had carried out already in the area such as grassland and afforestation and the natural recolonisation and permanent wetland habitats developed at the Turraun area. It also proposed for a more wide scale development of wildlife habitats across the range of land types and also for the development of a range of outdoor amenity facilities for use by the local communities and visitors to the area.

Ecological benefits from the Lough Boora Parklands project

Natural colonisation at Turraun: habitats

The Turraun area of cutaway bogland just north of the Boora Works was one of the first areas to naturally recolonise due to a longer history of peat extraction. It highlighted the wonderful potential that cutaway bogland can offer for wildlife habitats. Natural colonisation resulted in a mosaic of habitats that included scrub woodland alongside open areas of wild grasslands, heather areas, reedbeds and other wetland communities (Egan, 1995, 2006; Rowlands, 2001). To date 265 vascular plant species have been recorded on this site. Its biodiversity value was greatly enhanced when its lower lying land areas were flooded in 1991 after embankments were erected to retain water on a permanent basis. This led to a large influx of bird species to the site and to date 146 bird species are recorded there with over half of these using the site for breeding purposes.

The site area at present is over 200ha and 70ha are under a permanent water body. The woodlands are primarily dominated by birch (*Betula pubescens*) and willow (*Salix*) species and also have Scots pine (*Pinus sylvestris*) and Lodgepole pine (*Pinus contorta*) in good numbers alongside mountain ash (*Sorbus aucuparia*) and whitethorn (*Crataegus monogyna*). The shrub areas contain furze (*Ulex europaeus*), broom (*Cytisus scoparius*), bramble (*Rubus fruticosus*), wild raspberry (*Rubus idaeus*) and many more. The open grassland areas are predominantly purple moorgrass grasslands (*Molinia caerulea*) that are broken up by areas of heather (*Calluna vulgaris*) and low scrub. These merge into the lower lying areas of wetland communities that contain reed (*Phragmites australis*), bulrush (*Typha latifolia*), sedges



(*Carex* spp.), bog cotton (*Eriophorum angustifolium*), wild mint (*Mentha aquatica*) and a range of other species. These areas then merge into the permanent water body that ranges in depth from less than 0.5m to over 1.5m and this is broken up by wetland plants in its most shallow areas. The value of Turraun was recognised when it was awarded the 'Henry Ford European Conservation Award 1995/96 National Award' and the project was chosen to represent Ireland at the European awards ceremony in Budapest.

Bird refuges at Lough Boora Parklands

Following the guidelines of the *Lough Boora Parklands* plan many more areas in this region were designated for natural recolonisation alongside wetland areas that were either permanently flooded or flooded periodically by winter inundation. To date an additional 1000ha of cutaway boglands has been dedicated for this purpose and now the region is host to internationally significant numbers of Whooper Swans (*Cygnus cygnus*) during their winter migration to Ireland from Iceland. Other migratory birds such as Golden Plover (*Pluvialis apricaria*), Lapwing (*Vanellus vanellus*), Starling (*Sturnus vulgaris*), Curlew (*Numenius arquata*) and many more are found using the parklands in very large numbers during the winter months. The area is now recorded also as a significant breeding ground for Lapwing by BirdWatch Ireland (Copland, 2008, *this volume*). This is very significant as their normal breeding grounds of the nearby River Shannon callow-lands are under threat due to the increase in flooding in spring and summer. This has led to decline in numbers successfully hatching there but now the cutaway boglands is providing alternative and safer breeding grounds. Other wader species such as Redshank (*Tringa tetanus*) and Ringed Plover (*Charadrius hiaticula*) are now successfully breeding on the cutaway boglands also.

One of Ireland's most endangered species, the native Grey Partridge (*Perdix perdix*) is now only found on cutaway bogland areas in the *Lough Boora Parklands*. Their numbers had plummeted to as low as 26 birds recorded and their ability to breed successfully was declining due to interbreeding (Kavanagh, 1998). This led to a joint project being developed to save this bird from extinction and now the National Parks and Wildlife Service in Ireland have acquired approximately 250ha in the *Lough Boora Parklands* area for that purpose. Their aim is to conserve this species and increase its numbers sufficiently so that it will spread out from there onto surrounding farmlands once again. This has involved the creation of habitat suitable for the bird's survival that are primarily open land areas vegetated with arable and root crops. This project is successful to date and has also had major beneficial advantages for other bird species in the area. These include many small bird species such as Linnet (*Carduelis cannabina*), and Finch (*Carduelis chloris* etc). There are seven raptor species recorded now using the parklands area regularly and these include Peregrine Falcon (*Falco peregrinus*), Hen Harrier (*Circus cyneus*), Marsh Harrier (*Circus aeruginosus*), Merlin (*Falco columbarius*), Sparrowhawks (*Accipiter nisus*), Kestrel (*Falco tinnunculus*), and Long-Eared Owl (*Asio otus*).

The success of the Grey Partridge project suggests that such cutaway boglands could also be beneficial for another of Ireland's rare birds, the Corncrake (*Crex crex*). This bird breeds exclusively at the moment on the Shannon callow-lands and again with the increase of inundation in this region their ability to hatch successfully is seriously threatened. With proper management this bird could be moved on to suitably developed habitats on the cutaway boglands where such risks would not arise and where water tables can be controlled.

Reedbeds on cutaway bogs

Another important habitat that has developed in the parklands area is large-scale areas of reedbed habitats. At the Turraun Lagoon area of Turraun where there is a shallow permanent water cover over the residual reed peat that itself overlies shell marl subsoil's, there is now an excellent cover of reedbeds on over seventy per-cent of the area. These soil conditions will occur on wide spread areas from now and into the future on the cutaway boglands that lie in the basins of the River Shannon. These areas are all mechanically pumped for their drainage at present and once peat harvesting ceases as a land use then there is a perfect opportunity to establish large scale reedbeds there, as has already established naturally in Turraun Lagoon. This is a wonderful wetland habitat for wildlife especially birds and it would present a unique opportunity to reintroduce one of Ireland's extinct species, the Bittern (*Botaurus stellaris*). This bird is found abundantly on re-colonised reedbed areas of cutaway bogland in Great Britain such as the Norfolk Broads. A similar land use plan to that which was used to establish this habitat in the UK there should now be considered for these areas on Bord na Móna cutaway boglands. This land type accounts for more than 50% of the land area of Bord na Móna property. Such plans should now be developed by a multi agency group that would include experts from Bord na Móna, National Parks and Wildlife Service, BirdWatch Ireland, other Non-Government Organisations and Local Authority and community groups.

It is evident that the cutaway boglands developed for wildlife habitats to date are a wonderful addition to the already present wildlife habitats of Midland Ireland (Feehan and Kaye, 1998). If the proper planning process is put in place now then the vast areas that will emerge sequentially over the next two to three decades can be maximised for their wildlife potential at local, regional and national levels.

Economic benefits from the Lough Boora Parklands project

Agricultural grassland

Over 500ha of grassland were developed by Bord na Móna in the *Lough Boora Parklands* area. After initial trials relating to special husbandry requirements these lands were all sold onto local farmers and there are now 23 private land holdings in the area that range from 10ha to 60ha. These grasslands were a welcome addition to the local farming community and have helped those farmers make their



farming enterprise more economically viable (McNally 1984). However due to changes in the Common Agricultural Policy relating to cutbacks in agricultural land area it is no longer suitable for Bord na Móna to reclaim cutaway bogland for this purpose.

Commercial forestry

There are over 2,000ha of cutaway bogland planted with predominantly coniferous forestry in the *Lough Boora Parklands* at a number of different sites (Renou and Farrell, 2005). The overall quality of these plantings is poor, due to many different reasons, and successful afforestation on cutaway boglands is still questionable. Some of the main reasons for this are related to peat as a planting medium which due to its physical structure leads to poor drainage status especially in winter. This results in young plants struggling to survive in anoxic conditions for long periods during their establishment. This is further compounded by the vulnerability of cutaway boglands to very late frosts in late spring and early summer and again in early autumn. These frosts burn the new shoots severely and so damage the tree quality. Sitka spruce (*Picea sitchensis*) species in particular is very prone to this. This is also impacting on Norway spruce (*Pinus abies*) even though it has a later provenance. Another factor is weed competition from soft rush (*Juncus effusus*) which grows rapidly and profusely when phosphate and potash fertilisers are applied. There are new research projects in progress that are looking at more suitable species and methods of crop establishment that may improve the prospects for coniferous afforestation on cutaway boglands in the future.

Renewable crops

Bord na Móna is now committed to co-fuelling its power plant with renewable fuels alongside peat and the company is now actively exploring the possibility of growing such crops on cutaway bogland. There are a number of trials established in the Lough Boora Parklands area with crops such as short rotation Willow (*Salix* spp.), Reed Canary Grass (*Phalaris arundinacea*) and Elephant Grass (*Miscanthus* spp.). The company is also researching the potential for utilising the natural Birch (*Betula pubescens*) that establishes in areas of suitable cutaway bogland and also supplementing this energy source with plantings of Alder (*Alnus glutinosa*) on more marginally drained areas. This land use is likely to increase in the future as the demand increases but overall the potential of cutaway boglands for short rotation crops is very limited and the longer rotation crops of birch and willow appear to be the best solution.

Social benefits from the Lough Boora Parklands project

Walkways

A major driving force of the *Lough Boora Parklands* project was to provide facilities on the cutaway boglands of the area that would enhance the quality of the area and the quality of life for its surrounding communities and visitors also. This involved the development of both short and long range

walking routes. At present there are over 30 kilometres of walkways developed that are open for public use. These allow walkers to choose from routes that will take from twenty minutes up to four hours to complete. A lot of these walkways are on the former railway connections that were used to transport the peat to the power station. These routes are ideal to develop for walkways because of their length and often slightly elevated position in that flat landscape. This is a very important consideration for the future because when areas are finished with peat production then these links should be developed as long range walkways before that link is interrupted for any reason.

Angling lakes

Alongside the development of walkways the *Lough Boora Parklands* project proposed that other outdoor amenities such as angling lakes would be developed (Caffrey, 1998). To date there are five angling lakes that range in size from one hectare to five hectares and these lakes cater for both coarse and game angling. One lake 'Loch an Dochas' is specifically developed for anglers with disabilities and each year the All-Ireland angling competition for people with disabilities is staged there. This is run by a local community group: Kilcormac Development Association, which leases the facility from Bord na Móna. Another local community group, Cloghan Development Association, lease another developed lake 'Loch Clochan' and the surrounding amenity area from Bord na Móna also. They have developed a very successful 'put and take' style enterprise there for trout anglers. This is the only such facility in the area and is very actively used by locals and people from much further a field. The other three lakes: Finnermore upper and lower lake and Boora Lake are still owned by Bord na Móna who co-operate with the Shannon Regional Fishery Board and local angling clubs to provide coarse angling facilities there.

Lough Boora Parklands Group: community management

The walkways and angling facilities and the other amenities developed are now managed by the *Lough Boora Parklands* Group. This comprises of members from Bord na Móna and the local community groups and Offaly County Council and West Offaly Partnership Group. This group have taken a much more active role in recent years in the management of the parklands area and in the role of seeking funds so as to enhance the facilities. It has succeeded in upgrading the access points to the parklands with better car parking facilities and information boards etc. The group have worked with Offaly Leader Plus in developing walkway maps and brochures for the area. They have worked with Offaly County Council and Fáilte Ireland (Irish Tourist Board) so as to make walkways accessible 'to all' and recently to upgrade the facilities at 'Loch an Dochas' for anglers with disabilities. Information boards have been developed for important historical sites such as Lough Boora Mesolithic Site where one of the oldest recordings of human habitation in Ireland is recorded at approximately 6800 B.C.

The group in conjunction with Bord na Móna has enabled outdoor activity groups and clubs to acquire sites



on cutaway bogland in the parklands area for their activities. To date the Midland Rifle Club has developed an international shooting range and the Midland Model Aeroplane club has developed a flying runway of National standard. The Cloghan Game club has developed a rearing and release facility for game birds that has won national honours. The walking clubs in the area such as the Kilcormac Ramblers and English Ramblers host many other walking clubs from all around Ireland on the parklands walkways. The group have provided a number of bird hides so that bird watching clubs and visitors can view the different birds on the wetlands.

Sculpture in the Parklands

The Lough Boora Parklands Group has enabled the development of Sculpture in the Parklands, which is a project for the installation of large outdoor sculpture pieces at a site in the parklands. This sculpture park is now recognised as one of the top 100 outdoor sculpture parks in the world and there are now 16 large scale sculptures built there by Irish and international artists. The pieces are built from recycled materials from Bord na Móna primarily and the company's workshops and fabrication skills are used in their construction. The project has won a prestigious National award (Allianz Business2Arts Award 2003) and there are very ambitious plans to further extend this into the future.

A regional resource

The numbers of people visiting the Lough Boora Parklands area and utilising its amenities is estimated to be in the region of 35-40,000 people per annum (local survey estimates). The area has become a major local amenity resource. It is now designated by Offaly County Council as one of the main tourist resources in the Offaly and is actively promoted in all the tourist brochures for the area. As the cutaway bogland expands around it there are many opportunities being explored for other outdoor activities and further environmental projects. Two other cutaway boglands in County Laois and County Tipperary are developing along lines similar to the Lough Boora Parklands, but on a smaller scale so far. Both of these areas are now wonderful outdoor amenities for public usage alongside excellent wildlife habitats for flora and fauna.

Conclusion

The Lough Boora Parklands project demonstrates the wonderful opportunity that the remaining 60,000ha of Bord na Móna's cutaway bogland will present to the local, Regional and National biodiversity in Ireland over the next two to three decades. It also shows the economic benefits that can be derived for local communities alongside the great benefit it can bring to the quality of life in their areas. The planning process for all the cutaway boglands should start now and be carried out by an expert group from all the relevant bodies concerned.

References

- Barron, S., Egan, T., Feighery, T., Fleming, E., Healy, K., O'Boyle, D., O'Hora, A. and O'Riordain, P. (1994). *Lough Boora Parklands Pre-feasibility study by Boora Enterprise Group*. Brosna Press, Ferbane, Ireland.
- Caffrey, J. (1998). A new fishing resource for the Midlands. *The future use of cutaway bogs*, 28-33. Brosna Press, Co. Offaly, Ireland.
- Egan, T. (1995). *Natural colonisation of an industrial peatland cutaway area*. Unpublished Diploma in Ecology thesis, University College Cork.
- Egan, T. (1998). A pilot project for the utilisation of cutaway bogs in West Offaly. In G. O'Leary and F. Gormley (eds.), *Towards a conservation strategy for the bogs of Ireland*, 119-126. Irish Peatland Conservation Council, Dublin
- Egan, T. (2006). The Bord na Móna Industrial Cutaway Boglands. In C.A. Farrell (ed.), *Peatland utilisation and research in Ireland*. Walsh Printers, Roscrea, Co. Tipperary.
- Feehan, J. and Kaye, B. (1998). Creating a space for the new Irish wilderness. *The future use of cutaway bogs*. 7-11. Brosna Press, Co. Offaly, Ireland,
- Kavanagh, B. (1998). Cutaway Bogs: A new landscape for birdlife. *The Future Use of Cutaway Bogs*, 34-44. Brosna Press, Co. Offaly, Ireland.
- McNally, G. (1984). Development of industrial cut-over bog in Ireland. *Proceedings of the 7th International Peat Congress, Dublin, Ireland, III*, 442-449. International Peat Society.
- Renou, F. and Farrell, E.P. (2005). Reclaiming peatlands for forestry; the Irish experience. In P.A. Madsen (ed.), *Restoration of boreal and temperate forests*, 541-557. CRC Press, Boca Raton.
- Rowlands, R. (2001). *The revegetation ecology of cutaway and cut-over bogland in Ireland*. Unpublished Ph.D. thesis, University College Dublin.