



# Cutaway bog vs. Rural Environmental Protection Scheme – on cost benefit, could cutaway deliver more for biodiversity?

**Kieran Buckley**

National Parks and Wildlife Service, Conway Estates, Kildare Town, Co. Kildare, Ireland

## Summary

Introduced in 1994, The Rural Environmental Protection Scheme (REPS) has cost the Irish tax payer and the European Union billions of Euro – but has it delivered a cost benefit for biodiversity, or have we overlooked the potential of industrial cutaway bog to deliver more for biodiversity at a fraction of the cost? The National Biodiversity Plan sets out a number of key objectives including the conservation of species diversity, the conservation of all sites of biodiversity importance and to advancing other obligations of the Convention on Biological Diversity in the EU, regionally and internationally. In the forthcoming REPS 4 scheme, the average farmer in Ireland will receive a payment of €7,220 per year until 2013. Based on the number of farmers predicted to join the REPS 4 scheme, this equates to €400 million per year, and by the end of 2013 the final cost to the exchequer will be €1.6 billion. What would a tiny fraction of this money do for biodiversity if it were directed to habitat creation on cutaway? The dynamic nature of cutaway lends itself to exploitation for enhancing biodiversity. Others see cutaway bog as an opportunity to reduce Ireland's dependence on fossil fuel by using exhausted peatland for the production of bio-fuels.

Grey Partridge (*Perdix perdix*) and Lapwing (*Vanellus vanellus*) are both Red Listed species in Ireland. Historically both of these species were associated with traditional farmland. In more recent times however, these birds have retreated to the cutaway bog because agricultural landscapes can no longer support breeding populations. Lough Boora Parklands has subsequently become a nationally important site for breeding Lapwing. Similarly, Hen Harrier (*Circus cyaneus*), an Annex I species of the EU Birds Directive, also exploit the cutaway managed for Grey Partridge at Boora in the Irish midlands. In this paper I will explore the potential of cutaway bog compared to that of REPS to enhance Irish national biodiversity and deliver a bonus for wildlife at a fraction of the cost to the exchequer.

**Key index words:** cutaway, biodiversity, REPS, cost benefit

## Introduction

According to the Irish Wildlife Acts of 1976 and 2000 (amended), one of the functions of the Minister for the Environment is to promote the conservation of biological diversity. In discharging this statutory responsibility, the Minister is also obliged to ensure that the tax revenues of Irish and EU citizens are spent wisely. In terms of financial commitment to the conservation of wildlife, the road we have taken thus far has cost a lot and delivered little. In the context of financial investment on the environment, has the Rural Environmental Protection Schemes (REPS) actually halted the decline of biodiversity? Has Ireland's Government chosen the most expensive route possible, while at the same time ignoring the potential of cutaway bogs to provide opportunities for the conservation of biodiversity at greater cost benefit?

With the reforms of Common Agricultural Policy (CAP) and the failure of forestry to give a viable economic return, there is now almost no motivation for the commercial development of cutaway. In addition, the variables of this

landscape inhibit its exploitation for the production of biomass crops. As in all cases, companies whose brief is fiscal prudence, the fate of cutaway bogs as refuges for wildlife will be governed by the path of least economic resistance. Could this paradigm present Ireland with an opportunity to halt biodiversity loss by 2010 and beyond?

In purely ecological terms, the succession of cutaway is determined by the physical and drainage characteristics, depth of peat and hydrology. The possibilities of cutaway for rehabilitation are the creation of wetland, and where soil characteristics permit, the creation of seed rich conservation crops such as Linnet (oats, oilseed, kale and linseed), and other habitats to include species rich grassland and wet grassland. Is this a cost-benefit package for the tax-payer and a potential refuge for a range of threatened wildlife associated with wetland and farmland eco-systems? In relation to management logistics, cutaway is certainly less problematic with issues of bureaucracy and land ownership – ownership of cutaway is restricted to one semi-state body, namely Bord na Móna.



## Established biodiversity projects on cutaway bogs

In two areas of cutaway the potential of cutaway for biodiversity is expressed relating to species conservation - one is the National Grey Partridge Conservation Project, funded by the National Parks and Wildlife Service which is based at Lough Boora Parklands, and the other, is Turraun wetland.

### National Grey Partridge Conservation Project

For the last population of indigenous Grey Partridge, cutaway has offered an unusual refuge from intensive farming. When modern farmland could no longer support breeding populations, Grey Partridge retreated to cutaways to avail of the opportunity to breed in a less hostile environment. In the Lough Boora Parklands complex this critically endangered population is now managed for conservation purposes. During the life of this project a great deal of information and management expertise has been gleaned. Over time this area, through its management has changed from an almost barren cutaway landscape to a more complex eco-system that benefits a range of other red-listed species, such as the Lapwing (*Vanellus vanellus*) and Hen Harrier (*Circus cyaneus*) and a host of breeding farmland birds in decline. The management strategies for the species have created additional benefits for wildlife not envisaged at the projects inception. For example, National Parks and Wildlife Service lands at Boora are home to the one of the most productive breeding population of Lapwing in Ireland.

### Turraun

Turraun is probably one of the best examples of a cost effective conversion of cutaway to wetland and other diverse habitats. Due to a longer history of peat extraction this particular cutaway was one of the first areas in the Boora Bog Complex to naturally re-colonise with a range of semi-natural habitats, such as scrub woodland, open areas of wild grassland and wetland communities (Egan, 2008) all of which have been drastically reduced in the Irish landscape by agricultural intensification.

Following a number of ecological surveys commissioned by Bord na Móna, the flooding of lower lying areas was facilitated. In a once off capital cost of €300 per hectare (Egan, pers. comm.), the value of 200ha of cutaway bog to biodiversity increased dramatically. For this cost, 265 vascular plant species and 146 bird species have been recorded to date in Turraun – over half of these using the area as a breeding habitat (Egan, 2008).

## Potential for habitat creation on cutaway

A number of possible habitats that could be created on cutaway bog to enhance and halt the loss of biodiversity – including habitats for farmland birds in areas where soil conditions permit – are outlined below. Some of species listed have undergone serious declines in recent years.

### Conservation crops – cereals, tussock grassland, oilseed and root crops

Breeding habitats for \*Grey Partridge (*Perdix perdix*), Quail (*Coturnix coturnix*), Skylark (*Alauda arvensis*), Meadow Pipit (*Anthus pratensis*), \*Lapwing (*Vanellus vanellus*).

Foraging habitats for Linnet (*Carduelis cannabina*), Brambling (*Fringilla montifringilla*), Reed Bunting (*Emberiza schoeniclus*), Siskin (*Carduelis spinus*), Greenfinch (*Carduelis chloris*), Goldfinch (*Carduelis carduelis*), Hen Harrier (*Circus cyaneus*).

### Wet grassland, species rich grassland and rough pasture

Breeding Lapwing (*Vanellus vanellus*), Redshank (*Tringa tetanus*), Curlew (*Numenius arquata*), \*Corncrake (*Crex crex*).

\*\*Marsh Fritillary (*Eurodryas aurinia*), a butterfly species which has declined in almost every European country).

Foraging areas for Golden Plover, (*Pluvialis apricaria*), Lapwing (*Vanellus vanellus*), Curlew (*Numenius arquata*)

### Improved Grassland

Foraging areas for Whooper Swan (*Cygnus cygnus*), \*Curlew (*Numenius arquata*),

Golden Plover (*Pluvialis apricaria*).

\* *Breeding species that have undergone serious declines in recent years*

\*\* *Currently breeding on Bord na Móna cutaway at Lullymore, Co. Kildare, (breeding sites managed for the species)*

## What are the benefits to wildlife from the Rural Environmental Schemes?

The over-production of food from intensive agriculture and its consequential negative effects on biodiversity; for example over half of the eighteen Red-Listed birds of conservation concern are farmland species. In addition, the degradation of water, soils and air quality, has elevated environmental issues from the bottom to the top of the EU political agenda. As part of this rethink an agri-environment regulation, (EC 2078/92) was passed requiring all member states to implement a series of measures designed to integrate agricultural support into main stream agriculture. Thus in 1994 the REPS programme began. One of the principal objectives of REPS is to protect wildlife habitats and endangered species of flora and fauna. However, according to recent research carried out by BirdWatch Ireland and NUI Cork there are so far no significant differences for birds between the REPS and non-REPS habitats on farmland.

This conclusion is not to be interpreted as a definitive position as the fieldwork for this study was undertaken prior to the introduction of REPS 3. With respect to this position, it is still worrying that despite the vast investment in REPS, BirdWatch Ireland's Countryside Bird Surveys show no dramatic changes in bird populations from 1998-2004. (It is of course recognised that there may be other



gains or positive trends for wildlife from REPS that research has not yet identified because of the relationship of trends over time). Using birds as bio-indicators of environmental health and given the cost of these schemes (€400 million per year, and by the end of 2013 the final cost to the exchequer will be €1.6 billion). Is it fair to assume that REPS schemes have benefited farmers and not wildlife?

A number of theories are proposed. Firstly, over 70% of REPS planners are agricultural graduates who are unlikely to completely reverse their own years of training and experience in intensifying agricultural production or farmers may look at REPS as just another income provider, not as a scheme to enhance biodiversity. Thirdly, the most important wildlife habitats are often areas peripheral to normal farming operations. Or it may be simpler: input of effort versus gain for the practitioner.

## Conclusion

In terms of the environmental damage, the past 60 years have been the most destructive in human history. When one considers the serious decline and in some instances the extinction of species, it should be an important issue for us, particularly so when Ireland gives a commitment to halt the loss of biodiversity by 2010. It is interesting to note that it has taken over a half century to realise that the collapse of ecosystems and the extinction of species are not in our interest, nor indeed, the interests or wellbeing of future

generations. With up to 85,000ha of bogland owned by Bord na Móna in the midlands and west of Ireland that will eventually become cutaway bog. Will it take another half century and further loss of species and habitats to exploit the potential of cutaway for biodiversity? So far the potential for restoration of habitats has only been scratched by the dedicated few.

There's a long way to go; the mechanics of how it should or could happen is for another day. The objective of this paper is to provoke discussion into the concept of habitat reconstruction on cutaway as a cost-effective opportunity to re-dress our poor stewardship of the environment – not to criticise agri-environmental schemes in terms of cost-benefit. In fact, over the years, the value or otherwise of agri environmental schemes and indeed the potential of cutaway has been poorly assessed.

## Acknowledgements

I would like to thank Val Swan National Parks and Wildlife Service and Tom Egan, Gerry McNally and Dr. Catherine Farrell of Bord na Móna.

## Reference

- Egan, T. (2008). The Lough Boora Parklands project on cutaway bogland in West Offaly, Ireland: regional ecological, economic and social benefits. *Proceedings of the 13<sup>th</sup> International Peat Congress* (this volume).