



Curlew



Lichen



Fox



Moss hummock



Sundew

## Some facts about bogs

- The word bog is derived from the Irish word bogach – meaning soft.
- 17% of the land surface in Ireland is covered in peat.
- Ireland has proportionally more peatlands than any other country in the world except Canada and Finland.
- There are two main types of bogs: raised and blanket bogs. Raised bogs originate in former lake basins and are mainly concentrated in the central lowlands of Ireland, whereas blanket bogs are located in high rainfall and low temperature areas of mountain regions and the West of Ireland.
- In favourable conditions peat grows at a rate of approximately 1mm per year.
- Peat consists of 95% water; the remaining 5% is made up of dead plant material, pollen, dust, etc.
- Sphagnum mosses are the peat forming mosses of the bog and there are as many as 12 different species.
- Raised bogs have a rich diversity of flora including bog-rosemary, cranberry, sundews and lichens while typical bog fauna includes otter, hare, fox, merlin, red grouse, snipe and curlew along with spiders, dragonflies and frogs.
- Around the edges of most of our bogs are areas where turf has been cut. Remains of trees – thousands of years old – have been found during turf cutting along with archaeological artefacts, wooden roads and even human remains.
- Raised bogs once covered an estimated 310,000 ha in Ireland. However today it is estimated that a mere 18,000 ha of active bog habitat of conservation value remain.

### Project summary

Over the four year period 2004 – 2008, Coillte will work towards restoring 571 ha of raised bog habitat on its estate around Ireland. It is the largest raised bog conservation project undertaken in this country. Coillte acknowledges the funding received from the EU LIFE-Nature programme.

### Achoimre ar an dtionscal

Thar an chead ceithre bliain eile, 2004 – 2008, beidh Coillte ag caomhnu 571 ha de phortach ar fud na tíre, an tionscal is mó chaomhnu phortaigh ata faoi bhun sa tír seo. Tá Coillte buíoch as an airgead go bhfuair eadar an bhfeachtas EU Saol-Dúlra.

### LIFE-Nature

Launched in 1991, LIFE (Financial Instrument for the Environment) is one of the spearheads of EU environment policy. The specific objective of LIFE-Nature is to contribute to the implementation of EU nature protection legislation and in particular the establishment of the Natura 2000 network of sites for the conservation of Europe's most remarkable flora and fauna species and habitats.

### Coillte

Coillte Teoranta (The Irish Forestry Board) is a state-owned commercial forestry company with an estate of over 440,000 ha. This area includes in excess of 10,000 ha of candidate SAC areas including EU priority habitats such as raised bog, blanket bog, limestone pavement, yew woodland, alluvial woodland and bog woodland.



This project area forms part of Coillte's nature conservation programme, and will be managed with nature conservation as the primary management objective into the future. This project will serve as a hands-on demonstration of the best approaches to restoration of raised bog habitat.

### Further information:

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# RESTORING RAISED BOG IN IRELAND



A nature conservation project jointly funded by EU DG-Environment and Coillte Teoranta (The Irish Forestry Board) under the EU LIFE-Nature Programme – Project No. LIFE 04 NAT/IE/000121. The project is managed by Coillte Teoranta and focuses on the restoration of 14 raised bog sites within the EU Natura 2000 network of protected sites.

# Restoring raised bog in Ireland

In 2004 Coillte began the process of restoring 571 hectares (ha) of raised bog habitat on its property in seven Midland counties. This project which will be completed in 2008, is the largest single raised bog restoration project ever undertaken in Ireland.

## Raised bogs

Raised bogs have been developing for thousands of years and apart from botanical diversity, they hold a record of past climates and also act as carbon sinks to reduce the impact of climate change. Due to their waterlogged condition raised bogs hold and preserve archaeological and organic remains.

Raised bogs are domed masses of peat, up to 15m deep, formed by the accumulation of dead plant material. They originate in former lake basins and are mainly concentrated in the central lowlands of Ireland. They are very acid and poor in nutrients due to the fact that, once developed, they are sustained by rainwater only with no groundwater input (ombrotrophic).

**Active Raised Bog** habitat is characterised by on-going peat formation with high Sphagnum moss cover (right) and usually by the presence of open water forming pools (below). This habitat occurs in the wetter, quaking areas of intact bog. Areas of nutrient enrichment (flushes) occur on many raised bogs, due to concentrated run-off of surface water. They are common on slopes towards the bog margin or along natural drainage channels and are dominated by species such as purple moor-grass, bog myrtle and common reed. Trees are rarely present on the surface of intact raised bog, as it is nutrient poor, but can occur in these flushed areas, forming the rare habitat of bog woodland dominated by birch and Scots pine.



**Degraded Raised Bog** habitat occurs on areas of bog where active peat formation has ceased but, with proper management, it could be restored in the foreseeable future – probably within 30 years. This habitat occurs on the drier sections of bog, mainly at the margins, but can occur towards the centre if there has been damage to the bog hydrology, due to drainage and burning.



By the end of this project, significant habitat restoration will have been completed on over 5% of the national area of raised bog within Special Areas of Conservation (SACs).

Raised bogs are valuable and diverse wetland habitats that are becoming increasingly rare in Ireland. Due to their considerable value as sources of turf for fuel and horticultural products, the area of raised bogs being maintained as wetlands is reducing. This project will contribute towards maintaining our valuable wetland raised bog heritage.

**The bog restoration project requires intensive management of planned actions to achieve key objectives and expected results.**

## Objectives

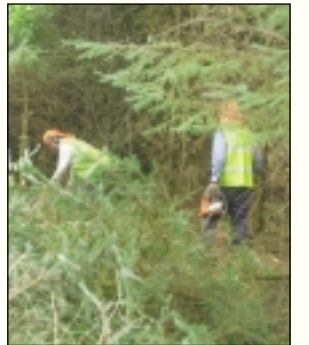
- To restore 571 ha of raised bog on 14 partially or wholly afforested sites in counties Roscommon, Galway, Longford, Cavan, Meath, Westmeath, and Laois in SACs.
- To demonstrate and interpret the techniques of bogland restoration on afforested sites, principally tree felling and drain blocking.
- To ameliorate the effects of turbary and reduce hazards to adjoining landowners.
- To reduce the risk of fire damage to the project sites.
- To increase knowledge of afforested bogland restoration both nationally and throughout the EU.



This will constitute a significant contribution to conservation of some of the most valuable raised bog habitat in Europe.

## Actions

- Fell 450 ha of plantation forest (right).
- Fell naturally regenerated exotic trees on open bog.
- After the area is felled and cleared (below left), block drains, in order to elevate water levels and restore the hydrological balance of the peatland areas (below).
- Perimeter protection of vulnerable raised bog sites against fire.
- Ongoing monitoring of vegetation and water levels on 14 sites.



## Expected project results

- The area of open bog will be increased by 450 ha through the removal of conifers.
- There will be significant improvement in the quality of the open bog areas due mainly to measures taken to re-establish natural water levels.
- There will be a measurable increase in actively growing raised bog species. By the blocking of drains, water will re-wet the raised bog and, over time, Sphagnum mosses will begin to dominate in these areas and active peat formation will be restored.

