
An ancient pine stump uncovered by turf cutting. Photo: J. Roche

Tradition and Biodiversity in Connemara

Jenni Roche, an Environmental Science graduate of Trinity College Dublin, describes the effects of turf cutting and sheep grazing on blanket bog in Connemara.

Growing up in County Wexford, vast expanses of bogland were an unfamiliar landscape to me. However, when I studied Peatland Ecology, I became fascinated by the ecological wealth of our boglands. Visiting the bogs was a revelation and I wanted to learn more. So I chose a final year project which would examine the effects of traditional turf cutting (by hand) on lowland blanket bog vegetation. Then in the summer of 2002, while working as a guide in Connemara National Park, I began my research.

The Old Bog Road

Connemara National Park covers 2,957 ha in West Galway and was opened to the public in 1980. Before the park was established, there was a tradition of turf cutting in the area. Today the park includes both intact and cutover areas of blanket bog which had been grazed by sheep. One of my study sites lay beside the Old Bog Road, a trail made by turf cutters. The Diamond, a mountain in the Twelve Bens range, overlooks the site. The Owengarve Stream gushes nearby. Turf was last cut here in the late 1970s.

Roche, J. 2003. Tradition and biodiversity in Connemara. *Peatland News* **36**, 19-20.

Field Work
A transect was set up, running from a cutover area, crossing the cut face of an old turf bank, onto an uncut area. I recorded the plant species present and their abundance and measured vegetation height, plant litter cover and the depth, pH and organic content of the peat along the transect. This was an interesting business. On sunny days, visitors from all over the world would stop to chat and ask questions. Tiny lizards emerged from crevices in the old turf bank to bask in the sun. But on humid, windless days, I was attacked by the locals – hordes of vicious midges! Sometimes the metal probe, used to measure peat depth, would hit a pine stump buried in the peat. These ancient trees were swallowed up and preserved by the developing bog. Radiocarbon dating has shown them to be over 4,000 years old! The plant community had some interesting inhabitants too, such as the insectivorous sundew.

Findings
Significant differences occurred between the cutover and uncut areas of the bog. Vegetation height, litter cover and peat depth were greater on the uncut area. The organic content of the peat was greater on the cutover area. Perhaps surprisingly, the cutover was more biodiverse than the uncut area, with a higher proportion of typical lowland blanket bog species.

The explanation for this is complicated. As water drains from the cut face of the turf bank, the uncut peat becomes dry and aerated. This, combined with grazing by trespassing sheep, caused the vegetation community to shift away from its original state. It now supports plants characteristics of heath and damp grassland. Purple moor-grass dominated the uncut area and the flora was species poor. The cutover was comparatively wet and quaking. The turf cutters left a varied surface behind, with dried areas, wet depressions and old pine stumps protruding from the surface, providing different habitats for a greater diversity of plants. However, neither the cutover, nor the drained, uncut area exhibited the species diversity of intact blanket bog. Nor did they support many of its characteristic species. Comparison with studies on blanket bogs cut using machines showed that cutting by hand is far less ecologically destructive.

Many Irish people have fond childhood memories of summer days spent helping to cut turf by hand. Recently however, these traditional practices are being replaced by mechanised cutting – a worrying trend considering only 21% of the original extent of Ireland's blanket bog remains relatively intact.

– Jenni Roche

Project Supervisor: Dr Paul Dowding, Department of Botany, Trinity College Dublin

Further information:
Email: jennifer@tcd.ie
Online: www.ipcc.ie
Visit: Connemara National Park, Letterfrack, County Galway
Read: The IPCC Guide to Irish Peatlands

Roche, J. 2003. Tradition and biodiversity in Connemara. *Peatland News* **36**, 19-20.

Typical Plants of Western Lowland Blanket Bog
Purple moor-grass
Bog cotton
Black bog rush
Beak-sedge
Deer-sedge
Ling heather
Cross-leaved heath
Bog asphodel
Tormentil
Lousewort
Sundew
Milkwort
Bog myrtle
Sphagnum mosses
Cladonia lichens
Pleurozia purpurea liverwort

The transect at the Old Bog Road, taken from the cutover area, looking towards the cut face. Photo: J. Roche

Roche, J. 2003. Tradition and biodiversity in Connemara. *Peatland News* **36**, 19-20.