

Raised Bog Restoration in Ireland

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Talk outline



- ⌘ Why do we need to restore
- ⌘ What should be our restoration targets
- ⌘ Review the results of NPWS raised bog restoration work
- ⌘ Identify the problems/challenges of such work

Why restore Raised Bogs



- ⌘ A severely threatened habitat in the EU
- ⌘ Protection is required by the EU Habitats Directive
- ⌘ **Active Raised Bog is a priority habitat**
- ⌘ **Ireland has 60% of ARB in Atlantic region**
- ⌘ **Area of ARB is declining rapidly - 36% in last decade**

Raised Bog Statistics



- ⌘ **Once covered 300,000 ha, 4.5% of Ireland**
- ⌘ **Uncut area now 50,000 ha, 16% of original**
- ⌘ **21,500 ha (43%) of uncut in SACs/NHAs**
- ⌘ **All known ARB (1,945 ha) in SACs/NHAs**
- ⌘ **ARB now only 0.6% of original area**

Raised Bog Protected Area Statistics



- ⌘ **Special Areas of Conservation (SACs) - 53 with 11,832 ha uncut bog**
- ⌘ **Natural Heritage Areas (NHAs) - 75 with 9,687 ha uncut bog**
- ⌘ **SACs + NHAS contain 43% of remaining uncut bog and 7% of the original bog**

Conservation and Restoration Targets



- ⌘ Ireland is obliged to maintain or restore RB to Favourable Conservation Status (FCS).
- ⌘ Raised bog will be in FCS when its natural range and areas it covers within that range are stable or increasing, it should be forming peat and supporting its typical species complement.

Targets (continued)



- ⌘ In addition to Active Raised Bog (7110) Ireland has designated 19,174 ha of Degraded Raised Bog habitat still capable of natural regeneration (7120) in protected areas. An intrinsic part of the definition of that habitat is that it can be restored to active bog within 30 years (European Commission 2003)

Target (continued)



- ⌘ As the combined area of Active and Degraded bog currently stands at 21,500ha this is the appropriate target area of Active Raised Bog that Ireland has to aim to achieve, i.e. over 10 times the current area
- ⌘ Restoration should attempt to restore the range as well as the area.

NPWS Restoration Programs



- ⌘ Need to understand processes to manage damaged sites
- ⌘ Irish/Dutch Raised Bog Study 1989-1995 (Schouten, 2002)
- ⌘ Identified the hydrogeological requirements for active peat growth
- ⌘ Growth related to length of flow path (+) and local slope (-)

NPWS Programs (continued)



- ⌘ Drainage and peat cutting cause increased slopes as peat loses water and the surface subsides
- ⌘ At Clara bog cutting steepened slopes over 600 metres away in a decade causing a loss of 34% of the ARB habitat
- ⌘ methods developed used for site selection, monitoring, restoration and impact prediction

Restoration Projects



- ⌘ Raised Bog Restoration Project -1994/99 - EU Cohesion Funds
- ⌘ Initial work on Clara and Raheenmore bogs developed restoration techniques
- ⌘ Restored parts of 17 bogs
- ⌘ Mainly damming small drains with peat
- ⌘ Medium size dams strengthened with geotextile to divert flows/prevent erosion

Restoration Projects (cont)



- ⌘ 3 very large dams built to stop subsidence at Raheenmore Bog - two collapsed - one is stable and has stopped subsidence locally. Very expensive but necessary where relatively confined areas of cutting are causing major subsidence problems
- ⌘ partial restoration of a lagg zone which involved very detailed hydroecological studies

Restoration Outcomes



- ⌘ While locally successful, impacts from turf cutting/drainage/fires, have generally resulted in an overall decline in the area of Active Raised Bog occurring on the sites
- ⌘ Conclusion - restoration only successful when the whole bog is treated as a unit. If not done one is at best simply slowing down the rate of loss of active bog.

Restoration Options



- ⌘ Where there is ARB the original surface will be restored where possible
- ⌘ The next best option is restoration of large, relatively flat, cutaways surrounding high bog that still retain Active Bog. This will improve the conditions for ARB which will provide a supply of bog water and the necessary species for the re-activation of peat formation on the surrounding cutover.

Restoration Options



- ⌘ The least preferred option is rehabilitation of cutover bog as this will be relatively poor in raised bog biodiversity for some time. However this will help achieve the target area and help recolonise the favourable reference range for Active RB

Problems/Challenges



- ⌘ Two main challenges must be overcome before restoration can begin on a scale which will compensate for recent losses and allow the target area for restoration to be achieved in 30 years
- ⌘ Turf cutting must cease, so that the main cause of decline is removed and acquisition/management agreements need to be greatly speeded up

Turf cutting




- ⌘ Most obvious commercial cutting has ceased in designated sites and their rights have aquired by the state.
- ⌘ Domestic cutters were given 10 years to make alternative arrangements when the original raised bog were designated in 1999. That agreement is currently under review by the Government.

Turf cutting (continued)




- ⌘ In 2003 domestic cutting was continuing on 117 (84%) of the 139 designated bogs
- ⌘ Over 20,000 turbarry rights may exist on these bog (over 2500 active in 2003).
- ⌘ **Only 5% of turbarry rights aquired since 1999 and mainly from non-active cutters**

Land Acquisition/Management Agreements



- ⌘ NPWS has acquired BnM's interests in all the designated bogs. Cost approximately €23 million for approximately 7,000 ha including over 4000ha uncut in SACs
- ⌘ Under the Turbary Cessation Schemes the freehold or turbary rights of 2,700ha was acquired for €18 million. Mostly in small scattered plots with relatively little high bog.

Land Acquisition/Management Agreements (continued)



- ⌘ NPWS owns almost 10,000 ha of high bog and cutover but little can be done without affecting neighbours drainage.
- ⌘ Few such problems on the extensive BnM cutaway bogs. However problems with lack of ARB habitat to 'seed' restored areas and no impact on slowing losses of Ireland's remaining resource of Active Raised Bog.

Conclusion



- ⌘ The target is ambitious will require public support for the commitment of very considerable resources
- ⌘ This will only occur if there is a greater appreciation of all the goods and services that intact bogs and other wetlands provide and a willingness to pay for such services.