

Potential Natural Vegetation of Ireland. J.R. Cross. *Biology and Environment Proceedings of the Royal Irish Academy* Vol.106B No.2. No price given.

Dr Cross introduces the publication by stating that Ireland is one of the few countries in Europe that does not have a detailed map of the natural vegetation of the entire land mass. While there have been numerous studies of Irish vegetation which have resulted in the production of maps of many different scales, including large-scale maps of specific vegetation types such as agricultural grasslands, peatlands and even detailed localised maps of specific areas, no attempts at an overall synthesis of the natural vegetation has been published to-date apart from that of Noirfalise¹ (1987).

The need for vegetation maps is nevertheless widely recognised among European botanists, and this has led to international collaboration and the production of a map of the natural vegetation of Europe at a scale of 1:2.5 m (Bohn² et al. 2000). Cross

¹ Noirfalise, A. 1987. *Map of the natural vegetation of the member countries of the European Community and the Council of Europe*. Office of the Official Publications of the European Community, Luxembourg.

² Bohn, U., Gollub, G. and Hettwer, C. 2000. *Map of the natural vegetation of Europe*. Federal Agency for Nature Conservation, Bonn-Bad Godesberg.

expands the scale of this map, with some revisions, and includes a description of the vegetation units, while retaining the classification system used in the latest map of the natural vegetation of Europe (Bohn³ et al. 2003).

The concept of potential natural vegetation is briefly outlined and the paper highlights the factors affecting its development. These include climate, soil type, vegetation history, land use and other biotic factors. This is followed by a resume of the present day vegetation, with references for the main sources of data and a description of the methods used to compile the units and construct the map of the natural vegetation of Ireland. Twenty different vegetation units are described (which fit into six formation complexes), comprising nine forest units, five mire units, two heath units, two sand dune units and one salt marsh unit and one polder unit. The main text consists of details of vegetation habitat, land use and conservation status for each vegetation unit.

Minor vegetation types are also considered briefly, and the proceedings conclude by examining the general distribution and character of Irish potential natural vegetation and its relationship with the rest of Europe. Dr Cross states that while some work has been completed a great deal more work is required for the production of a more detailed map that would adequately depict the heterogeneity of Irish vegetation. He reminds the reader that interpretation of the map should therefore be undertaken with caution, bearing in mind that the vegetation units represent complexes in which only the principal vegetation type is depicted.

The potential vegetation in Ireland differs from that of Britain and nearby parts of the continent in three major respects. Firstly, the impoverished flora, and in particular the absence of certain important forest tree species, results in floristically less diverse forest communities. Secondly, the mild moist climate of Ireland results in the widespread occurrence of Atlantic and sub-Atlantic species, in particular bryophytes and lichens. Thirdly, the area of mires in Ireland is greater than in any other European country at these latitudes (Ratcliffe and Oswald⁴ 1988).

The diversity of the Irish landscape and vegetation is a product of natural variation in rock type, soil and climate overlain by millennia of human activity. This has resulted in a fine-grained mosaic of semi-natural and anthropogenic vegetation types. As presented, the map of the potential natural vegetation of Ireland clearly has limitations. However, when used in conjunction with the descriptions of vegetation units provided in this paper, it can provide an indicative guideline for land use and planning. The author points out that Bohn et al. (2000) have discussed the general use of such maps as follows:

- use as a baseline for a pan-European habitat and landscape classification, assessment and mapping system for nature conservation purposes,

³ Bohn, U., Gollub, G., Hettwer, C., Neuhauslova, Z., Schluter, H. and Weber, H. 2003. *Map of the natural vegetation of Europe 1-3*. Bonn-Bad Godesberg, Federal Agency for Nature Conservation.

⁴ Ratcliffe, D.A. and Oswald, P.H. 1988. *The Flow Country peatlands of Caithness and Sutherland*. Nature Conservancy Council, Peterborough.

- determination and evaluation of the degree of naturalness of the actual vegetation and landscape,
- establishment of representative national and international networks of protected areas,
- establishment of an international network for comparative observations of processes and changes in ecosystems, for example, for monitoring air pollution and climate change,
- for planning and restoration programmes, for example selection of appropriate species for afforestation.

The author highlights the uniqueness of the Irish flora arising from its geographical location and relative isolation, which has been the subject of considerable discussion in the past (Praeger⁵ 1934, Webb⁶ 1983). The map of potential natural vegetation indicates that this applies not only at a species level but also at a community level. Some communities for example, Atlantic raised bog and bryophyte- and lichen-rich sessile oak forests, have their European headquarters in Ireland while others, such as alder-oak-ash forests may be unique to Ireland. Dr Cross postulates that the production of a more detailed map will require considerable effort, even with modern methods of remote sensing, however he argues that natural vegetation is a basic resource of a country that should be incorporated more fully into land-use and planning policy, where the practical value of such a map and accompanying descriptions will be recognised. Finally, he concludes that this debate may eventually lead to the production of a more detailed and accurate map of Ireland's vegetation which would be comparable to those currently available in other countries.

One cannot but agree with Dr Cross's proposition that natural vegetation is a basic resource of a country that should be incorporated more fully into land use and planning policy. This is especially important in the development of a national forestry programme. The publication is timely and should provide a useful preliminary guide for ecologists and foresters, as it describes the vegetation units and complexes into which they fit. However, as highlighted by the author, a great deal more work is needed in this area to complete a comprehensive map of Irish vegetation.

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⁵ Praeger, R.L. 1934. *The botanist in Ireland*. Hodges Figgis, Dublin.

⁶ Webb, D.A. 1983. The flora of Ireland in its European context. *Journal of life Sciences of the Royal Dublin Society* 4: 143-160.