

E.U. Habitats and their identification

A talk given by Stephen Heery to the COFORD Council Land Availability Working Group, 6th December 2012.

I must first say that these views are my own. It is a brief, incomplete look at the habitats.

Purpose of talk.

- Foresters are sometimes told that an area cannot be planted because it is an “EU habitat”.
- This has obvious important implications for the landowner.
- They are sometimes unsure what is meant by an EU Habitat and how it to be identified in the field.
- We are talking here, of course, about habitats outside the usual SAC/SPA network.

Habitats; what are ‘EU habitats’ and why are they listed?

- Without getting bogged down, it is well known that a habitat is the type of place where species of flora and fauna live. A field, a bog, a wood, a conifer plantation, a garden *and all the variations thereof*. Foresters have always used habitats to predict land suitability and yield class.
- The EU Habitats Directive lists 218 habitat types (including 71 regarded as ‘priority’); habitats that are considered to be in danger of disappearance in Europe as a whole, due to intensification of land-use. Much consultation, with experts in each country, including Ireland, went on in the late 1980s and early 1990s to compile the list. Not all the listed habitats occur in Ireland; and only a few of those will be relevant to forestry.

I will be showing slides later of the E.U. Habitats that may be considered relevant to forestry.

- The purpose of the Habitats Directive was to provide a member state with a framework “*to maintain or restore in favourable condition, natural habitats and species of wild flora and fauna*”. In other words, for Ireland, to prevent from becoming extinct all native species of flora and fauna.
Flora is easy to visualise. But, don’t forget that included in *fauna* are the many thousands of species of unseen and unstudied, and in some cases unknown, invertebrates of myriad types and ecological functions.

- The assumption is that the largest number of Ireland's native species occurs in 'natural habitats' i.e. habitats that are '*less disturbed*', '*more natural*', '*older*'. The most commonly used term in scientific jargon is '*semi-natural*'. Almost all vegetation cover in Ireland is influenced by Man, therefore cannot be said to be 'natural'. Semi-natural vegetation is least influenced by Man. Perhaps one good example is a hay meadow on flood-prone callowland. The farmer takes an annual hay crop and perhaps even puts some fertiliser on but he does not have a great influence of the types of grasses, sedges and flowers that make up his crop. Another is mountain unenclosed grassland, grazed but not over grazed. Most of the EU Habitats are semi-natural.

The main aim of the EU Habitats Directive was to direct Governments to designate SACs, with all their legal implications, containing these habitats. But these habitats can occur outside the designated areas, in small pockets everywhere and on unenclosed land. Where they occur, it is in the spirit of the Habitats Directive that they should be kept intact and functioning. I am unsure of the legal status of these habitats outside the SAC/SPA network; the NPWS should be able to clarify that.

How are these habitats identified?

- *Interpretation Manual of European Habitats* (available on the web, EUR 28 is the latest version) provides the main reference point for identification for specialists and other informed users. For each habitat there is a general description; characteristic plant species and (sometimes) animals; the physical attributes of the land on which it occurs; mention of habitat types with which it is often associated (habitats merge into one another) and correspondence to other classifications of habitat in specific countries (including UK).
- NPWS have also looked at information on all the habitats in Ireland and given an account of the status of these in Ireland – NPWS web site ¹. "Some problems still remain in interpreting the habitat types but in many cases pragmatic solutions have been agreed".

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http://www.npws.ie/publications/article17assessments/article172013assessmentdocuments/Article_17_Web_report_habitats_v1.pdf

- And at a lower level, Fossitt has provided *A Guide to Habitats in Ireland*, linking the EU Habitats with the more common types. It is, however, incomplete as far as identification of EU habitats is concerned.
- In other words there is good guidance for an ecologist to ascertain if the land he/she is looking at conforms to a stated habitat. It is not a precise science but, in my experience, usually it is fairly clear. An ecologist identifying an EU Habitat will be able to show evidence for that conclusion from the various sources of identification and guidance.

- In the field, habitats are identified by their plant species along with other easily seen clues such as topography, soil type, water regime etc.

Most plant species are quite particular as to where they grow and *a combination* of such species will usually define the sort of place, or HABITAT, the land is. Plant species live in a preferred habitat but plants themselves are also part of the habitat of invertebrates, attracted to certain plant species.

I will now look at a few EU habitats that may be relevant to forestry, with brief notes. Note that it is quite reasonable to regard a somewhat degraded habitat to be capable of restoration. Bogs are a case in point but the same could be said of any EU Habitat. Quotes are from the Manual or Fossitt. All photos are from Ireland. After the photos I conclude with some general comments.

Alkaline fen 7230

Molinia meadow 6410

Species rich *Nardus* grassland 6230

Dry heath 4030

North Atlantic wet heath with *Erica tetralix* 4010

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Alkaline fen 7230



1

(S. Heery)



2

(S. Heery)

“Wetlands mostly, or largely, occupied by peat- or tufa-forming small sedge and brown moss communities developed on soils permanently waterlogged, with soligenous (i.e. groundwater) or topogenous (i.e. over ground) supply . . .” Brackets are my own.

Photo 1 shows listed indicator species Black bog rush *Schoenus nigricans* (dark dots); and photo 2 shows a close up of the ground with ‘brown moss’ *Campyllum stellatum* and tufa (i.e. calcareous deposits) formation.

***Molinia* meadow 6410**



3 *Molinia* meadow with Bog thistle and purple moor grass (S. Heery).

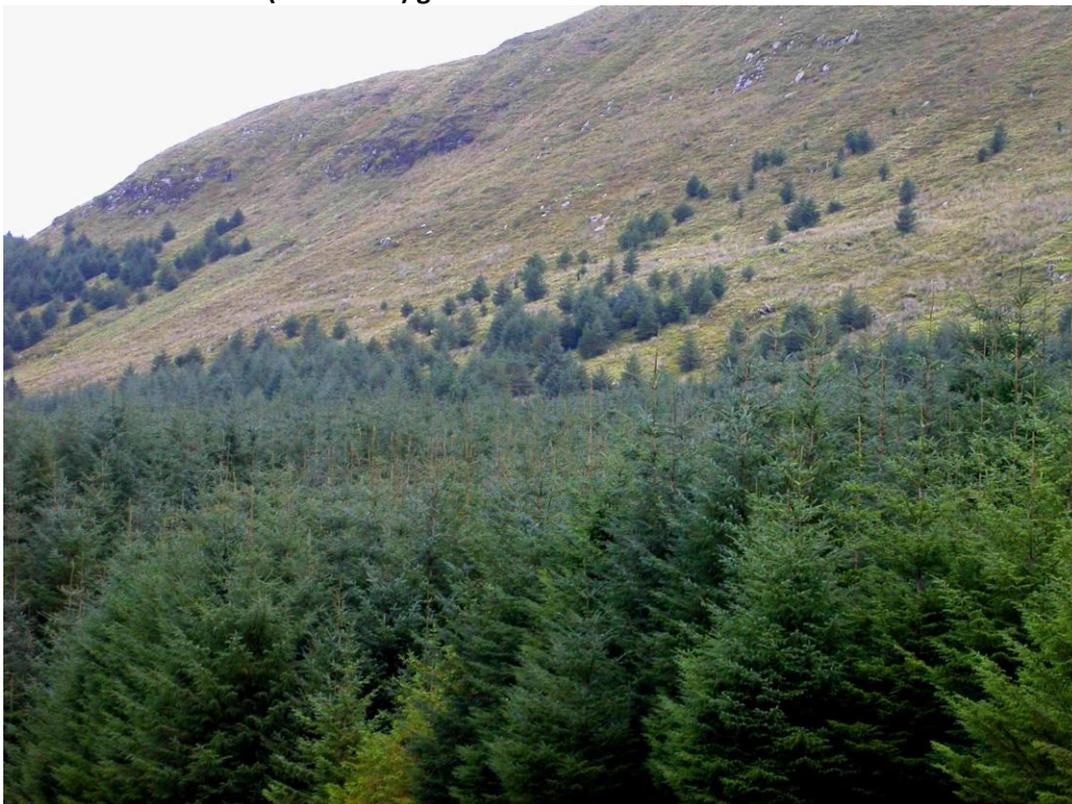


4 Bog thistle *Cirsium dissectum* (S. Heery)

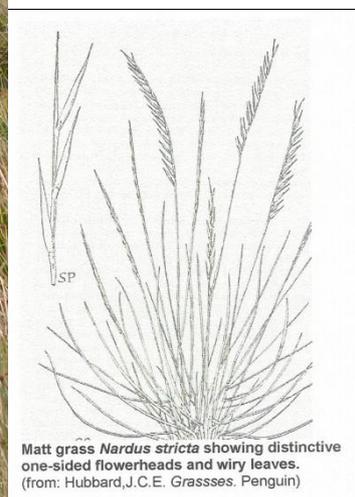
Hay meadows (or extensive pastureland) on peaty nutrient poor soils. Two very useful indicator species in Ireland are bog thistle *Cirsium dissectum* (photos 3 and 4) and very sparse purple moor grass *Molinia careulea*, the white tufted grass in the bottom right corner of photo 3. Foresters will recognise that this is a different habitat for *Molinia* than the usual mountain bogland.

Molinia is always very sparse and sometimes difficult to find, but is almost always there to be found.

Species rich *Nardus stricta* (Mat Grass) grasslands 6230



5 Species rich *Nardus* grassland towards the tree line on unenclosed land (R. Sheppard).



6 Species rich *Nardus* grassland. White stems in foreground are soft rush, not *Nardus* (R. Sheppard).

“Species-rich sites should be interpreted as sites which are remarkable for a high number of species. In general, the habitats which have become irreversibly degraded through overgrazing should be excluded”. Fossitt states that Irish *Nardus* grasslands are naturally not as species rich as the Continental examples.

Nardus stricta is a wiry grass, unpalatable to sheep, so when overgrazing occurs it tends to become dominant at the expense of a more species rich community.

Dry heath 4030



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(N. Roche/F. Dunne)



8

(S. Heery)

Fossitt's *Guide to Habitats in Ireland* states the rule of thumb that dry heath is "where the vegetation is open and there is at least 25% dwarf shrubs", interspersed with grasses and/or mosses. The "dwarf shrubs" are usually heathers (as in the photos above), sometimes with bilberry *Vaccinium myrtillus*, but Western (dwarf) gorse *Ulex gallii* can add yellow to the colours and, on calcareous soils juniper low growing *Juniperus communis* can be present. In more mountainous areas the ground hugging crowberry *Empetrum nigrum* may occur.

Northern Atlantic heath with *Erica tetralix* 4010



9 Wet heath, with *Calluna* and *Sphagnum* on a wet flushed slope (I.J. Herbert).



10 An indicative species community for wet heath: Cross-leaved heather *Erica tetralix* (pink bells), Bog asphodel *Narthecium ossifragum* (yellow with grass like blades); Purple moor grass *Molinia careulea* (other grass blades) (I.J. Herbert).

Wet heaths are often in a mosaic with blanket bog, dry heath, *Nardus grassland* etc. on unenclosed land

Conclusion

We have been talking about strict E.U. Habitats. Other semi-natural habitats in Ireland are worth keeping intact:

- Degraded E.U. Habitats that can be restored.
- What might be called 'national habitats' – semi-natural habitats that are rare in the Irish landscape but that are not rare enough in Europe to be listed in the Directive (or it was overlooked at the time). Fossitt mentions Poor fen flush.
- Indeed, representative examples of semi-natural habitats that are not considered rare in Ireland but are part of a diverse natural landscape e.g. wet grassland, ponds, semi-natural woodland patches, wide expanses of unenclosed land, relatively unimproved grassland of all types, hedgerows (especially those of some antiquity) are to name but a few that make up a diverse countryside alongside more intensive land uses.

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