

NIEA, Natural Heritage, Development Management Team Advice Note

Active Peatland and PPS18

This is an internal reference document to guide NIEA staff on the identification of active peatland in relation to PPS18. It is made available for the reference of developers and their agents and consultants preparing applications for renewables on peatland sites.

Active peatland is a determining factor when assessing wind energy applications.

Peatland habitats are recognised as being important globally, nationally and locally. Our peatlands provide important ecosystem services including conserving biodiversity, carbon and water storage. They also give us some of our most distinctive landscapes.

PPS18 has introduced a new policy for renewable energy whereby there shall be no development within active peatland unless there are imperative reasons of overriding public interest. The policy indicates that this includes blanket bog and raised bog. Active blanket bog and raised bog are European priority habitats listed under Annex I of the Habitats Directive 92/43/EEC. We therefore have an international obligation to conserve these habitats.

In terms of precisely defining these habitats, the key reference document is the European Commission's [Interpretation Manual of European Union Habitats](#). Blanket bogs and raised bogs are European priority habitats if they are '**active**'. The manual defines active as to mean "still supporting a significant area of vegetation that is normally peat forming". The term 'active', in relation to peatlands, therefore incorporates two main concepts – '**peat forming**' and '**significant area**'.

On bogs peat may be formed by both *Sphagnum* mosses and cyperaceous species, such as cotton-grasses (*Eriophorum angustifolium* and *E. vaginatum*). The manual states that *Sphagna* play an important peat forming role in all bogs but in blanket bogs the cyperaceous component is greater than in raised bogs. The criterion in distinguishing between active and non-active bog is whether the surface is peat forming, rather than whether it has been cutover or not. Many secondary surfaces (i.e. cutover bogs) remain active.

In uplands especially, active blanket bog can occur in a mosaic with inactive blanket bog and other upland habitats. Our bogs also show some regional variation from western regions to eastern regions. In areas of higher rainfall such as our western bogs and areas of higher elevation such as Garron Plateau, there are generally larger areas of *Molinia* flushes, which are a natural part of the blanket bog, than in those bogs in the east. Our eastern bogs generally contain a higher proportion of *E. vaginatum* rather than *Sphagnum* as the main peat former.

Assessing Peatlands in relation to PPS18

The following will help in decision making when deciding if an area is active or not.

You are more likely to be on active peatland if the site contains any of these indicators:

- *Sphagnum* is present
- If the surface is spongy underfoot
- Deep peat is present (>0.5m)
- Intact peat is present or the hydrology is still intact
- *E. vaginatum/ angustifolium* is present in significant quantities with some *Sphagnum*
- The typical range of blanket bog and raised bog species is present as indicated within the interpretation manual
- There is a hummock and pool topography

You are less likely to be on active peatland if:

- None or very little *Sphagnum* is present
- A significant amount of non-typical bog community species is present as indicated within the interpretation manual e.g. soft rush
- There is a mosaic with acid grassland or dry heath
- Peat depth is less than 0.5m
- The surface is dry and / or the hydrology is severely affected by deep drains
- There are large areas of bare peat and / or algal mats

Surveys necessary within an Environmental Impact Assessment (EIA) for a wind farm

In order to establish if an area is active, detailed survey information will need to be provided. A Phase 1 survey describing the broad habitats should identify the peatland habitats present. Interpretation of aerial photos will help identify the broad areas before ground truthing. Each peatland unit should then have a more detailed vegetative assessment to National Vegetation Classification (NVC) level.

NVC classifications are based on a detailed description of flora taken from systematic sampling of areas. The list below indicates the NVC classifications that could be active. In these habitats the full details of quadrats surveyed will be needed to aid identification of active peatland. They should be provided within the environmental statement (ES).

NVC classifications which are likely to be found in active peatland:

- M1 *Sphagnum auriculatum* bog pool community
- M2 *Sphagnum cuspidatum/recurvum* bog pool communities

- M3 *Eriophorum angustifolium* bog pool community
- M17 *Scirptus caespitosus- Eriophorum vaginatum* blanket bog
- M18 *Erica tetralix- Spagnum papillosum* raised and blanket mire
- M19 *Calluna vulgaris-Eriophorum vaginatum* blanket mire
- M20 *Eriophorum vaginatum* blanket mire
- M25 *Molinia caerulea-Potentilla erecta* mire

The habitat units on site with any peat depth measurement greater than 0.5m should then be assessed in relation to active peatland. It would be useful for developers to apply the methodology below when identifying active peatland and provide the quadrat details within their ES.

Survey methodology for NIEA site visit

For each habitat unit, take a random sample of 2X2m quadrats. The number of quadrats needed depends on the area to be sampled. A good working measure is one per hectare though for large areas of homogenous habitat (approximately >20 hectares) this could be reduced to one per two - five hectares depending on the size of the unit. In addition include quadrats in locations which are to be developed.

For each quadrat note the following:

- List of species and domin cover for each
- % cover of each *Sphagnum* spp./*E. vaginatum*/*E. angustifolium* and total % cover of these species
- % cover of any non-typical species if present
- Area of bare peat and algal mats
- Depth of peat
- If the peat is intact or has evidence of modifications

All the quadrat results for each habitat unit should be considered together to form a picture of the quality of the whole habitat unit and whether, in its entirety, it is an active peatland.

Blanket bog envelops a landscape and may include areas of blanket bog, wet heath, dry heath, flushes, upland fen, acid grasslands and ponds which are a natural component of peatland habitats. The European Commission's (EC) interpretation of active peatland is "a significant area of peat forming vegetation" and therefore recognises the mosaic of habitats that can occur within blanket bog. The large hydrological peat units on a mountainside must therefore be considered as part of the decision making process. If a survey finds small isolated pockets of active peat, such as in drains, then the unit would not be considered to be active. However if larger areas of active peat are identified with smaller areas of inactive peatland, this would indicate that the hydrological unit is mainly active. In these cases impacts to inactive areas could indirectly impact on adjacent active areas due to introduced hydrological changes. We will consider the unit to be classified as active.

In relation to single turbines, an assessment of the peatland unit(s) where the turbine and access road are to be located needs to be undertaken. Quadrats as detailed above should suffice after aerial identification of the peatland units. For more complicated or extensive

sites Phase 1 and NVC surveys and peat depths may need to be requested from the applicant.

Temporarily inactive peatland

The EC Interpretation Manual of European Union Habitats says:

“The term ‘active’ must be taken to mean still supporting a significant area of vegetation that is normally peat forming, but bogs where active peat formation is temporarily at a standstill, such as after a fire or during a natural climatic cycle e.g., a period of drought, are also included.”

Therefore peatland that has been burnt or otherwise damaged, but where it is believed that peat formation has only ceased temporarily, also comes within the definition of active. In addition different parts of a blanket bog can be active at different stages, even over very long periods of time, depending on topographic and climatic variables as well as anthropogenic factors.

Burning generally has a temporary impact on an active peatland. Where this has occurred, the remnants of the vegetation should be investigated as *Sphagnum* hummocks are usually still evident after a burn. Where present it shall be presumed that the site was active and is therefore likely to return to such in a short time period. The area adjacent to the burnt area may also help distinguish if the peat mass was active. Auger cutting is also considered to only have a temporary impact.

Further Advice

For further advice or discussion contact:

Claire Hempsey, NIEA, Natural Heritage: 02890569596

Claire.hempsey@doeni.gov.uk