



# UK Biodiversity Action Plan Priority Habitat Descriptions

## Upland Birchwoods

**From:**

UK Biodiversity Action Plan; Priority Habitat Descriptions. BRIG (ed. Ant Maddock) 2008.

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## Upland Birchwoods

Upland Birchwoods in Scotland are dominated by a series of stands of downy and/or silver birch with constituents such as rowan, willow, juniper and aspen (Hall and Kirby, 1998). Boundaries are often diffuse and liable to change as woodlands expand and contract in response to fires and changes in grazing pressure (Kirby, 1984). Refuges, such as those occurring on cliffs or rocky patches, may develop permanent tree cover that can contain richer, less mobile species (Kirby, pers. comm.). On more acidic soils, rowan is a prominent component, and juniper can form the underwood in the eastern highlands. Aspen grows on a variety of site types where mineral soil is present (Worrell, 1996), occurring frequently within upland birchwoods as small groups and rarely as extensive stands. Only 12 stands greater than 5ha are known to exist within Scotland.

On all but the most acidic sites, birch influences the soil to allow development of a grass-herb flora on sites previously dominated by dwarf shrub heath. This successional development appears to be cyclical in nature with the ground flora of many senescent birchwoods eventually returning to heath as tree cover is lost (Miles, 1988). Heavily grazed woodlands tend to develop a grass and moss dominated flora (McVean and Ratcliffe, 1962; Patterson, 1993) and, where the sward has been changed due to heavy stocking of sheep or cattle, the return to heath may not happen so readily.

Upland birchwoods are composed of the following main communities from the National Vegetation Classification:

- W11 *Quercus petraea*-*Betula pubescens*-*Oxalis acetosella* woodland
  - (a) *Dryopteris dilatata* sub-community
  - (b) *Blechnum spicant* sub-community
  - (c) *Anemone nemorosa* sub-community
  - (d) *Stellaria holostea*-*Hypericum pulchrum* sub-community
- W17 *Quercus petraea*-*Betula pubescens*-*Dicranum majus* woodland
  - (a) *Isoetes macrospora*-*Diplophyllum albicans* sub-community
  - (c) *Anthoxanthum odoratum*-*Agrostis capillaris* sub-community
  - (d) *Rhytidadelphus triquetrus* sub-community
- W4 *Betula pubescens*-*Molinia caerulea*
  - (a) *Dryopteris dilatata*-*Rubus fruticosus* sub-community
  - (b) *Juncus effusus* sub-community

Small base-rich patches (W9 – *Fraxinus excelsior*-*Sorbus aucuparia*-*Mercurialis perennis* woodland) and wet areas (W7 – *Alnus glutinosa*-*Fraxinus excelsior*-*Lysimachia nemorum* woodland) are locally frequent but where these occur over extensive areas, they should be referred to the appropriate priority habitat (Hall and Kirby, 1998). W4a and b are included within Upland Birchwoods even when they occur extensively, as their transition to W11 and W17 becomes harder to define under the wetter conditions encountered (Kirby, pers. comm.). Soil-related differences tend to be masked by striking climatically-influenced similarities (Rodwell, 1991).

Birchwoods appear within Peterken's Stand types as 12A ((rowan) birchwoods) and 12B (hazel-birchwoods). The division of the two types is based on presence or absence of *Corylus*. This follows earlier classification by McVean and Ratcliffe. Small components of 1D (western valley ash-wych elm woods), and 3C (northern calcareous hazel-ash woods), may occur in base-rich patches and 7A (valley alder woods on mineral soil), and 7D (slope alder wood), may occur in wet stands with alder (Hall and Kirby, 1998). Some birchwoods may naturally move towards stand types 6A (upland sessile oakwoods), 11A (acid birch-pine woods) or 3C (northern calcareous hazel-ash woods). Birch may naturally dominate higher elevation components of these respective stand types.

In the majority of high elevation woodlands, the upper boundary does not represent the natural tree line. This would be dominated, in most cases, by downy birch (thought by some to be a sub-species in this situation) and rowan. Natural tree lines form an important niche for dwarf birch (*Betula nana*) and other scarce species.

## References

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