



### Site Name: Ben Bulben, Gleniff and Glenade Complex SAC

### Site Code: 000623

This large SAC site is located in the uplands around Ben Bulben, King's Mountain, Benwisikin, Truskmore and Tievebaun (or Eagle's Rock), straddling the Sligo/Leitrim county boundary. These uplands are formed of Carboniferous limestone, capped in places by shales. They stand in a high plateau, 300-450 m above the surrounding countryside, and the edges form lofty cliffs ranging from 15 to 300 m in height. Below these cliffs, block scree usually occurs on slopes of 40-50 degrees. The mesa type of landform (i.e. flat-topped hill) found at this site, which has arisen from the long exposure of the upland areas to erosion, is of great interest geomorphologically. So too are the upper Viséan reefs exposed on the cliffs and on some of the summits. In addition, this region is also the type locality for the Ben Bulben shale, the Glencar limestone and the Dartry limestone.

This site is important botanically mainly because of the profusion of alpine plants which occur on the cliffs throughout the area, and particularly the cliffs of the Gleniff valley. The site is one of the best in the country for alpinism, in terms of species-richness, abundance and indeed, some of the alpine plants found here occur nowhere else in Ireland. The numerous waterfalls and Glencar Lake are also of great botanical interest.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

- [3260] Floating River Vegetation
- [4010] Wet Heath
- [4030] Dry Heath
- [4060] Alpine and Subalpine Heaths
- [5130] Juniper Scrub
- [6210] Orchid-rich Calcareous Grassland\*
- [6230] Species-rich *Nardus* Grassland\*
- [6430] Hydrophilous Tall Herb Communities
- [7220] Petrifying Springs\*
- [7130] Blanket Bogs (Active)\*
- [7140] Transition Mires
- [7230] Alkaline Fens
- [8110] Siliceous Scree
- [8120] Calcareous Scree

[8210] Calcareous Rocky Slopes

[1013] Geyer's Whorl Snail (*Vertigo geyeri*)

[1355] Otter (*Lutra lutra*)

Throughout the site, on scree slopes and on cliffs, there are a large number of calcareous springs and seepage areas. Many of these have tufa deposits associated with them. Species occurring in these wet conditions include Common Bent (*Agrostis stolonifera*), Golden-saxifrage (*Chrysosplenium oppositifolium*), Pale Butterwort (*Pinguicula lusitanica*), Bog Pimpernel (*Anagallis tenella*), Blue Moor-grass (*Sesleria albicans*), sedges (including *Carex panicea*) and an abundance of bryophytes. The Red Data Book species Yellow Saxifrage (*Saxifraga aizoides*) and Mossy Saxifrage (*S. hypnoides*) are scattered throughout this community. In places on the limestone cliffs, tufa builds up on rocky ledges and provides very wet habitat for rare and interesting vegetation communities. Noteworthy here too are the bryophyte communities, which include a number of very rare species (e.g. *Didymodon maximus* at its only known locality in Europe). Transition Mires, Alkaline Fens and Hydrophilous Tall Herb Communities, all Annex I habitats listed under the E.U. Habitats Directive, are associated with these wetland areas.

Drier areas on the calcareous and siliceous screes, cliffs and rocky slopes, support somewhat different vegetation. Common here are Lesser Meadow-rue (*Thalictrum minus*), Welsh Poppy (*Meconopsis cambrica*), Roseroot (*Rhodiola rosea*), Harebell (*Campanula rotundifolia*) and Viviparous Fescue (*Festuca vivipara*). Scattered throughout this vegetation are Alpine Meadow-rue (*Thalictrum alpinum*), Hoary Rock-cress (*Arabis hirsuta*), Mountain Sorrel (*Oxyria digyna*), Mountain Avens (*Dryas octopetala*) and the Red Data Book species, Purple Saxifrage (*Saxifraga oppositifolia*) and Alpine Meadow-grass (*Poa alpina*). Ferns are particularly abundant in the rocky crevices, including Bristle Bladder-fern (*Cystopteris fragilis*), Green Spleenwort (*Asplenium viride*), Wilson's Filmy-fern (*Hymenophyllum wilsonii*) and the Red Data Book species, Holly Fern (*Polystichum lonchitis*). Trees and shrubs are scattered along the cliff ledges, including Yew (*Taxus baccata*), Juniper (*Juniperus communis*) and the Red Data Book species, Tea-leaved Willow (*Salix phylicifolia*). Some areas of Juniper scrub exist.

Where the cliffs are interrupted by more gently sloping ground, grassy vegetation usually predominates, but where the underlying rock outcrops, the Red data Book species, Moss Champion (*Silene acaulis*) is found. The proximity of the site to the sea is evident in the occurrence of several maritime species, e.g. Sea Champion (*Silene vulgaris* subsp. *maritima*), Sea Plantain (*Plantago maritima*) and Common Scurvygrass (*Cochlearia officinalis*). Small areas of grasslands ascribable to the E.U. Habitats Directive Annex I priority types: Species-rich *Nardus* Grassland and Orchid-rich Calcareous Grassland have been reported to occur from the Leitrim part of the site, according to the Irish Semi-natural Grasslands Survey, 2009.

The summit of the plateau is peat-covered, with areas of blanket bog and wet and dry heath, dominated by Heather (*Calluna vulgaris*) and Bell Heather (*Erica cinerea*), with Lesser Twayblade (*Listera cordata*) commonly occurring underneath Heather bushes. On the highest parts of the site, the heath becomes more alpine in character, and includes species such as Crowberry (*Empetrum nigrum*), Cowberry (*Vaccinium vitis-idaea*), Fir Clubmoss (*Huperzia selago*), Alpine Sedge (*Carex bigelowii*) and the moss *Racomitrium lanuginosum*.

Many fast flowing upland streams rise on the summit of the plateau and flow down its sides. Some of these streams carry base-rich water and support a species-rich bryophyte flora, often associated with tufa deposits. A number of rare bryophytes have been recorded, including *Orthothecium rufescens*, *Daltonia splachnoides*, *Fissidens pusillus* and *Ulotia calvescens*, among others. The streams on the site show a good range of riverine structures, with pools, riffles, cascades, waterfalls, tufa deposits, petrifying springs and swallow holes. There are also some streams which have intermittent flow and which are typical of high-level karst streams, very few of which occur in the country.

Six rare flowering plant species which are legally protected under the Flora (Protection) Order, 2015, have been recorded from this remarkable site: Fringed Sandwort (*Arenaria ciliata*), Northern Rock-cress (*Cardaminopsis petraea*), Alpine Bistort (*Polygonum viviparum*), Small-white Orchid (*Pseudorchis albida*), Chickweed Willowherb (*Epilobium alsinifolium*) and Alpine Saxifrage (*Saxifraga nivalis*). The latter two species have their only known Irish stations at this site.

The rare whorl snail, *Vertigo geyeri*, has recently been discovered at the site. Five populations occur at three locations, all in calcareous flushes on sloping ground. These are the first records for Co. Leitrim for this rare mollusc which is listed on Annex II of the E.U. Habitats Directive. Otter, a species which is also listed on Annex II of the E.U. Habitats Directive, is known to occur within the site.

The extensive uplands in the site provide excellent habitat for Peregrine, a species listed on Annex I of the E.U. Birds Directive. Four breeding pairs were recorded here in recent years.

The uplands are used primarily for grazing. On some parts of the plateau, peat deposits are eroding. Upland habitats are generally threatened by afforestation. The cliffs and steep scree slopes are not significantly threatened.

This plateau area is recognised as, botanically, one of the richest in Ireland. It provides the best example in the country of alpine and arctic-alpine vegetation and includes two vascular species which are not known to occur elsewhere in Ireland, as well as a host of rare mosses and liverworts. The site contains a diverse range of good quality upland habitats. The petrifying springs with tufa deposits are of particular interest, and are good examples of a habitat which is considered to be threatened in Europe and given priority status on Annex I of the E.U. Habitats Directive.