NPWS

Blasket Islands SAC
(site code: 2172)

Conservation objectives supporting document-
European Dry Heaths

Version 1
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Contents

1. Introduction

1.1 Blasket Islands SAC

The Blasket Islands are situated 2 to 11km off Slea Head, at the end of the Dingle Peninsula in Co. Kerry. The SAC includes all of the islands and islets in the group as well as a substantial area of the surrounding seas. There are six main islands, plus some rocky islets and sea stacks. Great Blasket Island, separated from the mainland by the Blasket Sound, is by far the largest of the islands (459ha) and rises to 292m above sea level. Inishtooskert (99ha, 162m), Inishnabro (51ha, 175m), Inishvickillane (81 ha, 138m) and Tearaght Island (27ha, 184m) are located between approximately 7km and 12km from the mainland and, like Great Blasket, rise steeply from the sea.

The bedrock is principally Old Red Sandstone, with some outcrops of volcanic and Silurian rocks on Inishvickillane and Beginish. The islands have an extreme maritime climate, being exposed to the prevailing Atlantic wind and swells.

All the islands are privately-owned except Inistearaght which is a state-owned Nature Reserve. None are inhabited permanently though there is a private holiday home on Inishvickillane and hostel, café and private houses on Great Blasket.

Part of the Blasket Islands SAC is also a Special Protection Area (SPA site code 004008) for breeding seabirds and chough (*Pyrrhocorax pyrrhocorax*).The SAC is selected for four habitats listed in Annex I of the Habitats Directive, including European dry heaths, and two marine mammals listed in Annex II. In places, the heath merges into another Annex I habitat, Vegetated sea cliffs of the Atlantic and Baltic coasts.

The conservation objective for European dry heaths cannot be considered in isolation from those for vegetated sea cliffs and those for the bird species for which the SPA is selected.

European dry heaths (habitat code 4030) is listed in Annex I of the Habitats Directive. The habitat is described as “Mesophile or xerophile heaths on siliceous, podsolic soils in moist Atlantic and sub-Atlantic climates of plains and low mountains of western, central and northern Europe” in the interpretation manual of European habitats (EC, 2007). In Ireland, the habitat European dry heaths is considered to be in bad conservation status due to issues such as overgrazing, burning and invasive non-native species (NPWS, 2013).

1.2 Conservation objectives

A site-specific conservation objective aims to define the favourable conservation condition of a habitat or species at site level. The maintenance of habitats and species within sites at favourable condition will contribute to the maintenance of favourable conservation status of those habitats and species at a national level.

Conservation objectives are defined using attributes and targets that are based on parameters as set out in the Habitats Directive for defining favourable status, namely area, range, and structure and functions.

The guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland, version 2, (Perrin et al., in prep.) have been used as a basis for setting site-specific attributes and targets for dry heath.

Attributes and targets may change/become more refined as further information becomes available.

2. Habitat area

The target for habitat area is: stable or increasing, subject to natural processes. Provisional favourable reference area for the mapped dry heath is 306ha based on the total area of dry heath on the islands as mapped by Brazier and Merne (1988) however no recent mapping of dry heath habitat has occurred. See Appendix I for indicative map of heath area.

This habitat is recorded on four of the islands; Great Blasket, Inishvickillane, Inishtooskert and Inishnabro. Great Blasket and Inistooskert have the largest proportion of dry heath with limited areas on the remaining two. Dry heath sometimes occur in association with blanket bog and wet heath on Great Blasket and Inishvickillane as indicated by the occurrence of Cross-leaved heath (*Erica tetralix*), Round-leaved Sundew (*Drosera rotundifolia*), Common Cottongrass (*Eriophorum angustifolium*) and Hare's-tail Cottongrass (*E. vaginatum*), Bog Asphodel (*Narthecium ossifragum*) and *Sphagnum* moss species.

3. Habitat distribution

The indicative distribution of dry heath habitat in Blasket Islands SAC is shown in Appendix 1. There may be other areas of dry heath in the site that have not yet been mapped by NPWS though this is considered unlikely.

Dry heath is recorded on Great Blasket, Inishtooskert, Inishvickillane and Inishnabro. Great Blasket and Inistooskert have the largest proportion of this habitat. Dry heath in this SAC represents an extremely exposed example at one of the most westerly parts of its Irish and European range.

The target for the habitat distribution attribute is: no decline, subject to natural processes.

4. Structure and functions

Structure and functions relates to the physical components of a habitat ("structure") and the ecological processes that drive it ("functions"). For dry heath these include attributes such as dwarf-shrub cover; species composition; cover of disturbed bare ground.

4.1 Ecosystem function: soil nutrient status

Changes to soil nutrient status can occur from high stock densities or supplementary feeding above appropriate levels. Seabirds e.g. nesting gulls can also have significant impact on soil nutrient levels.

The target for soil nutrient status is: to maintain the status within its natural range.

4.2 Vegetation structure: positive indicator species

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: cover of dwarf-shrub indicator species at least 50%.

Ling heather (*Calluna vulgaris*) dominates the dwarf-shrub vegetation in this SAC but bell heather (*Erica cinerea*) is also a locally important component of dry heath at this site. NPWS (2014) recorded the following as dominant coastal dry heath species: common bent (*Agrostis capillaris*), bog pimpernel (*Anagallis tenella*),ling heather (*Calluna vulgaris*), bell heather (*Erica cinerea*), fescues (*Festuca rubra* and *F. ovina*), wild thyme (*Thymus polytrichus*).

Gorse is not listed in any of the botanical records checked for these islands which include Praeger (1912); Barrington (1881); the Commonage Framework survey (1999) and various unpublished NPWS files. However gorse, whins and furze are mentioned in some of the varied literature about the Blasket Islands.

Praeger noted Bilberry (*Vaccinium myrtillus*) as being common on the north-face of Great Blasket while he recorded Crowberry (*Empetrum nigrum*) to be present at only one location i.e. on the northern cliffs at 700 feet O.D.

Grazing is one of the main drivers of changes in vegetation structure and composition. When people lived full time on Great Blasket it was grazed by cattle, sheep and donkeys. Praeger (1912) referred to the sheep on Great Blasket as 'numerous and destructive' in terms of effect on the flora. However sheep and rabbit (*Oryctolagus cuniculus*) grazing on the other, smaller, islands may have been more intense. Domestic stock reported on Great Blasket in more recent years are sheep and some goats and donkeys. Sheep also graze Inishtooskert. Native herbivores, Irish hare (*Lepus timidus hibernicus*) and red deer (*Cervus elaphus*) were introduced on Inishvickillane. Deer numbers have more than quadupled there since 1988 (from 19 to >90 c.2004). Rabbits occur on all the islands. Data from a 1973 visit suggest that ling (*Calluna vulgaris*) is dominant on much of Great Blasket and common on parts of Inisnabro, Inishvickillane and Inishtookert but that on the last three, due to rabbit grazing, species such as heath grass (*Sieglingia decumbens*) and Yorkshire fog (*Holcus lanatus*) are co-dominant associates of ling (*Calluna vulgaris).*

A Commonage Framework Plan (CFP, 1999) was devised for Great Blasket based on grazing impact assessment within seven 'stations' (i.e. plots of 10m.sq.) of which four were judged to be undamaged while the others had limited damage (Station X1 was assessed as moderately damaged dry heath with 3% bare peaty podsol); X4 was assessed as undamaged to moderately damaged dry heath with 1% bare peaty podsol; and a wet heath station (X5) was also assessed as undamaged to moderately damaged). The CFP includes representative photographic images of the vegetation in the commonage and show a generally good, though stunted, cover of dwarf shrubs however wind-clipped/stunted heather is normal in extremely exposed areas.

Grazing impacts on habitats outside of commonage lands in this SAC have not been assessed. It has been reported that a decline in puffin (*Fratercula arctica*) numbers on Inistearaght could have been related to overgrazing of coastal vegetation by goats however all goats have since been removed and recolonisation of bared slopes by sea campion (Sea cliff vegetation) was reported to have been occurring rapidly (NPWS, 2004).

4.3 Vegetation structure: growth phases of ling

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: senescent ling (*Calluna vulgaris*) cover less than 50%. Outside of the boundaries of Sensitive Areas all growth phases of ling should occur throughout, with at least 10% cover in mature phase.

See 4.7 below for further details of sensitive areas

4.4 Vegetation structure: signs of browsing

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: last complete growing season's shoots of ericoids showing signs of browsing collectively less than 33%. Assess a minimum of 10 shoots distributed across each relevé/monitoring plot.

4.5 Vegetation structure: native trees and shrubs

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: cover of scattered native trees and shrubs less than 20%.

4.6 Physical structure: disturbed bare ground

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: disturbed, bare ground less than 5%.

Disturbed, bare ground can result from high stock densities, visitor pressure or other activity (e.g. in the past, peat scraghs were cut for fuel which would have exposed bare ground/rock).

4.7 Vegetation structure: burning

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: no signs of burning inside boundaries of Sensitive Areas.

Sensitive Areas (as defined by Perrin et al. (in prep.)) include:

(a) Areas where soils are thin and less than 5cm deep.

(b) Hill slopes greater than 1 in 2 (26°), and all the sides of gullies.

(c) Ground with abundant, and/or an almost continuous carpet of *Sphagnum*, liverworts and/or lichens.

(d) Areas of H21 and H22 heath as defined by the NVC (Rodwell 1991). These are heaths primarily composed of mixtures of ling (*Calluna vulgaris*) and bog myrtle (*Vaccinium myrtillus*) over a moist carpet of bryophytes that often has a high *Sphagnum* content. Within the provisional classification, these communities are comparable to DH4 and damper elements of DH6 respectively.

(e) Areas with noticeably uneven structure, at a spatial scale of around 1 m2 or less. The unevenness (e.g. more commonly found in very old heather stands) will relate to distinct, often large, spreading

dwarf-shrub bushes. The dwarf-shrub canopy will not be completely continuous, and some of its upper surface may be twice as high as other parts. Layering is likely to be present and may be common.

(f) Pools, wet hollows, haggs and erosion gullies, and within 5 – 10 m of the edge of watercourses.

4.8 Vegetation composition: positive indicator species

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: number of positive indicator species ≥ 2.

The most common positive indicator species for dry heath in this SAC is ling (*Calluna vulgaris*). Bell heather (*Erica cinerea*) is locally common.

In addition bilberry (*Vaccinium myrtillus*) and crowberry (*Empetrum nigrum*) were noted by Praeger (1912) on Great Blasket. Crowberry was however seen at only one location, i.e. 700 feet above sea level on the northern cliffs, while bilberry was noted as common on these cliffs.

4.9 Vegetation composition: bryophyte and non-crustose lichen species

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: number of bryophyte or non-crustose lichen species present ≥ 3, excluding *Campylopus* and *Polytrichum* moss species.

4.10 Vegetation composition: rare/scarce heath species

The measure for this attribute is: occurrence and population size.

Allseed (*Radiola linoides*) a very local species, largely coastal, including of coastal heaths has been recorded on Great Blasket as has *Ophioglossum azoricum* (coastal grassland) by Praeger (1912).

These species are additional positive indicator species for dry heath for this SAC but should not substitute, in an assessment of the conservation status dry heath, for the positive indicator species as listed by Perrin et al., (in prep.).

4.11 Vegetation composition: bracken cover

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: cover of bracken (*Pteridium aquilinum*) less than 10% in the local vicinity.

Areas dominated by bracken (*Pteridium aquilinum*) occur on all four islands that have dry heath habitat.

4.12 Vegetation composition: dwarf-shrub species

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: proportion of dwarf-shrub cover, composed of bog myrtle (*Myrica gale*), creeping willow (*Salix repens*) and western gorse (*Ulex gallii*), collectively < 50%.

4.13 Vegetation composition: negative indicator species

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: cover of weed negative indicator species spear thistle and creeping Thistle (*Cirsium arvense* and *C. vulgare*), creeping buttercup (*Ranunculus repens*), large dock (*Rumex*) species (except *R. acetosa*), common ragwort (*Senecio jacobea*), nettle (*Urtica dioica*) collectively less than 1%

Great Blasket and Inishvickillane have had incurred most cultivation and thus would be expected to have more of these species.

4.14 Vegetation composition: non-native species

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: percentage cover in local vicinity < 1%.

4.15 Vegetation composition: soft rush cover

Attribute and target based on Perrin et al. (in prep.).

The target for this attribute is: Cover of soft rush (*Juncus effusus*) less than 10%.

Dense stands of soft rush can indicate disturbance.

5. References

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Appendix 1 Indicative European Dry Heaths distribution map