

# National Parks and Wildlife Service

## *Conservation Objectives Series*

### Moanour Mountain SAC 002257



An Roinn Cultúir,  
Oidhreacht agus Gaeltachta  
Department of Culture,  
Heritage and the Gaeltacht

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**Citation:**

**NPWS (2019) Conservation Objectives: Moanour Mountain SAC 002257. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.**

**Series Editor: Rebecca Jeffrey  
ISSN 2009-4086**

## Introduction

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

### Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

## Qualifying Interests

*\* indicates a priority habitat under the Habitats Directive*

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002257	Moanour Mountain SAC
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4010	Northern Atlantic wet heaths with <i>Calluna vulgaris</i>
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4030	European dry heaths
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## Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: [www.npws.ie/Publications](http://www.npws.ie/Publications)

### NPWS Documents

<b>Year :</b>	2009
<b>Title :</b>	Ireland Red List No. 2: Non-marine molluscs
<b>Author :</b>	Byrne, A.; Moorkens, E.A.; Anderson, R.; Killeen, I.J.; Regan, E.C.
<b>Series :</b>	Ireland Red List series, NPWS
<b>Year :</b>	2010
<b>Title :</b>	Ireland Red List No. 4: Butterflies
<b>Author :</b>	Regan, E.C.; Nelson, B.; Aldwell, B.; Bertrand, C.; Bond, K.; Harding, J.; Nash, D.; Nixon, D.; Wilson, C.J.
<b>Series :</b>	Ireland Red List series, NPWS
<b>Year :</b>	2012
<b>Title :</b>	Ireland Red List No. 8: Bryophytes
<b>Author :</b>	Lockhart, N.; Hodgetts, N.; Holyoak, D.
<b>Series :</b>	Ireland Red List series, NPWS
<b>Year :</b>	2013
<b>Title :</b>	The status of EU protected habitats and species in Ireland. Volume 2. Habitats assessments
<b>Author :</b>	NPWS
<b>Series :</b>	Conservation assessments
<b>Year :</b>	2014
<b>Title :</b>	Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland, Version 2.0
<b>Author :</b>	Perrin, P.M.; Barron, S.J.; Roche, J.R.; O'Hanrahan, B.
<b>Series :</b>	Irish Wildlife Manuals, No. 79
<b>Year :</b>	2016
<b>Title :</b>	Ireland Red List No. 10: Vascular Plants
<b>Author :</b>	Wyse Jackson, M.; FitzPatrick, Ú.; Cole, E.; Jebb, M.; McFerran, D.; Sheehy Skeffington, M.; Wright, M.
<b>Series :</b>	Ireland Red List Series, NPWS

### Other References

<b>Year :</b>	2004
<b>Title :</b>	Common Standards Monitoring guidance for lowland wetland habitats
<b>Author :</b>	JNCC
<b>Series :</b>	Joint Nature Conservation Committee, Peterborough
<b>Year :</b>	2013
<b>Title :</b>	Interpretation manual of European Union habitats- Eur 28
<b>Author :</b>	European Commission- DG Environment
<b>Series :</b>	European Commission
<b>Year :</b>	2017
<b>Title :</b>	Irish Vegetation Classification: Technical Progress Report No. 3
<b>Author :</b>	Perrin, P.
<b>Series :</b>	Report submitted to National Biodiversity Data Centre

## Conservation Objectives for : Moanour Mountain SAC [002257]

### 4010 Northern Atlantic wet heaths with *Erica tetralix*

**To maintain the favourable conservation condition of Northern Atlantic wet heaths with *Erica tetralix* in Moanour Mountain SAC, which is defined by the following list of attributes and targets:**

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	Northern Atlantic wet heaths with <i>Erica tetralix</i> has not been mapped in detail for Moanour Mountain SAC and thus the exact total area of the qualifying habitat in the SAC is currently unknown. There is an interesting altitudinal transition from upland acid grassland to dry heath on the lower slopes to wet heath further upslope, which dominates the eastern part of the SAC. The habitat grades into shallow blanket bog in places at the summit, where peat is somewhat deeper (NPWS internal files)
Habitat distribution	Occurrence	No decline, subject to natural processes	See the notes on Habitat area above
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	Relevant nutrients and their natural ranges are yet to be defined. However, nitrogen deposition is noted as being relevant to this habitat (NPWS, 2013)
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	The entire diversity of wet heath vegetation communities within this SAC is unknown. Information on vegetation communities associated with this habitat in the uplands is presented in Perrin et al. (2014). See also the Irish Vegetation Classification (Perrin, 2017; <a href="http://www.biodiversityireland.ie/projects/national-vegetation-database/irish-vegetation-classification">www.biodiversityireland.ie/projects/national-vegetation-database/irish-vegetation-classification</a> )
Vegetation composition: cross-leaved heath	Occurrence within 20m of a representative number of monitoring stops	Cross-leaved heath ( <i>Erica tetralix</i> ) present within a 20m radius of each monitoring stop	Attribute and target based on Perrin et al. (2014). Cross-leaved heath is the only characteristic species of the habitat listed in European Commission (2013). Whilst it is seldom abundant in wet heaths, its presence at high frequencies is considered one of the few characteristics common between the varied communities of this habitat (JNCC, 2009)
Vegetation composition: positive indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of positive indicator species at least 50%	Attribute and target based on Perrin et al. (2014), where the list of positive indicator species for this habitat is also presented. Positive indicator species recorded in the habitat in the SAC include cross-leaved heath ( <i>Erica tetralix</i> ), ling heather ( <i>Calluna vulgaris</i> ), common cottongrass ( <i>Eriophorum angustifolium</i> ), lousewort ( <i>Pedicularis sylvatica</i> ), round-leaved sundew ( <i>Drosera rotundifolia</i> ) and bog asphodel ( <i>Narthecium ossifragum</i> ). Other species recorded include heath rush ( <i>Juncus squarrosus</i> ), purple moor-grass ( <i>Molinia caerulea</i> ), deergrass ( <i>Trichophorum cespitosum</i> ) and bell heather ( <i>Erica cinerea</i> ) (NPWS internal files)
Vegetation composition: lichens and bryophytes	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of <i>Cladonia</i> and <i>Sphagnum</i> species, <i>Racomitrium lanuginosum</i> and pleurocarpous mosses at least 10%	Attribute and target based on Perrin et al. (2014). A plentiful lichen/bryophyte layer is characteristic of this habitat. Species recorded in the habitat in the SAC include the lichen <i>Cladonia portentosa</i> and the mosses <i>Sphagnum compactum</i> , <i>S. cuspidatum</i> and <i>Campylopus pyriformis</i> , as well as the liverworts <i>Odontoschisma sphagni</i> and <i>Gymnocolea inflata</i> (NPWS internal files)
Vegetation composition: ericoid species and crowberry	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of ericoid species and crowberry ( <i>Empetrum nigrum</i> ) at least 15%	Attribute and target based on Perrin et al. (2014). A dwarf shrub layer with ericoid species is characteristic of this habitat (crowberry is only rarely present). Low cover of these species would be indicative of chronic overgrazing, burning, etc.

Vegetation composition: dwarf shrub species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of dwarf shrubs less than 75%	Attribute and target based on Perrin et al. (2014). A dwarf shrub layer is characteristic of wet heaths, but the vegetation should be a mixture of dwarf shrub and graminoid species, with higher cover of dwarf shrubs being potentially indicative of drainage
Vegetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of negative indicator species less than 1%	Attribute and target based on Perrin et al. (2014), where the list of negative indicator species for this habitat is also presented
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%	Attribute and target based on Perrin et al. (2014). Non-native species can be invasive and have deleterious effects on native vegetation. A low target is set as non-native species can spread rapidly and are most easily dealt with when still at lower abundances. The non-native moss <i>Campylopus introflexus</i> has been recorded in the habitat in the SAC (NPWS internal files)
Vegetation composition: native trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 20%	Attribute and target based on Perrin et al. (2014). High cover of native trees and shrubs would indicate that the habitat may be succeeding towards scrub or woodland due to lack of grazing or due to the habitat drying out
Vegetation composition: bracken	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of bracken ( <i>Pteridium aquilinum</i> ) less than 10%	Attribute and target based on Perrin et al. (2014). High cover of bracken would indicate that the habitat may be succeeding towards a dense bracken community
Vegetation composition: soft rush	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of soft rush ( <i>Juncus effusus</i> ) less than 10%	Attribute and target based on Perrin et al. (2014). High cover of soft rush would suggest undesirable hydrological conditions. Note, however, that poor flushes dominated by soft rush can naturally occur in mosaic with this habitat. Discrete areas of this separate habitat should not be considered here
Vegetation structure: <i>Sphagnum</i> condition	Condition at a representative number of 2m x 2m monitoring stops	Less than 10% of the <i>Sphagnum</i> cover is crushed, broken and/or pulled up	Attribute and target based on Perrin et al. (2014). High levels of disturbed <i>Sphagnum</i> would indicate undesirable levels of grazers
Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Less than 33% collectively of the last complete growing season's shoots of ericoids, crowberry ( <i>Empetrum nigrum</i> ) and bog-myrtle ( <i>Myrica gale</i> ) showing signs of browsing	Attribute and target based on Perrin et al. (2014)
Vegetation structure: burning	Occurrence in local vicinity of a representative number of monitoring stops	No signs of burning in sensitive areas, into the moss, liverwort or lichen layer or exposure of peat surface due to burning	Attribute and target based on Perrin et al. (2014), where the list of sensitive areas for this habitat is also presented
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%	Attribute and target based on Perrin et al. (2014). Disturbance can include hoof marks, wallows, human footprints and vehicle and machinery tracks. Excessive disturbance can result in loss of characteristic species and presage erosion for heaths and peatlands
Physical structure: drainage	Percentage area in local vicinity of a representative number of monitoring stops	Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%	Attribute and target based on Perrin et al. (2014). Drainage can result in loss of characteristic species and transition to drier habitats
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat and no decline in status of hepatic mats associated with this habitat	This includes species on the Flora (Protection) Order, 2015 and/or Red Lists (Byrne et al., 2009; Regan et al., 2010; Lockhart et al., 2012; Wyse Jackson et al., 2016, etc.)

## Conservation Objectives for : Moanour Mountain SAC [002257]

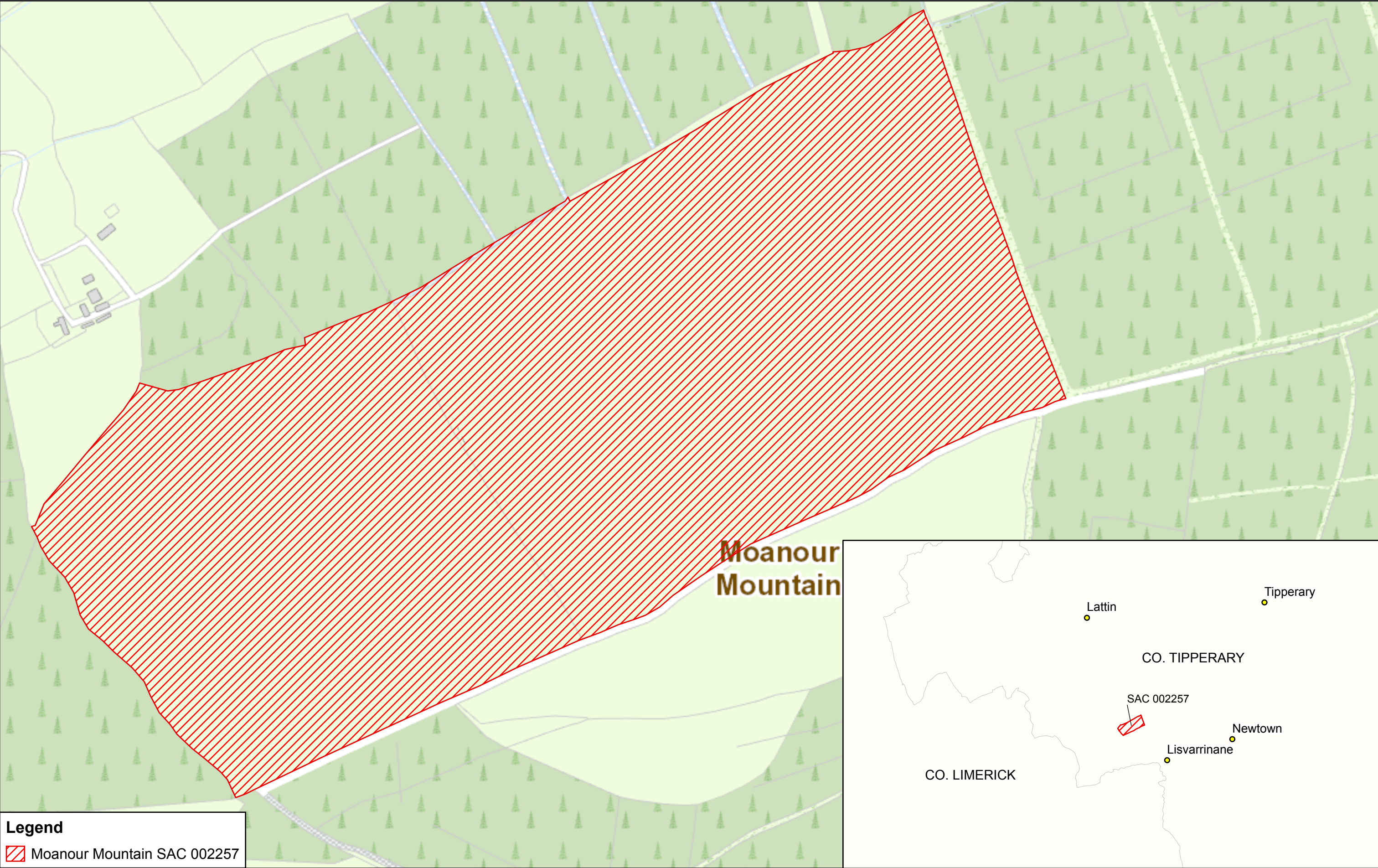
### 4030 European dry heaths

**To maintain the favourable conservation condition of European dry heaths in Moanour Mountain SAC, which is defined by the following list of attributes and targets:**

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	European dry heaths has not been mapped in detail for Moanour Mountain SAC and thus the exact total area of the qualifying habitat in the SAC is currently unknown. An interesting altitudinal transition from upland acid grassland to dry heath on the lower western slopes to wet heath further upslope occurs. The dry heath habitat is relatively small in area compared with wet heath, which dominates the eastern half of the SAC (NPWS internal files)
Habitat distribution	Occurrence	No decline, subject to natural processes	See the notes for Habitat area above
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	Relevant nutrients and their natural ranges are yet to be defined. However, nitrogen deposition is noted as being relevant to this habitat (NPWS, 2013)
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	The entire diversity of dry heath vegetation communities within this SAC is unknown. Information on vegetation communities associated with this habitat in the uplands is presented in Perrin et al. (2014). See also the Irish Vegetation Classification (Perrin, 2017; <a href="http://www.biodiversityireland.ie/projects/national-vegetation-database/irish-vegetation-classification">www.biodiversityireland.ie/projects/national-vegetation-database/irish-vegetation-classification</a> )
Vegetation composition: lichens and bryophytes	Number of species at a representative number of 2m x 2m monitoring stops	Number of bryophyte or non-crustose lichen species present at each monitoring stop is at least three, excluding <i>Campylopus</i> and <i>Polytrichum</i> mosses	Attribute and target based on Perrin et al. (2014). Dry heath is not necessarily rich in lichen and bryophyte species, but a minimum amount should still be present. Bryophytes recorded in the habitat in the SAC include <i>Dicranum scoparium</i> and <i>Rhytidiadelphus squarrosus</i> . Lichens recorded include <i>Cladonia portentosa</i> , <i>C. unicalis</i> and <i>C. floerkiana</i> (NPWS internal files)
Vegetation composition: number of positive indicator species	Number of species at a representative number of 2m x 2m monitoring stops	Number of positive indicator species present at each monitoring stop is at least two	Attribute and target based on Perrin et al. (2014), where the list of positive indicator species for this habitat, which is composed of dwarf shrubs, is also presented. Positive indicator species recorded in the habitat in the SAC include western gorse ( <i>Ulex gallii</i> ), bell heather ( <i>Erica cinerea</i> ), ling heather ( <i>Calluna vulgaris</i> ) and bilberry ( <i>Vaccinium myrtillus</i> ) (NPWS internal files)
Vegetation composition: cover of positive indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of positive indicator species at least 50% for siliceous dry heath and 50-75% for calcareous dry heath	Attribute and target based on Perrin et al. (2014), where the list of positive indicator species for this habitat, which is composed of dwarf shrubs, is also presented
Vegetation composition: dwarf shrub composition	Percentage cover at a representative number of 2m x 2m monitoring stops	Proportion of dwarf shrub cover composed collectively of bog-myrtle ( <i>Myrica gale</i> ), creeping willow ( <i>Salix repens</i> ) and western gorse ( <i>Ulex gallii</i> ) is less than 50%	Attribute and target based on Perrin et al. (2014). Bog-myrtle is indicative of flushed conditions and is more characteristic of wet heaths and blanket bogs. Creeping willow is more characteristic of dune heaths. Western gorse is a component of dry heath, but high proportions of it may indicate a history of undesirable levels of grazing
Vegetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of negative indicator species less than 1%	Attribute and target based on Perrin et al. (2014), where the list of negative indicator species for this habitat is also presented
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%	Attribute and target based on Perrin et al. (2014). Non-native species can be invasive and have deleterious effects on native vegetation. A low target is set as non-native species can spread rapidly and are most easily dealt with when still at lower abundances



Vegetation composition: native trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 20%	Attribute and target based on Perrin et al. (2014). High cover of native trees and shrubs would indicate that the habitat may be succeeding towards scrub or woodland due to lack of grazing
Vegetation composition: bracken	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of bracken ( <i>Pteridium aquilinum</i> ) less than 10%	Attribute and target based on Perrin et al. (2014). High cover of bracken would indicate that the habitat may be succeeding towards a dense bracken community
Vegetation composition: soft rush	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of soft rush ( <i>Juncus effusus</i> ) less than 10%	Attribute and target based on Perrin et al. (2014). High cover of soft rush would suggest undesirable hydrological conditions. Note, however, that poor flushes dominated by soft rush can naturally occur in mosaic with this habitat. Discrete areas of this separate habitat should not be considered here
Vegetation structure: senescent ling	Percentage cover at a representative number of 2m x 2m monitoring stops	Senescent proportion of ling ( <i>Calluna vulgaris</i> ) cover less than 50%	Attribute and target based on Perrin et al. (2014). Senescence is part of the natural cycle of ling, but a dominance of ling in the senescent phase would indicate a lack of management (appropriate grazing or burning) to promote ling regeneration
Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Less than 33% collectively of the last complete growing season's shoots of ericoids showing signs of browsing	Attribute and target based on Perrin et al. (2014)
Vegetation structure: burning	Occurrence in local vicinity of a representative number of monitoring stops	No signs of burning in sensitive areas	Attribute and target based on Perrin et al. (2014), where the list of sensitive areas is also presented. Fires can be part of the natural cycle of heaths and may, under carefully controlled circumstances, be used as an occasional management tool to promote regeneration of, or diversity of growth phases, in ling ( <i>Calluna vulgaris</i> ). However, currently most hill fires in Ireland are intentionally started to encourage grass growth for livestock. Fires which are too intense, too frequent, too extensive or which occur in sensitive areas are damaging to the habitat
Vegetation structure: growth phases of ling	Percentage cover in local vicinity of a representative number of monitoring stops	Outside sensitive areas, all growth phases of ling ( <i>Calluna vulgaris</i> ) should occur throughout, with at least 10% of cover in the mature phase	Attribute and target based on Perrin et al. (2014), where the list of sensitive areas is also presented. The growth phases of ling are pioneer (<10cm high), building (10-30cm high) and mature (>30cm high). As burning is undesirable in sensitive areas, it is not reasonable to require the stated diversity of growth phases within these areas
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%	Attribute and target based on Perrin et al. (2014). Disturbance can include hoof marks, wallows, human footprints and vehicle and machinery tracks. Excessive disturbance can result in loss of characteristic species and presage erosion for heaths and peatlands
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat	This includes species on the Flora (Protection) Order, 2015 and/or Red Lists (Byrne et al., 2009; Regan et al., 2010; Lockhart et al., 2012; Wyse Jackson et al., 2016, etc.)



**Legend**

Moanour Mountain SAC 002257