National Parks and Wildlife Service

Conservation Objectives Series

Boleybrack Mountain SAC 002032



An Roinn Ealaíon, Oidhreachta, Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs

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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.

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Qualifying Interests

* indicates a priority habitat under the Habitats Directive

002032	Boleybrack Mountain SAC
3160	Natural dystrophic lakes and ponds
4010	Northern Atlantic wet heaths with Erica tetralix
4030	European dry heaths
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)
7130	Blanket bogs (* if active bog)

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year:

1990

Title:

A survey to locate lowland blanket bogs of scientific interest in county Donegal and upland

blanket bogs in counties Cavan, Leitrim and Roscommon

Author:

Douglas, C.; Dunnells, D.; Scally, L.; Wyse Jackson, M.

Series:

Unpublished report to NPWS

Year:

2010

Title:

Irish Semi-natural Grasslands Survey. Annual Report No.3: Counties Donegal, Dublin, Kildare

and Sligo

Author:

O'Neill, F.H.; Martin, J.R.; Devaney, F.M.; McNutt, K.E.; Perrin, P.M.; Delaney, A.

Series:

Irish Semi-natural grassland survey

Year:

2012

Title:

Ireland Red List no. 8: Bryophytes

Author:

Lockhart, N.; Hodgetts, N.; Holyoak, D.

Series:

Ireland Red List series, NPWS

Year:

2013

Title:

Irish semi-natural grasslands survey 2007-2012

Author:

O'Neill, F.H.; Martin, J.R.; Devaney, F.M.; Perrin, P.M.

Series:

Irish Wildlife Manual No. 78

Year:

2013

Title:

A survey of the benthic macrophytes of three hard-water lakes: Lough Bunny, Lough Carra and

Lough Owel

Author:

Roden, C.; Murphy, P.

Series:

Irish Wildlife Manual No. 70

Year:

Title:

The status of EU protected habitats and species in Ireland. Volume 2. Habitats assessments

Author:

NPWS

Series:

Conservation assessments

Year:

2013

Title:

The status of EU protected habitats and species in Ireland. Volume 3. Species assessments

Author:

NPWS

Series:

Conservation assessments

Year:

2014

Title:

Guidelines for a national survey and conservation assessment of upland vegetation and

habitats in Ireland, Version 2.0

Author:

Perrin, P.M.; Barron, S.J.; Roche, J.R.; O'Hanrahan, B.

Series:

Irish Wildlife Manual No. 79

Year:

2015

Title:

Habitats Directive Annex I lake habitats: a working interpretation for the purposes of sitespecific conservation objectives and Article 17 reporting

Author:

O Connor. Á.

Series:

Unpublished document by NPWS

Year:

Title:

Boleybrack Mountain SAC (site code: 2032) Conservation objectives supporting document-

upland habitats V1

Author:

Series:

Conservation objectives supporting document

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Other References

Year:

1982

Title:

Eutrophication of waters. Monitoring assessment and control

Author:

OECD

Series:

OECD, Paris

Year:

1988

Title:

The Irish red data book 1. Vascular plants

Author:

Curtis, T.G.F; McGough, H.N.

Series:

Wildlife Service, Dublin

Year:

2000

Title:

Colour in Irish lakes

Author:

Free, G.; Allott, N.; Mills, P.; Kennelly, C.; Day, S.

Series:

Verhandlungen Internationale Vereinigung für theoretische und angewandte Limnologie, 27:

2620-2623

Year:

2006

Title:

A reference-based typology and ecological assessment system for Irish lakes. Preliminary investigations. Final report. Project 2000-FS-1-M1 Ecological assessment of lakes pilot study

to establish monitoring methodologies EU (WFD)

Author:

Free, G.; Little, R.; Tierney, D.; Donnelly, K.; Coroni, R.

Series:

EPA, Wexford

Year:

2008

Title:

Water Quality in Ireland 2004-2006

Author:

Clabby, K.J.; Bradley, C.; Craig, M.; Daly, D.; Lucey, J.; McGarrigle, M.; O'Boyle, S.; Tierney,

D.; Bowman, J.

Series:

EPA, Wexford

Year:

2010

Title:

Water quality in Ireland 2007-2009

Author:

McGarrigle, M.; Lucey, J.; Ó Cinnéide, M.

Series:

EPA, Wexford

Year:

2012

Title:

The impact of conifer plantation forestry on the ecology of peatland lakes

Author: Series :

Drinan, T.J.

Year:

Unpublished PhD thesis, University College Cork

2013

Title:

Interpretation manual of European Union habitats- Eur 28

Author: Series:

European Commission- DG Environment

European Commission

Year:

2015

Title:

Water quality in Ireland 2010-2012

Author:

Bradley, C., Byrne, C., Craig, M., Free, G., Gallagher, T., Kennedy, B., Little, R., Lucey, J., Mannix, A., McCreesh, P., McDermott, G., McGarrigle, M., Ní Longphuirt, S., O'Boyle, S., Plant, C., Tierney, D., Trodd, W., Webster, P., Wilkes, R. & Wynne, C.

Series:

EPA, Wexford

Year:

in prep.

Title:

Monitoring of hard-water lakes in Ireland using charophytes and other macrophytes

Author:

Roden, C.; Murphy, P.

Series:

Unpublished report to NPWS

Spatial data sources

Year:

Title:

OSi 1:5000 IG vector dataset

GIS Operations:

WaterPolygons feature class clipped to the SAC boundary. Expert opinion used to identify Annex I habitat and to resolve any issues arising

Used For:

3160 (map 2)

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3160

Natural dystrophic lakes and ponds

To maintain the favourable conservation condition of Natural dystrophic lakes and ponds in Boleybrack 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	Natural dystrophic lakes and ponds (3160) are scattered throughout this SAC. There are c.10 lakes larger than 1ha in area and many smaller lakes and pools. Douglas et al. (1990) surveyed the blanket bog at Lackagh and Barleart. Near Lough Kip they noted that wet/quaking vegetation was restricted to lake and river edges. All lakes and pools are upland and, in line with Article 17 reporting (NPWS, 2013), have been mapped as potential 3160 (see map 2). Note: all 3160 pools may not be mapped in the 1:5,000 OSi data. Two measures of extent should b used: 1. the area of the lake itself and; 2. the exten of the vegetation communities/zones that typify the habitat. Further information relating to all attributes is provided in the lake habitats supporting documen for the purposes of site-specific conservation objectives and Article 17 reporting (O Connor, 2015)
Habitat distribution	Occurrence	No decline, subject to natural processes	As noted above, the habitat is widespread in the SAC (see map 2). All lakes have been mapped as potential 3160
Typical species	Occurrence	Typical species present, in good condition, and demonstrating typical abundances and distribution	For lists of typical plant and invertebrate species, see Article 17 habitat assessment for 3160 (NPWS, 2013) and O Connor (2015)
Vegetation composition: characteristic zonation	Occurrence	All characteristic zones should be present, correctly distributed and in good condition	The characteristic zonation of lake habitat 3140 has been described (Roden and Murphy, 2013; in prep.), however, significant further work is necessary to describe the characteristic zonation and other spatial patterns in the other four Annex I lake habitats. Spatial patterns are likely to be relatively simple in 3160 lakes and ponds, with limited zonation
Vegetation distribution: maximum depth	Metres	Maintain maximum depth of vegetation, subject to natural processes	The maximum depth of vegetation is likely to be specific to the lake shoreline in question. A specific target has not yet been set for this lake habitat type. Upland lakes and pools naturally have very clear water and, therefore, maximum depth is expected to be large
Hydrological regime: water level fluctuations	Metres	habitat	Fluctuations in lake water level are typical in Ireland, but can be amplified by activities such as abstraction and drainage. Increased water level fluctuations can increase wave action, up-root vegetation, increase turbidity, alter the substratum and lead to release of nutrients from the sediment. The hydrological regime of the lakes and pools must be maintained so that the area, distribution and depth of the lake habitat and its constituent/characteristic vegetation zones and communities are not reduced. Owing to their size and the sensitivity of peatland, 3160 lakes and ponds can easily be damaged or destroyed by drainage.
Lake substratum quality	Various	and chemistry to support the vegetation	Research is required to further characterise the substratum types (particle size and origin) and substratum quality (notably pH, calcium, iron and nutrient concentrations) favoured by each of the five Annex I lake habitats in Ireland. It is likely that habitat 3160 is associated with nutrient-poor peat and silt substrates

Water quality: Itransparency	Metres	Maintain appropriate Secchi transparency. There should be no decline in Secchi depth/transparency	Transparency relates to light penetration and, hence, to the depth of colonisation of vegetation. It can be affected by phytoplankton blooms, water colour and turbidity. A specific target has yet to be established for this Annex I lake habitat. Habitat 3160 is associated with very clear water. The OECD fixed boundary system set transparency targets for ultra-oligotrophic lakes of ≥12m annual mean Secchi disk depth, and ≥6m annual minimum Secchi disk depth
Water quality: nutrients	µg/I P; mg/I N	Maintain the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species	As a nutrient poor habitat, oligotrophic and Water Framework Directive (WFD) 'high' status targets apply. Where a lake has nutrient concentrations that are lower than these targets, there should be no decline within class, i.e. no upward trend in nutrient concentrations. For 3160 lakes and ponds, annual average TP concentration should be \leq 5µg/l TP, average annual total ammonia concentration should be \leq 0.040mg/l N and annual 95th percentile for total ammonia should be \leq 0.090mg/l N. See also The European Communities Environmental Objectives (Surface Waters) Regulations 2009
Water quality: phytoplankton biomass	μg/l Chlorophyll <i>a</i>	Maintain appropriate water quality to support the habitat, including high chlorophyll <i>a</i> status	the state of the s
Water quality: phytoplankton composition	EPA phytoplankton composition metric	Maintain appropriate water quality to support the habitat, including high phytoplankton composition status	metric for nutrient enrichment of Irish lakes. As for other water quality indicators, habitat 3160 requires
Water quality: attached algal biomass	Algal cover and EPA phytobenthos metric	Maintain trace/ absent attached algal biomass (<5% cover) and high phytobenthos status	Nutrient enrichment can favour epiphytic and epipelic algae that can out-compete the submerged vegetation. The cover abundance of attached algae in 3160 lakes and ponds should, therefore, be trace/absent (<5% cover). EPA phytobenthos can be used as an indicator of changes in attached algal biomass. As for other water quality indicators, habitat 3160 requires high phytobenthos status
Water quality: macrophyte status	EPA macrophyte metric (The Free Index)	Maintain high macrophyte status	Nutrient enrichment can favour more competitive submerged macrophyte species that out-compete the typical and characteristic species for the lake habitat. The EPA monitors macrophyte status for WFD purposes using the 'Free Index'. The target for 3160 lakes and ponds is high status or an Ecological Quality Ratio (EQR) for lake macrophytes of ≥0.90, as defined in Schedule Five of the European Communities Environmental Objectives (Surface Waters) Regulations 2009

Acidification status	pH units; mg/l	Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes	Acidification can impact on species abundance and composition in soft water lake habitats. Although EC (2013) describes habitat 3160 as having pH 3-6, Drinan (2012) found mean pHs of 5.16 and 5.62 in upland and lowland 3160 lakes, respectively. The target for habitat 3160 is pH >4.5 and <9.0, in line with the surface water standards for soft waters (where water hardness is ≤100mg/l calcium carbonate). See Schedule Five of the European Communities Environmental Objectives (Surface Waters) Regulations 2009. The specific requirements of lake habitat 3160, in terms of water and sediment pH, alkalinity and cation concentration, have not been determined
Water colour	mg/l PtCo	Maintain appropriate water colour to support the habitat	Increased water colour and turbidity decrease light penetration and can reduce the area of available habitat for lake macrophytes, particularly at the lower euphotic depths. The primary source of increased water colour in Ireland is disturbance to peatland. No habitat-specific or national standards for water colour currently exist. Studies have shown median colour concentrations in Irish lakes of 38mg/l PtCo (Free et al., 2000) and 33mg/l PtCo (Free et al., 2006). It is likely that the water colour in all Irish lake habitats would naturally be <50mg/l PtCo. Water colour can be very low (<20mg/l PtCo or even <10mg/l PtCo) in 3160 lakes and ponds, where the peatland in the lake's catchment is intact
Dissolved organic carbon (DOC)	mg/l	Maintain appropriate organic carbon levels to support the habitat	Dissolved (and particulate) organic carbon (OC) in the water column is linked to water colour and acidification (organic acids). Increasing DOC in water has been documented across the Northern
			Hemisphere, including afforested peatland catchments in Ireland. Damage and degradation of peatland, leading to decomposition of peat is likely to be the predominant source of OC in Ireland. OC in water promotes decomposition by fungi and bacteria that, in turn, releases dissolved nutrients. The increased biomass of decomposers can also impact directly on the characteristic lake communities through shading, competition, etc.
Turbidity	Nephelometric turbidity units/ mg/l SS/ other appropriate units		Turbidity can significantly affect the quantity and quality of light reaching rooted and attached vegetation and can, therefore, impact on lake habitats. The settlement of higher loads of inorganic or organic material on lake vegetation communities may also have impacts on sensitive, delicate species. Turbidity can increase as a result of re-suspension of material within the lake, higher loads entering the lake, or eutrophication. Turbidity measurement and interpretation is challenging. As a result, it is likely to be difficult to set habitat-specific targets for turbidity in lakes
Fringing habitat: area	Hectares	habitats necessary to support the natural structure and functioning of habitat 3160	Most 3160 lake and pond shorelines intergrade with blanket bog, heath, flush, poor fen or heath habitats and these support the structure and functions of the lake habitat. Equally, fringing habitats are dependent on the lake, particularly its water levels, and can support wetland communities and species of conservation concern

4010

Northern Atlantic wet heaths with Erica tetralix

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

Attribute	Measure	Target	Notes	
	Hectares	Area stable or increasing, subject to natural processes	Northern Atlantic wet heaths with <i>Erica tetralix</i> habitat has not been mapped in detail for Boleybrac Mountain SAC, but from current available data the total area of the qualifying habitat is estimated to b approximately 1,400ha. Further details on this and the following attributes can be found in the Boleybrack Mountain SAC conservation objectives supporting document for upland habitats	
Habitat distribution	Occurrence	No decline, subject to natural processes	Extensive areas of wet heath have been recorded within the SAC, and field notes from 1998 (NPWS internal files) indicate that the habitat is present towards the centre of the SAC and on the western slopes. Further information can be found within this source and the uplands supporting document	
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	See the uplands supporting document for further details	
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	The diversity of wet heath communities within this SAC is unknown. Further information on vegetation communities associated with this habitat is presented in Perrin et al. (2014)	
Vegetation composition: cross-leaved heath	Occurrence within 20m of a representative number of 2m x 2m monitoring stops	Cross-leaved heath (<i>Erica tetralix</i>) present near each monitoring stop	Based on Perrin et al. (2014). See the uplands supporting document for further details	
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%	Based on Perrin et al. (2014), where the list of positive indicator species for this habitat is also presented. See the uplands supporting document for further details	
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%	Based on Perrin et al. (2014). See the uplands supporting document for further details	
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>Empetrun</i> <i>nigrum</i>) at least 15%		
Vegetation composition: dwarf shrub species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of dwarf shrubs less than 75%	supporting document for further details	
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%	uplands supporting document for further details	
Vegetation composition: non native species	Percentage cover at, - and in local vicinity of, representative number of 2m x 2m monitoring stops	Cover of non-native a species less than 1%	Based on Perrin et al. (2014). See the uplands supporting document for further details. <i>Campylopus introflexus</i> was recorded within this habitat in Boleybrack Mountain SAC in 1998; information from 1998 field notes (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 tha 20%	Based on Perrin et al. (2014). See the uplands supporting document for further details	

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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%	Based on Perrin et al. (2014). See the uplands supporting document for further details
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%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: Sphagnum condition	Condition at a representative number of 2m x 2m monitoring stops	Less than 10% of the Sphagnum cover is crushed, broken and/or pulled up	Based on Perrin et al. (2014). See the uplands supporting document for further details
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	Supporting document for further details
Vegetation structure: burning	Occurrence in local vicinity of a representative number of 2m x 2m monitoring stops	No signs of burning in sensitive areas, into the moss, liverwort or lichen layer or exposure of peat surface due to burning	Based on Perrin et al. (2014), where the list of sensitive areas is also presented. See the uplands supporting document for further details
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%	Based on Perrin et al. (2014). See the uplands supporting document for further details
drainage	Percentage cover in local vicinity of a representative number of monitoring stops	Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Indicators of local distinctiveness	Occurrence and population size	threatened or scarce	This includes species listed in the Flora (Protection) Order, 2015 and/or the red data lists, Curtis and McGough (1988) and Lockhart et al. (2012). See the uplands supporting document for further details

4030

European dry heaths

To restore the favourable conservation condition of European dry heaths in Boleybrack 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 have not been mapped in detail for Boleybrack Mountains SAC, but from current available data the total area of the qualifying habitat is estimated to be approximately 320ha. Further details on this and the following attributes can be found in the Boleybrack Mountain SAC conservation objectives supporting document for upland habitats	
Habitat distribution	Occurrence	No decline, subject to natural processes	Dry heath appears to be confined to the summits and steeper slopes within the SAC; information from the GIS files associated with NPWS (2013). Further information can be found within this source and the uplands supporting document	
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	See the uplands supporting document for further details	
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	The diversity of dry heath communities within this SAC is unknown. Further information on vegetation communities associated with this habitat is presented in Perrin et al. (2014)	
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	Based on Perrin et al. (2014). See the uplands supporting document for further details	
Vegetation composition: number of positive indicator species	Number of species at a representative number of 2m x 2m monitoring stops	each monitoring stop is at least two	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. See the uplands supporting document for further details	
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	the uplands supporting document for further details	
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%	Based on Perrin et al. (2014). See the uplands supporting document for further details	
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%	Based on Perrin et al. (2014) where the list of negative indicator species is also presented. See th uplands supporting document for further details	
Vegetation composition: non- native species	Percentage cover at, and in local vicinity of, representative number of 2m x 2m monitoring stops		Based on Perrin et al. (2014). See the uplands supporting document for further details	
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%		
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%	Based on Perrin et al. (2014). See the uplands supporting document for further details	

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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%	Based on Perrin et al. (2014). See the uplands supporting document for further details	
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%	Based on Perrin et al. (2014). See the uplands supporting document for further details	
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	te supporting document for further details shoots of	
Vegetation structure: burning	Occurrence in local vicinity of a representative number of monitoring stops	No signs of burning in sensitive areas	Based on Perrin et al. (2014), where the list of sensitive areas is also presented. See the uplands supporting document for further details	
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	Based on Perrin et al. (2014). See the uplands supporting document for further details	
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%	Based on Perrin et al. (2014). See the uplands supporting document for further details	
Indicators of local distinctiveness	Occurrence and population size	threatened or scarce	This includes species listed in the Flora (Protection) Order, 2015 and/or the red data lists, Curtis and McGough (1988) and Lockhart et al. (2012). See the uplands supporting document for further details	

6410

Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)

To maintain the favourable conservation condition of *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) in Boleybrack 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	Molinia meadows have not been mapped for Boleybrack Mountain SAC and thus the total area of the qualifying habitat is unknown. It is noted as occurring in wet peaty areas at low elevations in the SAC (NPWS internal files)	
Habitat distribution	Occurrence	No decline, subject to natural processes	See note for area above	
Vegetation composition: typical species	Number at a representative number of monitoring stops	At least seven positive indicator species present, including one "high quality" species as listed in O'Neill et al. (2013)	List of positive indicator species, including high quality species, identified by O'Neill et al. (2013). "Note that purple moor-grass (<i>Molinia caerulea</i>) is a positive indicator species, but not necessarily an essential component of the habitat	
Vegetation composition: negative indicator species	Percentage at a representative number of monitoring stops	Negative indicator species collectively not more than 20% cover, with cover by an individual species not more than 10%	Attribute and target based on O'Neill et al. (2013)	
Vegetation composition: non- native species	Percentage at a representative number of monitoring stops	Cover of non-native species not more than 1%		
Vegetation composition: moss species	Percentage at a representative number of monitoring stops	Hair mosses (<i>Polytrichum</i> spp.) not more than 25% cover	Attribute and target based on O'Neill et al. (2013)	
Vegetation composition: woody species and bracken	Percentage at a representative number of monitoring stops	Cover of woody species and bracken (<i>Pteridium</i> <i>aquilinum</i>) not more than 5% cover	Attribute and target based on O'Neill et al. (2013)	
Vegetation structure: broadleaf herb: grass ratio	Percentage at a representative number of monitoring stops	Broadleaf herb component of vegetation between 40% and 90%	nt Attribute and target based on O'Neill et al. (2013)	
Vegetation structure: sward height	Percentage at a representative number of monitoring stops	At least 30% of sward between 10 and 80cm tall	Attribute and target based on O'Neill et al. (2013)	
Vegetation structure: litter	Percentage at a representative number of monitoring stops	Litter cover not more than 25%	n Attribute and target based on O'Neill et al. (2013)	
Physical structure: bare ground	Percentage	Not more than 10% bare ground	Attribute and target based on O'Neill et al. (2010)	
Physical structure: bare soil	Percentage at a representative number of monitoring stops	Not more than 10% bare soil	Attribute and target based on O'Neill et al. (2013)	
Physical structure: disturbance	Square metres	Area showing signs of serious grazing or other disturbance less than 20m	Attribute and target based on O'Neill et al. (2013)	

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7130

Blanket bogs (* if active bog)

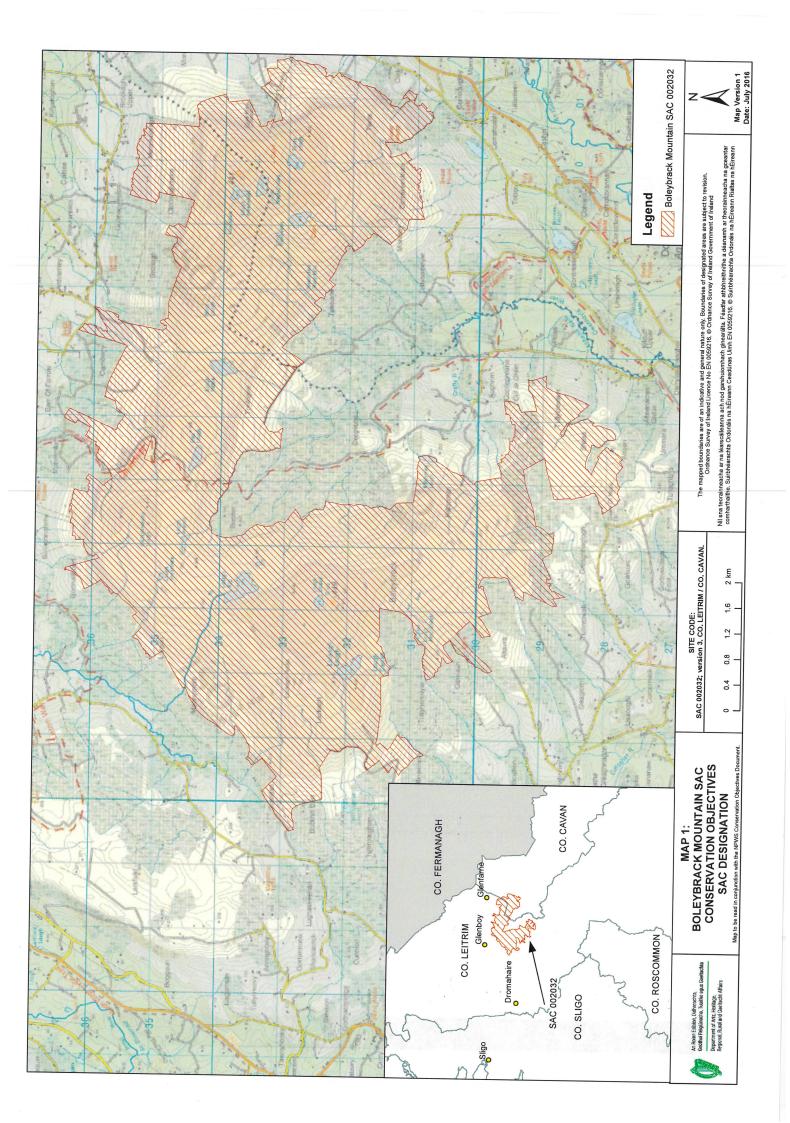
To restore the favourable conservation condition of Blanket bogs in Boleybrack Mountain SAC, which is defined by the following list of attributes and targets:

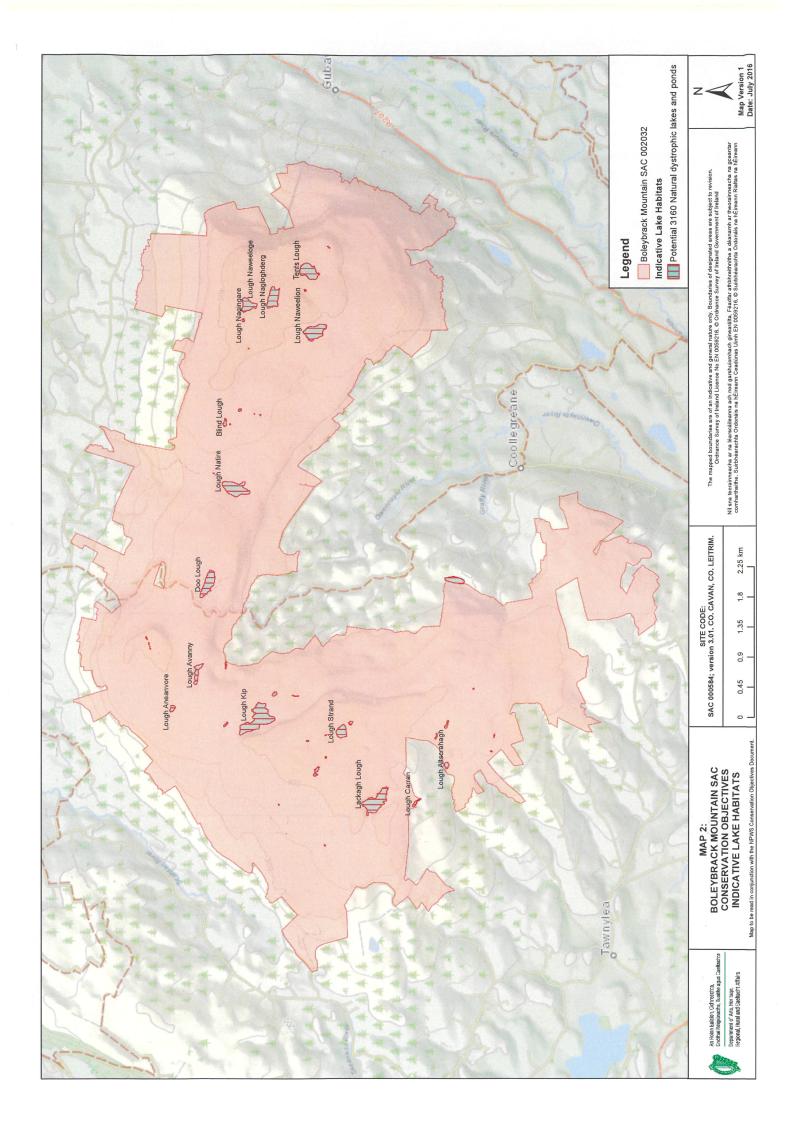
Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	Blanket bog has not been mapped in detail for Boleybrack Mountain SAC, but from current available data the total area of the qualifying habitat is estimated to be approximately 2,000ha. Further information can be found in Douglas et al. (1990). Further details on this and the following attributes can be found in the Boleybrack Mountain SAC conservation objectives supporting document for upland habitats
Habitat distribution	Occurrence	No decline, subject to natural processes	Extensive areas of blanket bog were recorded by Douglas et al. (1990), especially throughout the central areas of the SAC. Further information can be found within this source and the uplands supporting document
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	See the uplands supporting document for further details
Ecosystem function: peat formation	Active blanket bog as a proportion of the total area of Annex I blanket bog habitat	At least 99% of the total Annex I blanket bog area is active	See the uplands supporting document for further details
Ecosystem function: hydrology	Flow direction, water levels, occurrence of drains and erosion gullies	Natural hydrology unaffected by drains and erosion	Further details and a brief discussion of restoration potential is presented in the uplands supporting document
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	Douglas et al. (1990) recorded different active blanket bogs communities within this SAC. Further information on vegetation communities associated with this habitat is presented in Perrin et al. (2014)
Vegetation composition: positive indicator species	Number of species at a representative number of 2m x 2m monitoring stops	Number of positive indicator species at each monitoring stop is at least seven	Based on Perrin et al. (2014), where the list of positive indicator species for this habitat is also presented. See the uplands supporting document for further details
Vegetation composition: lichens and bryophytes	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of bryophytes or lichens, excluding Sphagnum fallax, at least 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: potential dominant species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of each of the potential dominant species less than 75%	Based on Perrin et al. (2014). See the uplands supporting document for further details, including the list of potentially dominant species
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%	Based on Perrin et al. (2014), where the list of negative indicator species for this habitat is also presented. See the uplands supporting document for further details
/egetation 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%	Based on Perrin et al. (2014). See the uplands supporting document for further details
/egetation composition: native trees and crub	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
/egetation tructure: <i>Sphagnum</i> ondition	Condition at a representative number of 2m x 2m monitoring stops	Less than 10% of the Sphagnum cover is crushed, broken and/or pulled up	Based on Perrin et al. (2014). See the uplands supporting document for further details

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Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Last complete growing season's shoots of ericoids, crowberry (<i>Empetrum nigrum</i>) and bog-myrtle (<i>Myrica gale</i>) showing signs of browsing collectively less than 33%	Based on Perrin et al. (2014). See the uplands supporting document for further details
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	Based on Perrin et al. (2014), where the list of sensitive areas is also presented. See the uplands supporting document for further details
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%	Based on Perrin et al. (2014). See the uplands supporting document for further details
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%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Physical structure: erosion	Occurrence in local vicinity of a representative number of monitoring stops	Less than 5% of the greater bog mosaic comprises erosion gullies and eroded areas	Based on Perrin et al. (2014). See the uplands supporting document for further details
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution o population sizes of rare, threatened or scarce species associated with the habitat	r This includes species listed in the Flora (Protection) Order, 2015 and/or the red data lists, Curtis and McGough (1988) and Lockhart et al. (2012). See the e uplands supporting document for further details

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Conservation objectives for Sligo/Leitrim Uplands SPA [004187]

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.

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.

Objective:

To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code Common Name Scientific NameA103 Peregrine Falco peregrinus

A346 Chough *Pyrrhocorax pyrrhocorax*



Citation: NPWS (2021) Conservation objectives for Sligo/Leitrim Uplands SPA [004187]. Generic Version 8.0. Department of Housing, Local Government and Heritage.

NATURA 2000

NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA), Proposed Sites for Community Importance (pSCI), Sites of Community Importance (SCI) and for Special Areas of Conservation (SAC)

SITE

IE0000428

SITENAME

Lough Melvin SAC

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- 1. SITE IDENTIFICATION
- 2. SITE LOCATION
- 3. ECOLOGICAL INFORMATION
- 4. SITE DESCRIPTION
- 6. SITE MANAGEMENT
- 7. MAP OF THE SITE

1. SITE IDENTIFICATION

1.1 Type	1.2 Site code	Back to top
В	IE0000428	

1.3 Site name

Lough Melvin SAC			
1.4 First Compilation date	1.5 Update date		

1.4 First Compilation date	1.5 Update date
1999-12	2018-09

1.6 Respondent:

Name/Organisation: National Parks and Wildlife Service, Department of Culture, Heritage and the

Gaeltacht

Address:

90 King Street North, Dublin 7, D07 N7CV, Ireland

Email:

datadelivery@chg.gov.ie

Date site proposed as SCI: 1999-12

Date site confirmed as SCI: No data

Date site designated as SAC: No data

National legal reference of SAC designation: No data

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

Back to top

Longitude

-8.184708149

Latitude

54.43304269

2.2 Area [ha]:

2.3 Marine area [%]

2268.869587

0.964

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

IEZZ	Extra-Regio
IE01	Border, Midland and Western

2.6 Biogeographical Region(s)

3. ECOLOGICAL INFORMATION

3.1 Habitat types present on the site and assessment for them

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Annex	I Hal	bitat t	ypes		Site assessment					
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C			
						Representativity	Relative Surface	Conservation	Glo	
3130			1776.119601		M	В	В	В	В	
6410 B			2.7		G	С	С	С	С	

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- Cover: decimal values can be entered
- Caves: for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species		Population in the site	Site assessment
	Scientific		

G	Code	Name	S	NP	Т	Size		Unit	Cat.	D.qual.	A B C D	AIBIC		
						Min	Max				Pop.	Con.	lso.	Glo.
В	A061	Aythya fuligula			w	40	40	i		G	С	В	С	С
М	1355	Lutra lutra			p				P	DD	С	Α	С	B `
F	1106	Salmo salar			r				С	DD	С	Α	С	Α

- Group: A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- S: in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see reference portal)
- Abundance categories (Cat.): C = common, R = rare, V = very rare, P = present to fill if data are deficient (DD) or in addition to population size information
- Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species				Popul	Population in the site				Motivation					
Group	CODE	ODE Scientific S NP Size Unit Cat.	S NP	Size Unit C		Unit Cat.		ecies nex	Otl	ner ægor	ies			
					Min	Max		C R V P	IV	V	Α	В	С	D
М		Martes martes									X			
Р		Salix phylicifolia									X			
F		Salmo trutta												Χ
F		Salmo trutta											X	
F		Salvelinus alpinus									X			
Р		Trollius europaeus									X			

- Group: A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles
- CODE: for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- S: in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- Unit: i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see reference portal)
- Cat.: Abundance categories: C = common, R = rare, V = very rare, P = present
- Motivation categories: IV, V: Annex Species (Habitats Directive), A: National Red List data; B: Endemics; C: International Conventions; D: other reasons

4. SITE DESCRIPTION

4.1 General site character

Habitat class	% Cover
N23	1.0
N09	1.0
N08	1.0
N20	1.0
N01	1.0
N05	1.0
N10	3.0
N16	3.0
N07	1.0
N06	87.0
Total Habitat Cover	100

Other Site Characteristics

Lough Melvin is a large lake, over 12 km in length and up to 3 km in width. The lake lies in a glaciated valley, with average depth of 8.5 m and a maximum of 45 m. The underlying rock is limestone. The lake is fed by several main rivers - the Ballagh, the Glenaniff, the County and the Roogagh (lies in Northern Ireland), plus numerous small streams. The lake drains into Donegal Bay via the Drowes River. Marginal vegetation is mainly wet grassland, but there are significant areas of wet woodland and some swamp and fen vegetation. Several large islands occur. Landuse in surrounding areas is mainly agricultural though there are substantial areas of forestry. Some areas of bog and heath occur in the catchment.

4.2 Quality and importance

Lough Melvin, part of which lies in Northern Ireland, is an important example of an oligotrophic-mesotrophic lake system. Sections of the main inflowing rivers and all of the outflowing river are included in site. It has a typical aquatic and emergent flora. The site is of great importance for fish conservation, with three genetically distinct populations of brown trout (Salmo trutta) - ?ferox?, ?gillaroo?, ?sonaghen? as well as Salvelinus alpinus, and important populations of Salmo salar. It may be one of the last examples in north-western Europe of a natural post-glacial salmonid lake. The site supports a population of Lutra lutra and has four Red Data Book plant species, notably Trollius europaeus. Martes martes has been reported from the site in recent times.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative	Impacts		
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
M	101		i
M	B02		b
M	H01.05		b
M	A08		i
M	A10.01		i
М	A04		i

Positive I	Positive Impacts							
1	Activities, management [code]	II ANTIANALL	inside/outside [i o b]					
M	B02		b					

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification, T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions i = inside, o = outside, b = both

4.5 Documentation

Bowman, J.J., Clabby, K.J., Lucey, J., Mc Garrigle, M.L. and Toner, P.H. (1996). Water Quality in Ireland 1991-1994. Environmental Protection Agency, Wexford. Central Fisheries Board (1993). A Baseline Survey of the Glenaniff and Ballagh Rivers, Lough Melvin Catchment and Recommendations for Fisheries Development. Central Fisheries Board, Dublin. Central Fisheries Board (2001). Irish Salmon Catches 2000. http://www.cfb.ie/:February 2001. Doris, Y., McGarrigle, M.L., Clabby, K.J., Lucey, J., Neill, M., Flanagan, M., Quinn, M.B., Sugrue, M. and Lehane, M. (1999). Water Quality in Ireland 1995-1997. Statistical compendium of River Quality Data. Electronic Publication on Disk. Environmental Protection Agency, Wexford. Ferguson, A. and Mason, F.M. (1981). Allogyne evidence for reproductively isolated sympatric populations of brown trout, Salmo trutta L., in Lough Melvin, Ireland. Journal of Fish Biology 18: 629-642. Ferguson, A. (1986). Lough Melvin - a unique fish community. Occasional papers in Irish Science and Technology, No. 1. Went Memorial Lecture. Royal Dublin Society, Dublin. Ferguson, A. (1989). Genetic differences among brown trout Salmo trutta and their importance for conservation and management of the species. Freshwater Biology 21: 35-46. Goodwillie, R. (1973). A Preliminary Report on Areas of Scientific Interest in County Leitrim. An Foras Forbartha, Dublin. Lawrie, E.W., Wolfe-Murphy, S.A. and Gibson, C.E. (1992). Northern Ireland Lakes Survey. 7: Large Lakes. A Botancial Survey of the Eight Largest Lakes in Northern Ireland. Unpublished report for the Department of the Environment, Northern Ireland. Lucey, J., Bowman, J.J., Clabby, K.J., Cunningham, P., Lehane, M., MacCarthaigh, M., McGarrigle, M.L. and Toner, P.F. (1999). Water Quality in Ireland 1995-1997. Environmental Protection Agency, Wexford. O'Reilly, P. (1991). Trout and Salmon Rivers of Ireland: An Angler's Guide. Merlin Unwin books, London. Praeger, R.L. (1934). The Botanist in Ireland. Hodges, Figgis & Co, Dublin. Sheppard, R. (1993). Ireland?s Wetland Wealth. IWC, Dublin.

6. SITE MANAGEMENT 6.2 Management Plan(s): An actual management plan does exist: Yes No, but in preparation X No 7. MAP OF THE SITES Back to top INSPIRE ID: IE.NPWS.PS.NATURA2000.SAC.IE0000428 Map delivered as PDF in electronic format (optional) Yes X No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).



NATURA 2000

NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA), Proposed Sites for Community Importance (pSCI), Sites of Community Importance (SCI) and for Special Areas of Conservation (SAC)

SITE

IE0001976

SITENAME

Lough Gill SAC

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1. SITE IDENTIFICATION

	I.1 Type	1.2 Site code	Back to top
E	3	IE0001976	7 7

1.3 Site name

Lough Gill SAC		

1.4 First Compilation date	1.5 Update date
1999-08	2020-10

1.6 Respondent:

Name/Organisation: National Parks and Wildlife Service, Department of Culture, Heritage and the

Gaeltacht

Address:

90 King Street North, Dublin 7, D07 N7CV, Ireland

Email:

datadelivery@chg.gov.ie

Date site proposed as SCI: 1999-08

Date site confirmed as SCI: No data

Date site designated as SAC: No data

National legal reference of SAC designation:

No data

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

Longitude

-8.341159

Latitude

54.261523

2.2 Area [ha]:

2.3 Marine area [%]

3318.66754

0.0

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

IE01	Border, Midland and Western
------	-----------------------------

2.6 Biogeographical Region(s)

Atlantic (%)

3. ECOLOGICAL INFORMATION

3.1 Habitat types present on the site and assessment for them

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Annex I Habitat types						Site assessment					
Code	PF	NP	Cover [ha]	Cave [number]	AIRICID						
142						Representativity	Relative Surface	Conservation	Global		
3150 0			2589.95		М	В	В	В	В		
6210 B	х		7.8		G	С	С	С	С		
91A0			99.61		M	В	C	С	В		
91E0			33.2		M	В	В	В	В		

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- Cover: decimal values can be entered
- Caves: for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Sp	Species			Po	Population in the site				Site assessment					
G	Code	Scientific Name	S	NP	Т	Size		Unit	Cat.	D.qual.	A B C D	A B C		
						Min	Max				Pop.	Con.	Iso.	Glo
В	A229	Alcedo atthis			р	2	2	р		G	С	В	С	С
В	A053	Anas platyrhynchos			w	128	128	i		G	С	В	С	С
l	1092	Austropotamobius pallipes			p				Р	DD	С	В	С	В
В	A061	Aythya fuligula			w	23	23	li		G	С	С	С	С
В	A067	Bucephala clangula			w	19	19	i		G	С	С	С	С
F	1099	<u>Lampetra</u> <u>fluviatilis</u>			r				Р	DD	С	В	С	С
F	1096	Lampetra planeri			р				P	DD	С	В	С	В
В	A179	Larus ridibundus			r	63	63	р		G	С	В	С	С
М	1355	Lutra lutra			р				Р	DD	С	Α	С	В
F	1095	Petromyzon marinus			r				P	DD	С	В	С	С
F	1106	Salmo salar			r				С	DD	С	В	С	В
В	A193	Sterna hirundo			r	20	20	p		G	С	В	С	С

- Group: A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- Unit: i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see reference portal)
- Abundance categories (Cat.): C = common, R = rare, V = very rare, P = present to fill if data are deficient (DD) or in addition to population size information
- Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species	3				Popul	ation in	the site		Mot	tivatio	n			
Group	CODE	Scientific Name	S	NP	Size Unit C	Cat.	Species Annex	Other categories						
					Min	Max		C R V P	IV	V	Α	В	С	D
		Acicula fusca												X
Р		Arbutus unedo												X
l		Callophrys rubi								ŀ				X
l		Celastrina argiolus												X

	Coenagrion lunulatum					man consequence de constitución de constitució		X
В	Cygnus olor	6	6	р			Х	
1	Ena obscura							X
1	Erynnis tages			The second secon				X
R	Lacerta vivipara						X	
	Leptidea sinapis							X
1	Limax cinereoniger							x
I	Marpessa laminata							X
M	Martes martes				X			
M	Martes martes						X	
M	Meles meles						X	
M	Meles meles				X			
M	Mustela erminea hibernica					X		
M	Mustela erminea hibernica						X	
P	Prunus padus				X			
Р	Pseudorchis albida				X			
Р	Pyrola media				X			
1	Quercusia quercus							X
A	Rana temporaria						x	
A	Rana temporaria				X			
М	Sciurus vulgaris						x	
1	Spermodea lamellata							x
A	Triturus yulgaris						x	
1	Zenobiella subrufescens							X

- **Group:** A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles
- **CODE:** for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Unit**: i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see <u>reference portal</u>)

- Cat.: Abundance categories: C = common, R = rare, V = very rare, P = present
- Motivation categories: IV, V: Annex Species (Habitats Directive), A: National Red List data; B: Endemics; C: International Conventions; D: other reasons

4. SITE DESCRIPTION

4.1 General site character

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Habitat class	% Cover
N09	1.0
N07	3.0
N10	2.0
N06	80.0
N16	8.0
N22	1.0
N08	4.0
N20	1.0
Total Habitat Cover	100

Other Site Characteristics

Lough Gill is a moderate to large sized lake lying immediately east of Sligo town. It is fed by the River Bonet and drains into the sea via the Garvogue River, a short, wide and slow flowing river which passes through Sligo town. The lake lies along the junction between old metamorphic rocks to the south and limestone to the north. The water of the lake is thus influenced by both acidic and alkaline inputs, although nearly all the basin lies over limestone. The lake is 8 km by 2-3 km and has an area of 1,400 ha. It is a deep lake, with maximum depth at 31 m. Islands are a feature of the lake. Much of the shoreline is wooded and there is also some swamp vegetation, wet grassland and scrub along the shoreline. The lake is an important salmonid and coarse fishery and is used for a range of recreational activities. The site also includes the Shanvans and Owenmore rivers.

4.2 Quality and importance

An important example of a lake which appears to be naturally eutrophic. Quality generally good though blooms of blue-green algae in recent years indicate some artificial enrichment. Significant areas of alluvial forest occur along the Garvoge River (Osmunda - Salicetum atrocinerea type) and at the mouth of the River Bonet (Carici remotae - Fraxientum type). Old oak woodland of varying quality is well scattered along the shoreline and on some of the islands and is an important example of this habitat for western Ireland. At least six Red Data Book plant species have been recorded from site. Site has three species of lamprey and Austropotamobius pallipes. The lake and its associated rivers support an important population of Salmo salar. Lutra lutra has a good population within the site. Of minor importance for birds though the site has a small breeding colony of Sterna hirundo. A wide range of rare or scarce invertebrates are known from the site, as well as several Red Data Book mammal species, including Martes martes.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Ir	npacts		
Rank	Threats and pressures [code]	I/Ontional)	inside/outside [i o b]
Н	E01.01		b
L	J02.05.02		i
M	B06	_	i
L	G01.01.01		i

Positive II	mpacts		
1	management	I/Ontional i	inside/outside [i o b]
L	X	along the second	i

L	В	į į
M	A10.01	i
M	E01.03	i
М	101	i
M	D01.01	i
L	E03.03	į
L	J02.10	i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification, T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.5 Documentation

Central Fisheries Board (2001). Irish Salmon Catches 2000. http://www.cfb.ie/:February 2001. Clabby, K.J., Lucey, J., McGarrigle, M.L., Bowman, J.J., Flanagan, P.J. and Toner, P.F. (1992). Water Quality in Ireland 1987-1990. Part One General Assessment. Environmental Research Unit, Dublin. Cotton, D.C.F. (1982). Coenagrion lunulatum (Charpentier) (Odonata: Coenagridae) new to the British Isles. Entomologists? Gazette 33: 213-214. Cotton, D.C.F. (1993). Ecological Study of Lough Gill - to Predict the Effects of the Sligo and Environs Water Supply Scheme on the Flora and Fauna with Suggestions for Future Management, Report prepared in conjunction with Jennings O?Donovan and Partners for Sligo County Council. Cotton, D.C.F. and Cawley, M. (1993). New records for vascular plants from Cos. Sligo (H28) and Leitrim (H29). Irish Naturalists? Journal 24: 288-295. Colhoun, K. (1998). I-WeBS Report 1996-97. BirdWatch Ireland, Dublin. Doris, Y., McGarrigle, M.L., Clabby, K.J., Lucey, J., Neill, M., Flanagan, M., Quinn, M.B., Sugrue, M. and Lehane, M. (1999). Water Quality in Ireland 1995-1997. Statistical Compendium of River Quality Data. Electronic Publication on Disk. Environmental Protection Agency, Wexford. Flanagan, P.J. and Toner, P.F. (1975). A preliminary survey of Irish lakes. An Foras Forbartha, Water Resources Division. Goodwillie, R. (1972). A Preliminary Report on Areas of Scientific Interest in County Sligo. An Foras Forbartha, Dublin. Jennings O?Donovan and Partners (1994). Sligo and Environs Water Supply Scheme. Ecology Study. Report prepared for Sligo County Council. Kelly, D.L. and Iremonger, S.F. (1997). Irish wetland woods: the plant communities and their ecology. Biology and Environment - Proceedings of the Royal Irish Academy 97B: 1-32. Kurz, I. and Costello, M.J. (1998). An Outline of the Biology, Distribution & Conservation of Lampreys in Ireland. Irish Wildlife Manual No. 5 Dúchas The Heritage Service. O'Reilly, P. (1991). Trout and Salmon Rivers of Ireland: an Anglers Guide. Merlin Unwin Books, London. Praeger, R.L. (1932). Some noteworthy plants found in or reported from Ireland. Proceedings of the Royal Irish Academy 41B (4): 95-124. Praeger, R.L. (1934). The Botanist in Ireland. Hodges & Figgis, Dublin. Round, F.E. and Brook, A.J. (1959). The phytoplankton of some Irish loughs and an assessment of their trophic status. Proceedings of the Royal Irish Academy 60B (4): 167-191. Thompson, E., Ryan, S. and Cotton, D.C.F. (1998). Management Plan for the Lough Gill Catchment. Sligo County Council. Whilde, A. (1985). The All Ireland Tern Survey 1984. Unpublished report for the Irish Wildbird Conservancy, Dublin, Whilde, A., Cotton, D.C.F., and Sheppard, R. (1993). A repeat survey of gulls breeding in Counties Donegal, Sligo, Mayo and Galway, with recent counts from Leitrim and Fermanagh. Irish Birds 5: 67-72.

6. SITE MANAGEMENT

6.2 Management Plan(s): An actual management plan does exist	· ;	Back to top
Yes		
No, but in preparation		
X No		

7. MAP OF THE SITES

	Ba	ck	to	top	
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INSPIRE ID:

IE.NPWS.PS.NATURA2000.SAC.IE0001976

Map delivered as PDF in electror	nic format (optional)	
Yes X No		
Reference(s) to the original map	used for the digitalisation of the electron	ic boundaries (optional).



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA), Proposed Sites for Community Importance (pSCI), Sites of Community Importance (SCI) and for Special Areas of Conservation (SAC)

SITE

IE0002032

SITENAME

Boleybrack Mountain SAC

TABLE OF CONTENTS

- 1. SITE IDENTIFICATION
- 2. SITE LOCATION
- 3. ECOLOGICAL INFORMATION
- 4. SITE DESCRIPTION
- 6. SITE MANAGEMENT
- 7. MAP OF THE SITE

1. SITE IDENTIFICATION

1.1 Type	1.2 Site code	Back to top
В	IE0002032	

1.3 Site name

Boleybrack Mountain SAC					

1.4 First Compilation date	1.5 Update date
2003-06	2018-09

1.6 Respondent:

National Parks and Wildlife Service, Department of Culture, Heritage and the Name/Organisation:

Gaeltacht

Address:

90 King Street North, Dublin 7, D07 N7CV, Ireland

Email:

datadelivery@chg.gov.ie

Date site proposed as SCI: 2003-06

Date site confirmed as SCI: No data

No data Date site designated as SAC:

National legal reference of SAC designation: No data

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

Longitude

-8.06818215

Latitude

54.24699838

2.2 Area [ha]:

2.3 Marine area [%]

4242.315125

0.0

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

IE01	Border, Midland and Western
------	-----------------------------

2.6 Biogeographical Region(s)

3. ECOLOGICAL INFORMATION

3.1 Habitat types present on the site and assessment for them

Back to top

Annex I Habitat types						Site assessment					
Code PF		NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C				
						Representativity	Relative Surface	Conservation	Global		
3160 B			42.44		М	В	С	В	С		
4010 B			1273.24		М	В	В	В	В		
4030 8			933.71		M	В	В	В	В		
6410 8			42.44		M	В	C	В	С		
7130🛭	X		1273.24		M	A	С	A	A		

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- NP: in case that a habitat type no longer exists in the site enter: x (optional)
- Cover: decimal values can be entered
- Caves: for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive

92/43/EEC and site evaluation for them

Species			Population in the site						Site assessment					
G	Code	Scientific Name	S	NP	Т	Size	Size		Unit Cat.		A B C D	A B C		
						Min	Max				Pop.	Con.	lso.	Glo.
В	A140	Pluvialis apricaria			r	2	3	p		G	С	В	С	В

- Group: A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- S: in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit**: i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see <u>reference portal</u>)
- Abundance categories (Cat.): C = common, R = rare, V = very rare, P = present to fill if data are deficient (DD) or in addition to population size information
- Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species				Popul	Population in the site				Motivation					
Group	CODE	Scientific Name	s	NP	Size Unit Cat.		Cat.		ecies	Oth	ner egoi	ries		
					Min	Max		C R V P	IV	V	Α	В	С	Г
В		<u>Lagopus</u> <u>lagopus</u>											X	
Р		Vaccinium oxycoccus												X
Р		<u>Vaccinium</u> vitis-idea												X

- Group: A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles
- CODE: for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Unit**: i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see <u>reference portal</u>)
- Cat.: Abundance categories: C = common, R = rare, V = very rare, P = present
- Motivation categories: IV, V: Annex Species (Habitats Directive), A: National Red List data; B: Endemics; C: International Conventions; D: other reasons

4. SITE DESCRIPTION

Habitat class	% Cover
N22	2.0
N07	35.0
N10	3.0
N06	2.0
N23	1.0
N08	57.0
Total Habitat Cover	100

Other Site Characteristics

Boleybrack mountain is an extensive area of montane habitat which occurs along the Cavan/Leitrim border a few kilometres north of Lough Allen. The dominant bedrock within the site is a sedimentary gritstone which contains seams of coal in places. This coal has been mined in the past. The site is dominated by heath and blanket bog with dystrophic/oligotrophic lakes, scrub and inland cliff covering a small proportion of the site area. Coniferous forestry is frequent on the lower slopes of the mountain and forms the site boundary in many places.

4.2 Quality and importance

This site supports an excellent diversity of montane habitats over a fairly extensive area. Active blanket bog, dry heath and wet heath are particularly well represented, with good examples also of Molinia meadows and dystrophic lakes. In addition the site contains some areas of scrub (at low elevations), streams and cliff. Although much of the surrounding low-lying land has been afforested with conifers the quality of the remaining upland area is good with relatively low levels of disturbance from damage such as grazing and burning. The site supports breeding Pluvialis apricaria and Lagopus lagopus. It also has a number of scarce plant species for the area, notably Vaccinium vitis-idea and Vaccinium oxycoccus. The site is also important from a scenic perspective and is one of a number of important upland heath/blanket bog sites which occur close to the border with Northern Ireland.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative	Impacts		
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
L	B02		o
М	A07		Ţi.
М	B01		0
М	A04.01.02		b
М	D01		į
L	C01.01.01		į
М	A04.03		İ
М	J01.01		b
L	J02.06.02		į
М	A10		o
М	A04.02.01		i
М	C01.03.02		i
М	C03.03		b
L	G01.02		İ
M	102		i ·
Н	В		О
М	C01.03.02		i i
L	D02.02		İ
M	F03.02.02		l

Positive Impacts							
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i o b]				
М	A04.02.02		i				
М	F03.02.04		b				
Н	J01.01		i				

M A04.03 b	
M K03.02 i	
Rank: H = high, M = medium, L = low	
Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,	
T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions	
i = inside, o = outside, b = both	
4.5 Documentation	
National Parks and Wildlife Service (1992-1994). National Areas of Scientific Interest Survey. Unpublished	ed
report, National Parks and Wildlife Service, Dublin.	
6. SITE MANAGEMENT	
Dock	to ton
6.2 Management Plan(s):	to top
An actual management plan does exist:	
Yes	
No, but in preparation	
X No	
7. MAP OF THE SITES	
<u>Back</u>	to top
INSPIRE ID: IE.NPWS.PS.NATURA2000.SAC.IE0002032	7
	_
Map delivered as PDF in electronic format (optional)	
wap delivered as i bi in electronic format (optional)	
Yes X No	
Reference(a) to the original man used for the digitalization of the electronic beyondaries (anticast)	
Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).	7





NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA), Proposed Sites for Community Importance (pSCI), Sites of Community Importance (SCI) and for Special Areas of Conservation (SAC)

SITE

IE0004187

SITENAME

Sligo/Leitrim Uplands SPA

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- 2. SITE LOCATION
- 3. ECOLOGICAL INFORMATION
- 4. SITE DESCRIPTION
- 6. SITE MANAGEMENT
- 7. MAP OF THE SITE

1. SITE IDENTIFICATION

1.1 Type	1.2 Site code	Back to top
A	IE0004187	

1.3 Site name

Sligo/Leitrim Uplands SPA	
	Market and the second second

1.4 First Compilation date	1.5 Update date
2009-07	2018-09

1.6 Respondent:

Name/Organisation: National Parks and Wildlife Service, Department of Culture, Heritage and the

Gaeltacht

Address:

90 King Street North, Dublin 7, D07 N7CV, Ireland

Email:

datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site classified as SPA:	2006-11				
National legal reference of SPA designation	No data				

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

Back to top

Longitude

Latitude

-8.389995957

54.36889284

2.2 Area [ha]:

2.3 Marine area [%]

1733.549332

0.0

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

IE01 Border, Midland and Western	IE01	
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2.6 Biogeographical Region(s)

Atlantic (%)

3. ECOLOGICAL INFORMATION

Back to top

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Sp	ecies				Po	pulati	on in t	he site			Site assessment			
G	Code	Scientific Name	S	NP	Т	Size		Unit	Cat.	D.qual.	A B C D	A B C		
						Min	Max				Pop.	Con.	lso.	Glo
В	A103	Falco peregrinus			r	5	5	Р		G	С	A	С	С
В	A346	Pyrrhocorax pyrrhocorax			r	15	15	р		G	С	В	С	В

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- NP: in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see <u>reference portal</u>)
- Abundance categories (Cat.): C = common, R = rare, V = very rare, P = present to fill if data are deficient (DD) or in addition to population size information
- Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

4. SITE DESCRIPTION

4.1 General site character

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Habitat class	% Cover
N08	27.0
N23	11.0
N14	25.0
N22	5.0
N06	2.0
N15	15.0
N09	15.0
Total Habitat Cover	100

Other Site Characteristics

The Sligo/Leitirm Uplands SPA is located north-east of the town of Sligo in the mountain range of Ben Bulben, Arroo and Cope's Mountain/Crockauns. The site straddles the Co. Sligo/Co. Leitrim border. The site includes six separate lengths of cliffs in these ranges, including those of King's Mountain, Benbulbin, Benwiskin, Gleniff, Truskmore, Tievebaun, Glenade, Glencar, Arroo Mountain and Cope's Mountain/Crockauns. These uplands are formed of Carboniferous limestone, capped in places with shales. They stand on a high plateau, 300-450m above the surrounding countryside, and the edges form lofty cliffs from 15 to 300m in height. Areas of scree occur below cliffs on slopes of 40-50 degrees.

4.2 Quality and importance

The cliffs hold nesting Chough, a Red Data Book species that is listed on Annex I of the E.U. Birds Directive; 14 breeding pairs were recorded from the site in the 1992 survey and 15 in the 2002/03 survey. Chough forage mostly on unimproved, closely grazed grassland and flocks of up to 29 have been seen. The land on the plateau is, for the most part, vegetated by heath and blanket bog which is largely unsuitable habitat for Chough. The extensive uplands on the plateau provide excellent habitat for Peregrine; the cliffs are ideal nesting sites and five pairs were recorded in 2002.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts						
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]			
Н	E01.01		0			
L	101		О			
Н	K01.01		i			
Н	B01		i [.]			
L	C01.03.02	THE RESERVE THE PROPERTY OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF TH	О			
L	G01.04		i			
M	C01.01		О			
M	G02.08		О			
Н	A04.03		О			
Н	B01		О			
L	101		i			
М	G01.02		i			

Positive Impacts						
Rank			inside/outside [i o b]			
L	C01.03.02		О			
Н	A04		i			
M	C01.01.01		О			
М	G01.02		i			

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.5 Documentation

Berrow, S.D., Mackie, K.I., O'Sullivan, O., Shephard, K.B., Mellon, C. and Coveney, J.A. (1992). The Second International Chough Survey Ireland. Irish Birds 5:1-10 Bullock, I.D., Drewett, D.R. and Mickleburgh, S.P. (1983). The Chough in Britain and Ireland. British Birds 76: 377-401. Environment and Heritage Service (2000). Biodiversity in Northern Ireland. Northern Ireland Species Action Plan: Chough. Environment and Heritage Service, Belfast. Gray, N., Thomas, G., Trewby, M. and Newton, S.F. (2003). The status and distribution of Chough Pyrrhocorax pyrrhocorax in the Republic of Ireland 2002/03. Irish Birds 7: 147-156. Madden, B. (in prep.). Breeding Survey of Peregrine Falcons in the Republic of Ireland, 2002. Unpublished Report to NPWS, Dublin. Norriss, D.W. (1995). The 1991 survey and weather impacts on the Peregrine Falco peregrinus breeding population in the Republic of Ireland. Bird Study 42: 20-30.

6. SITE MANAGEN	MENT	
6.2 Management Plan(An actual management p		Back to tor
Yes		
No, but in prepara	tion	
X No		
7. MAP OF THE SI	TES	
		Back to to
INSPIRE ID:	IE.NPWS.PS.NATURA2000.SPA.IE0004187	
Map delivered as PDF in	n electronic format (optional)	
Yes X No		
Reference(s) to the origi	nal map used for the digitalisation of the electronic boundaries (optional).	



Site Name: Lough Melvin SAC

Site Code: 000428

Lough Melvin is situated in the extreme north-west of Co. Leitrim, about 4 km south of Bundoran. The area is underlain by sedimentary calp-limestone, shale and sandstone. Lough Melvin is an oligo-mesotrophic lake and is approximately 13 km long by 3 km wide. The mean depth of the lake is 8.5 m, the maximum depth being 45 m. A number of inflowing and outflowing streams and rivers are included in the site, for instance, the Drowes River links the lake to Donegal Bay. Several large islands occur on the lake.

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):

[3130] Oligotrophic to Mesotrophic Standing Waters

[6410] Molinia Meadows

[1106] Atlantic Salmon (Salmo salar)

[1355] Otter (Lutra lutra)

The lake has a good diversity of aquatic plants, including Quillwort (*Isoetes lacustris*), Shoreweed (*Littorella uniflora*), Alternate Water-milfoil (*Myriophyllum alterniflorum*), Water Lobelia (*Lobelia dortmanna*), Canadian Waterweed (*Elodea canadensis*) and several species of pondweed (*Potamogeton graminaeus*, *P. lucens* and *P. x nitens*). Swamp vegetation is generally sparse, being best developed in the sheltered bay areas. Species include Reeds (*Phragmites australis*), Common Spike-rush (*Eleocharis palustris*) and Common Club-rush (*Scirpus lacustris*).

The most extensive terrestrial habitat in the site is lowland wet grassland. This is highly variable throughout the site in both its species composition and species richness. Grassland ascribable to the E.U. Habitats Directive Annex I type *Molinia* Meadows has been reported by the Irish Semi-natural Grasslands Survey (2009) from Gubacreeny (site no. 802) and Gubalaun (site no. 804). Common species include Jointed Rush (*Juncus articulatus*), Soft Rush (*J. effusus*), Marsh Pennywort (*Hydrocotyle vulgaris*), Yellow Iris (*Iris pseudacorus*), Water Mint (*Mentha aquatica*), Silverweed (*Potentilla anserina*), Creeping Soft-grass (*Holcus mollis*) and Devil's-bit Scabious (*Succisa pratensis*).

Wet deciduous woodland, dominated by Alder (*Alnus glutinosa*), Goat Willow (*Salix caprea*) and Downy Birch (*Betula pubescens*), is common in places. Ground flora species under these canopies include Lesser Burdock (*Arctium minus*), Wild Angelica (*Angelica sylvestris*) and Common Spike-rush (*Eleocharis palustris*).

Drier woodland exists in other areas, with Hazel (Corylus avellana), Ash (Fraxinus excelsior), Holly (Ilex aquifolium) and Hawthorn (Crataegus monogyna). Some stands have a rich ground flora that includes Primrose (Primula vulgaris), Wood-sorrel (Oxalis acetosella), Bluebell (Hyacinthoides non-scripta), Honeysuckle (Lonicera periclymenum) and Sanicle (Sanicula europaea). The fern community is well developed too, with such species as Male-fern (Dryopteris filix-mas) and Hart's-tongue (Phyllitis scolopendrium) present.

Four plant species which are listed in the Irish Red Data Book, Globeflower (*Trollius europaeus*), Marsh Helleborine (*Epipactis palustris*), Blue-eyed-grass (*Sisyrinchium bermudiana*) and Tea-leaved Willow (*Salix phylicifolia*), are found in this site. Globeflower is also protected under the Flora (Protection) Order, 2015.

The main interest of the site is the unique fish community which the lake supports. Lough Melvin is an excellent example of a natural, post-glacial salmonid lake. A relict population of the Arctic Char (*Salvelinus alpinus*), which constitutes an arcticalpine element of the Irish fauna, occur there, as does the Atlantic Salmon (*Salmo salar*). Both of these species are listed in the Irish Red Data Book, and Salmon is listed on Annex II of the E.U. Habitats Directive.

Lough Melvin has three races of Brown Trout (*Salmo trutta*) - Ferox, Sonaghen and Gillaroo - which have distinctive characteristics and separate spawning grounds. The lake's inflowing and outflowing streams which are used for spawning by these Brown Trout races are included in the site.

Otter have been recorded from the Drowes River and the main inflowing rivers, and are likely to be widespread throughout the site. Recently, Pine Marten has been recorded from within the site. Both of these species are listed in the Irish Red Data Book, and Otter is listed on Annex II of the E.U. Habitats Directive.

Moderate numbers of waterfowl use the lake and Greenland White-fronted Goose, a species listed on Annex I of the E.U. Birds Directive, have occasionally been reported from the site.

The lake is used for boating, fishing and water abstraction, while much of the terrestrial part of the site is used for grazing. Consequently, the main threats to the site are from agricultural pollution and recreational pressure.

Lough Melvin is an example of a lake type that is of conservation significance and that is listed on Annex I of the E.U. Habitats Directive. The site is also important for *Molinia* Meadow grassland, Otter and for the presence of a unique fish community, including Atlantic Salmon, a species that is listed on Annex II of the E.U. Habitats Directive, and for a diverse flora which includes a number of rare plants, most notably, the protected Globeflower.



Site Name: Lough Gill SAC

Site Code: 001976

This site includes Lough Gill, Doon Lough to the north-east, the Bonet River (as far as, but not including, Glenade Lough), and a stretch of the Owenmore River near Manorhamilton in Co. Leitrim. Lough Gill itself, 2 km east of Sligo town, lies at a geological junction of ancient metamorphic rocks which produce acid groundwater, and limestone which dissolves in the groundwater.

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):

[3150] Natural Eutrophic Lakes

[6210] Orchid-rich Calcareous Grassland*

[91A0] Old Oak Woodlands

[91E0] Alluvial Forests*

[1092] White-clawed Crayfish (Austropotamobius pallipes)

[1095] Sea Lamprey (Petromyzon marinus)

[1096] Brook Lamprey (Lampetra planeri)

[1099] River Lamprey (Lampetra fluviatilis)

[1106] Atlantic Salmon (Salmo salar)

[1355] Otter (Lutra lutra)

Lough Gill is a large lake, being 8 km long, and has steep limestone shores and underwater cliffs. It is over 20 m deep in places. The lake appears to be naturally eutrophic. The aquatic macrophyte flora is very limited, probably due to the rapid increase in depth around most of the margin. Species such as pondweeds (*Potamogeton* spp.) are present, as well as Shoreweed (*Littorella uniflora*). Where the lake shore has a shallow gradient, some swamp vegetation occurs, mainly dominated by Common Reed (*Phragmites australis*), with Common Club-rush (*Scirpus lacustris*) and sedges (*Carex* spp.).

The Old Oak Woodlands within this site are dominated by oak (*Quercus* spp.), Rowan (*Sorbus aucuparia*) and willows (*Salix* spp.). A number of interesting tree species occur. Strawberry Tree (*Arbutus unedo*) is found in its most northerly site in the world. Yew (*Taxus baccata*) occurs in abundance. Bird Cherry (*Prunus padus*), a Red Data Book species, is also found, as is the nationally scarce Rock Whitebeam (*Sorbus rupicola*). Some areas of conifer plantation occur in association with these woodlands.

There is a fringe of deciduous woodland along most of the length of the Garvoge River. In parts it is dense and impenetrable, with a very wet marshy underlayer. Some areas are dominated by Rusty Willow (Salix cinerea subsp. oleifolia), with Alder (Alnus glutinosa) also occurring commonly. Other tree species present include Goat Willow (Salix caprea), Hazel (Corylus avellana), Rhododendron (Rhododendron ponticum) and Cherry Laurel (Prunus laurocerasus). Both of the latter species are invasive aliens. In the understorey, species such as Guelder-rose (Viburnum opulus), Gipsywort (Lycopus europaeus) and Skullcap (Scutellaria galericulata) are found. Reedswamp is also common along the river. Another area of alluvial wet woodland is found at the mouth of the Bonet River. Here there is dense willow (Salix sp.) scrub, along with Reed Canary-grass (Phalaris arundinacea), and also areas where Alder and Goat Willow are dominant.

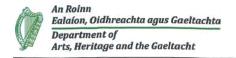
Areas of unimproved wet and dry grassland also occur within the site, the former particularly by the lake and the latter well developed in the north-east of the site and in the vicinity of O'Rourke's Table. Orchid-rich Calcareous Grassland, a priority habitat listed on Annex I of the E.U. Habitats Directive, has been reported from Clogher Beg, according to the Irish Semi-natural Grasslands Survey, 2010. Heath-covered hillsides above the woods are dominated by Heather (*Calluna vulgaris*).

The site also supports several rare plant species, including Yellow Bird's-nest (Monotropa hypopitys), the lady's-mantle species Alchemilla glaucescens, Ivy Broomrape (Orobanche hederae), Black Bryony (Tamus communis), Intermediate Wintergreen (Pyrola media) and Bird's-nest Orchid (Neottia nidus-avis). There is also an unconfirmed record for Melancholy Thistle (Cirsium helenioides) from the eastern side of the site.

Both the woods and the mountains are used by a large herd of Fallow Deer. The site is of considerable importance for the presence of four Red Data Book fish species that are listed on Annex II of the E.U. Habitats Directive - Brook Lamprey (Lampetra planeri), River Lamprey (Lampetra fluviatilis), Sea Lamprey (Petromyzon marinus) and Atlantic Salmon (Salmo salar). The Lough Gill system gets a very early run of spring salmon, while the Bonet holds stocks of salmon from spring right through to the end of the season. White-clawed Crayfish (Austropotamobius pallipes), Otter and Pine Marten are well established on this site, the first two are both Annex II species. The woodlands have a fauna which includes several rare snail species.

Lough Gill supports low numbers of wintering waterfowl, mostly Mallard (<150), Tufted Duck (20-30) and Goldeneye (<20). A small colony of Common Tern breed on the islands (20 pairs in 1993), while Kingfisher are found on the lake and rivers. Both of these species are listed on Annex I of the E.U. Birds Directive. A colony of Blackheaded Gulls (63 pairs in 1992) occurs with the terns. The woods support a good diversity of bird species including Jay, Woodcock and Blackcap.

The site is of importance for four habitats listed on Annex I of the E.U. Habitats Directive, including two with priority status. It is also noted for the high number of rare or scarce animal and plant species.



Site Name: Boleybrack Mountain SAC

Site Code: 002032

Boleybrack Mountain SAC comprises an extensive upland plateau situated to the north of Lough Allen in Co. Leitrim. It is dominated by active mountain blanket bog and wet heath, with small oligotrophic/dystrophic lakes scattered throughout. The site also contains low rocky cliffs, areas of dry heath and a variety of grassland types, including heathy grassland dominated by Purple Moor-grass (*Molinia caerulea*), upland acid grassland, orchid-rich meadows and wet, rushy pastures.

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):

[3160] Dystrophic Lakes

[4010] Wet Heath

[4030] Dry Heath

[6410] Molinia Meadows

[7130] Blanket Bogs (Active)*

Within this SAC the mountain blanket bog is dominated by Heather (Calluna vulgaris), Common Cottongrass (Eriophorum angustifolium) and moss species such as Sphagnum capillifolium, S. palustre and Racomitrium lanuginosum. Intact areas of bog have a varied topography with hummocks of R. lanuginosum, the lichen Cladonia portentosa and Heather, interspersed with lawns of both Common Cottongrass and Hare's-tail Cottongrass (E. vaginatum). The level areas of bog also feature pools that contain species such as the bog moss Sphagnum cuspidatum, and Bogbean (Menyanthes trifoliata). Other prominent species present include Bog Asphodel (Narthecium ossifragum), Deergrass (Scirpus cespitosus) and Round-leaved Sundew (Drosera rotundifolia). Locally rare species recorded in this habitat include Cranberry (Vaccinium oxycoccos), Dioecious Sedge (Carex dioica) and the lichen Cladonia portentosa.

Areas of wet heath feature expanses of Heather interspersed with Purple Moor-grass, Soft Rush (*Juncus effusus*), Sharp-flowered Rush (*Juncus acutifloris*) and tussocks of Hare's-tail Cottongrass. Other species present include Tormentil (*Potentilla erecta*), Wavy Hair-grass (*Deschampsia flexuosa*), Bell Heather (*Erica cinerea*) and Cross-leaved Heath (*Erica tetralix*). The locally rare species Cowberry (*Vaccinium vitis-idaea*) and Crowberry (*Empetrum nigrum*) occur in this habitat.

Dry heath is widely distributed throughout this site, and is best-developed in areas will shallow, well-drained peat on areas of sloping ground or close to rocky outcrops. The floristic composition of this habitat is similar to that of wet heath, except that species indicative of wetter conditions are large absent – e.g. Cross-leaved Heath, Purple Moor-grass and the bog moss *Sphagnum papillosum*. The dominant species is usually Heather, with the following species also common: Bell Heather, Green-ribbed Sedge (*Carex binervis*), Heath Bedstraw (*Galium saxatile*), Tormentil, Sheep's-fescue (*Festuca ovina*) and Bilberry (*Vaccinium myrtillus*). The main bryophyte species found are *Sphagnum capillifolium* and *Hypnum jutlandicum*.

This site is dominated by an upland plateau which contains approximately 20 lakes. The largest of these is Lough Kip, which is about 10 ha in size. Many of the lakes contain little vegetation, and conform to the dystrophic lake category. Bulbous Rush (*Juncus bulbosus*) has been recorded in shallow water at the edge of some of the lakes, while rafts of the bog mosses *Sphagnum recurvum* and *S. palustre* are a feature of some others. In one case, a small lake has infilled almost entirely with a *Sphagnum* raft. The species recorded associated with the raft include *S. auriculatum*, *S. papillosum*, *S. recurvum*, Bottle Sedge (*Carex rostrata*), Common Cottongrass and Bogbean.

The acid grassland areas support a variety of grass species, the most common being bents (*Agrostis* spp.) and fescues (*Festuca* spp.). This species-rich habitat also supports a variety of herb species such as Selfheal (*Prunella vulgaris*), Devil's-bit Scabious (*Succisa pratensis*), clovers (*Trifolium* spp.) and Cat's-ear (*Hypochoeris radicata*), amongst others. Wetter heathy grasslands dominated by Purple Moor-grass occur on the lower slopes of the site, and some areas are quite orchid-rich, with abundant Heath Spotted-orchid (*Dactylorhiza maculata*) and Common Spotted-orchid (*D. fuchsii*), particularly in south-eastern sections of the site. Other common species in these types of grasslands include Sharp-flowered Rush, Soft Rush, Heath Rush (*Juncus squarrosus*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Oval Sedge (*Carex ovalis*), Star Sedge (*Carex echinata*) and Heath Wood-rush (*Luzula multiflora*). Areas of rush pasture on the site are dominated by Soft Rush and Sharp-flowered Rush, interspersed with Marsh bedstraw (*Galium palustre*) and Yorkshire-fog (*Holcus lanatus*).

The site provides excellent areas of feeding habitat for Red Grouse, Snipe, Curlew and Ravens. Golden Plover nests within the site (2-3 pairs), while Hen Harrier may use the site for foraging. Both these species are listed on Annex I of the E.U. Birds Directive.

The site is lightly grazed by sheep and locally affected by burning and turbary. Much of the site is bounded by mature coniferous forestry plantations; recent planting on areas of blanket bog has caused significant local damage.

The site is of considerable conservation importance for the various habitats listed on Annex I of the E.U. Habitats Directive that it supports, in particular the good examples of mountain blanket bog and wet heath. The examples of these habitats on the site are among the best remaining in the northern half of the country. The

presence of a number of rare conservation significance of t	plant species an he site.	d of a variety of b	ird species adds to the



SITE SYNOPSIS

SITE NAME: SLIGO/LEITRIM UPLANDS SPA

SITE CODE: 004187

The Sligo/Leitrim Uplands SPA is located north-east of the town of Sligo in the mountain ranges of Ben Bulben, Arroo and Cope's Mountain/Crockauns. The site straddles the Co. Sligo/Co. Leitrim border. The site includes six separate lengths of cliffs in these ranges, including those of King's Mountain, Benbulbin, Benwiskin, Gleniff, Truskmore, Tievebaun, Glenade, Glencar, Arroo Mountain and Cope's Mountain/Crockauns. The upper boundary of the site is taken to be 50 m from the cliff top except in the King's Mountain area, above Glencar Lough, where an expanse of suitable foraging habitat *c*. 200 m from the cliff top is included. These uplands are formed of Carboniferous limestone, capped in places by shales. They stand on a high plateau, 300-450 m above the surrounding countryside, and the edges form lofty cliffs from 15 to 300 m in height. Areas of scree occur below the cliffs on slopes of 40-50°.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Chough and Peregrine.

Inland cliffs and scree slopes are the predominant habitats of the site. Other habitats present on the site include heath, blanket bog, grassland, scrub, woodland and streams.

The cliffs hold an internationally important population of breeding Chough (14 breeding pairs recorded from the site in the 1992 survey and 15 in the 2002/03 survey). Chough forage mostly in unimproved, closely grazed grassland and flocks of up to 29 birds have been seen. The land on the plateau is, for the most part, vegetated by heath and blanket bog which is largely unsuitable habitat for Chough. The suitable grassland occurs mainly on the steep slopes below the cliffs.

The extensive uplands on the plateau provide excellent habitat for Peregrine; the cliffs are ideal nesting sites and four pairs were recorded here in 2002. Small numbers of Red Grouse are also known to occur within the site.

The Sligo/Leitrim Uplands SPA is of considerable ornithological significance, being a site of international importance for Chough and of national importance for Peregrine; both species are listed on Annex I of the E.U. Birds Directive.

