



# Ramsar Information Sheet

Published on 7 March 2023

Update version, previously published on : 31 July 1986

## Ireland

### Slieve Bloom Mountains



Designation date	31 July 1986
Site number	335
Coordinates	53°04'11"N 07°36'04"W
Area	2 430,00 ha

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

### Summary

Slieve Bloom Mountains Ramsar Site is an isolated, inland mountain range, which lies on the Offaly-Laois counties border and runs along a NE-SW ridge for approximately 25 km. Several important rivers rise within the Site, including the second longest river in Ireland, the Barrow; also the Delour and Silver rivers. The Camcor River rises on the western slopes of the Slieve Bloom mountains. The largest and most intact area of mountain blanket bog known in Ireland occurs here. The Site represents an important biogeographical link in the east/west gradient of bog variation, containing transitional elements between raised and blanket bogs. Substantial areas of conifer plantation surround the Site. The Ramsar Site together with surrounding habitat is one of Ireland's most important sites for the rare breeding Hen Harrier, and indeed, is the most easterly regular population. It also supports a range of other breeding bird, insects and mammals along with frog, lizard and smooth newt.

The Slieve Bloom Mountains Nature Reserve, which has the same boundary as the Slieve Bloom Mountains Ramsar Site is, at over 2,300 hectares, it is Ireland's largest state-owned Nature Reserve and also a Council of Europe Biogenetic Reserve. The Ramsar Site is contained within the boundaries of both the Slieve Bloom Mountains Special Area of Conservation (SAC) and the Slieve Bloom Mountains Special Protection Area (SPA). The Site contains representative and unique examples of natural wetland types within the Atlantic biogeographic region i.e. Northern Atlantic wet heaths with *Erica tetralix* and Blanket. These habitats are protected under Annex I of the Habitats Directive. The SPA is designated for the Annex I species, Hen Harrier.

The Slieve Bloom Mountains are an important amenity for walkers, mountain bikers and birdwatchers.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

##### Responsible compiler

Institution/agency	National Parks and Wildlife Service Department of Housing, Local Government and Heritage
Postal address	National Parks and Wildlife Service, 90 North King Street, Smithfield, Dublin, Ireland D07 N7CV

##### National Ramsar Administrative Authority

Institution/agency	National Parks and Wildlife Service Department of Housing, Local Government and Heritage
Postal address	National Parks and Wildlife Service, 90 North King Street, Smithfield, Dublin, Ireland D07 N7CV

#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year

To year

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)

#### 2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary Yes  No

(Update) B. Changes to Site area the area has increased

(Update) The Site area has been calculated more accurately

(Update) The Site has been delineated more accurately

(Update) The Site area has increased because of a boundary extension

(Update) The Site area has decreased because of a boundary restriction

(Update) For secretariat only. This update is an extension

#### 2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS? Not evaluated

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

#### b) Digital map/image

<2 file(s) uploaded>

Former maps

Boundaries description

The boundary of the Slieve Bloom Mountains Ramsar site was delineated as the same boundary as the original Slieve Bloom Mountains Nature Reserve in 1985. This Site is contained within the boundaries of both the EU Birds Directive (2009/147/EC) Special Protection Area for the Slieve Bloom Mountains together with the EU Habitats Directive (92/43/EEC) boundary for Slieve Bloom Mountains Special Area of Conservation. Details of the SAC/SPA can be found on the NPWS website at: <https://www.npws.ie/protected-sites>. Within this area a number of GIS data layers were used to define the Ramsar habitats within the site. These included:

- NPWS data (Site-Specific Conservation Objectives)
- CORINE (Co-Ordinated Information on the Environment) land cover data sets (2012).
- Bing Maps Aerial - © Harris Corp, Earthstar Geographics LLC © 2017 Intermap Earthstar Geographics SIO © 2017 Microsoft Corporation.
- Environmental Protection Agency of Ireland Rivers and Lakes layers data layers.

The mapped layers were inspected by a site visit to confirm the presence of the habitats. Habitat areas were subsequently estimated by reference to the available imagery and layers and should be considered representative but approximate.

### 2.2.2 - General location

a) In which large administrative region does the site lie?

b) What is the nearest town or population centre?

### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes  No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes  No

### 2.2.4 - Area of the Site

Official area, in hectares (ha):

Area, in hectares (ha) as calculated from GIS boundaries

### 2.2.5 - Biogeography

#### Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Atlantic
EU biogeographic regionalization	Atlantic

#### Other biogeographic regionalisation scheme

### 3 - Why is the Site important?

#### 3.1 - Ramsar Criteria and their justification

- Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided

• Maintenance of hydrological regime (Groundwater recharge and discharge): Several important rivers rise within the Site including the second longest river in Ireland; the Barrow and also the Delour and Silver rivers. The Camcor River rises on the western slopes of the Slieve Bloom mountains.

Blanket bogs cover approximately 13% of Ireland and the Slieve Bloom Mountains Ramsar Site is remarkable for its intact mountain blanket bog habitat. Blanket bogs contain in excess of 90% water and act as vast water reservoirs. Blanket bog habitat provides a number of key ecosystem and hydrological services. In terms of hydrological services blanket bogs host high status water bodies, regulate stream flow and act as source areas for high quality drinking water. An Environmental Protection Agency (EPA) funded study “Quantification of blanket bog ecosystem services to water”, was carried out jointly by researchers from Queen’s University Belfast and University College Dublin, and sought to raise awareness of the wider contributions provided by healthy blanket bog ecosystems to society and the environment, while also examining the wider cost of their degradation. The study found that habitat condition influences stream flow and water quality, with more intact areas of blanket bog having more stable flow and water quality regimes, and with more stable hydrogeological regimes in peat ensuring more consistent contributions of bog water to stream flow, while maintaining terrestrial biodiversity (EPA, 2021).

See also <https://www.catchments.ie/blanket-bogs-hydrology-ecosystem-services-water/>

Other ecosystem services provided

Blanket bogs provide a range of ecosystem services (in addition to hydrological).

- they provide a refuge for a rich biodiversity of species including several rare plants, birds and invertebrate species.
- are commonly used as rough grazing land for sheep and cattle, grouse shooting, deer stalking and fishing.
- they preserve prehistoric farming landscapes beneath the peat as well as a diverse range of artefacts within the peat mass.
- the patterns of pools on the flatter areas of blanket bog is of particular conservation significance. The pools support a specialised range of mosses (especially species of Sphagnum) and plants and they provide essential feeding habitats for wetland birds.
- within their peat layers, blanket bogs preserve a record of their own growth and development and on a larger scale, they provide insights into regional vegetation change, climate change, atmospheric pollution and act as chronometers for other events such as volcanic eruptions.
- they accumulate and store millions of tonnes of carbon and have a vital function in controlling the green house gases that cause climate change.
- their utilisation for recreation can have positive benefits on the health of people.

See <http://www.ipcc.ie/a-to-z-peatlands/blanket-bogs/>

<https://www.wildatlanticnature.ie/>

Other reasons

This Site contains the largest and most intact area of mountain blanket bog known in Ireland. Slieve Bloom Mountains contains representative and unique examples of natural wetland types within the Atlantic biogeographic region:

- Northern Atlantic wet heaths with *Erica tetralix*
- Blanket bogs

In their natural state peatlands act as long-term sinks for atmospheric carbon dioxide. A persistently high water table is necessary for this function. Peatlands are the most important long-term carbon store in the terrestrial biosphere. It is highly likely that continued global warming will impact this habitat in the future. In Ireland the long-term carbon storage function of 47% of our original peatland area has been severely diminished through domestic and mechanical peat extraction (Irish Peatland Conservation Council).

Criterion 2 : Rare species and threatened ecological communities

Criterion 3 : Biological diversity

Justification

Blanket bogs in Ireland occur on the flat and sloping ground with poor surface drainage in the cool, wet oceanic conditions that prevail. While extensive areas have been removed throughout the country, blanket bogs remain one of the most important wetland habitats in Ireland and account for a significant proportion of the habitat on a global basis. The habitat provides a refuge for a rich and unique biodiversity of species including several rare plants, birds and invertebrate species.

The habitat contains unique ecological communities that are globally restricted and highly vulnerable to both climate change and anthropogenic impact. Blanket bogs possess a range of hydrological and geochemical conditions that provide a competitive advantage to the relatively limited range of species which are adapted to such conditions. They characteristically possess a surface pattern or microtopography of hummocks, ridges, hollows or pools that provide a distinctive range of habitats that create a suite of specialised plant communities.

Criterion 4 : Support during critical life cycle stage or in adverse conditions

Optional text box to provide further information

Please move this to Criteria 2:

Regularly occurring species that are:

- Red or Amber listed in Ireland's national Red List (Birds of Conservation Concern in Ireland (BoCCI) published by Colhoun and Cummins (2013)
- Classified as VU or higher in IUCN Global and European regional list
- Listed in Annex I of the European Union Birds Directive

[Colhoun, K. and Cummins, S. 2013. Birds of conservation concern in Ireland 2014-2019. Irish Birds 9: 523-544.]

### 3.2 - Plant species whose presence relates to the international importance of the site

While no specific plant species of international note the Site supports plant communities characteristic of the upland blanket bog and wet heath habitats and the Site is an important link in the east-to-west gradient of bogs in Ireland, and are floristically linked to the midland raised bogs north of the site. The intactness of the blanket bog at this Site is remarkable and is echoed in few other areas in Ireland, making this site of unique conservation value.

## 3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence <sup>1)</sup>	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
<b>Birds</b>																	
CHORDATA/ AVES	<i>Circus cyaneus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12	2015			<input type="checkbox"/>	<input type="checkbox"/>	Annex I (Birds Directive) & Amber-listed (National)	Annex I listing, and also with very confined breeding range in Ireland to a relatively small selection of upland areas.
CHORDATA/ AVES	<i>Falco columbarius</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I (Birds Directive). Amber-listed species of conservation concern.	Annex I listing.
CHORDATA/ AVES	<i>Falco peregrinus</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Annex I (Birds Directive)	Annex I listing
CHORDATA/ AVES	<i>Lagopus lagopus</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National Red List (Colhoun & Cummins 2013)	Red-listed species of conservation concern in Ireland

1) Percentage of the total biogeographic population at the site

The Slieve Bloom Mountains Nature Reserve and Ramsar Site is home to two emblematic bird species; the hen harrier and the red grouse. Both species traditionally nest on the ground on the blanket bog and heath. While Red Grouse are still ground nesting, the early stages of new and second-rotation conifer plantations are now the most frequently used nesting sites for Hen Harrier. The hen harrier is one of Ireland's rarest birds of prey which feeds mainly on small prey items such as meadow pipits. The red grouse is a secretive gamebird, and is usually only seen when flushed from undergrowth.

The Ramsar site lies within the much more extensive Slieve Bloom Mountains Special Protection Area which has been designated due to the presence of Hen harrier (*Circus cyaneus*) and which includes large areas of forestry and rough grassland (in addition to blanket bog and wet heath habitat). The hen harrier is listed as Near Threatened within Europe (IUCN) and is listed in Annex I of the EU Birds Directive. Under the EU Birds Directive Ireland is obliged to protect and conserve Annex I species. These obligations involve Special Protection Area (SPA) designation and monitoring of hen harriers nationally, regionally and within the designated areas. The fourth national survey of hen harriers in Ireland was undertaken in 2015 and was preceded by surveys in 2010; 2005 and 1998-2000. According to Ruddock et. al. (2016) the 2015 survey of breeding hen harrier in Ireland showed an increase (11 – 12 pairs) in the number of breeding pairs within the Slieve Bloom Mountains SPA; a slight increase from the previous highest total in 1998 – 2000 (from 10 – 11 pairs in 1998 – 2000 to 11 – 12 in 2015). This represents 8.2% of the national population and 18.8% of the Irish SPA network population. The survey shows breeding success of confirmed pairs at the site was estimated to be 53.8% which is higher than the national estimate (45%) and higher than the estimated rate for the total SPA population (49%). This SPA produced 14 fledged young, equating to 13.7% of the total minimum number of fledged birds in Ireland and represents 25% of the total SPA population of fledged birds. According to Ruddock et. al. (2016) the stable hen harrier population at the site is to be due to the specific management/conservation of the blanket bog ecosystem within the Slieve Bloom Reserve, which has resulted in high quality moorland habitat that is relatively stable between years. This is despite high forest cover in the area.

Other raptor species known to occur at the site are Peregrine falcon (*Falco peregrinus*) and Merlin (*Falco columbarius*). Both of these species are listed on Annex I of the EU Birds Directive.

## 3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]	<input checked="" type="checkbox"/>		Annex I (Habitats Directive)
Blanket bogs (* if active bog) [7130]	<input checked="" type="checkbox"/>		Annex I (Habitats Directive)

Optional text box to provide further information

The Slieve Bloom Mountains SAC is larger than the Ramsar Site and also supports the Annex I habitat: Alluvial woodland (Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, *Alnion incanae*, *Salicion albae*) [91E0])

## 4 - What is the Site like? (Ecological character description)

### 4.1 - Ecological character

This Site supports the largest and most intact area of mountain blanket bog known in Ireland, making it of unique conservation value. The mountain blanket represents an important biogeographical link in the east/west gradient of bog variation. It contains transitional elements between raised and blanket bogs, notably Bog Rosemary (*Andromeda polifolia*) and Cranberry (*Vaccinium oxycoccus*) two species more associated with raised bogs. It also includes extensive heaths and headwater streams. Both mountain blanket bog and wet heath habitat is well represented within the Site. The Site is as stronghold for one of Ireland's rarest birds of prey, the Hen Harrier.

This extensive site is dominated by blanket bog on a high plateau. Features of the blanket bog include areas of well-developed hummock, hollow and pool systems. The mountain blanket bog is generally uniform in character and the vegetation consists of a deep, spongy mat of the bog moss *Sphagnum capillifolium*, with other mosses and lichens. Growing on this are Heather (*Calluna vulgaris*) and Crowberry (*Empetrum nigrum*), with smaller amounts of Cottongrasses (*Eriophorum* spp.), Bilberry (*Vaccinium myrtillus*), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*).

Dropping from the mountain plateau are more steeply-sloping flanks and wet heath vegetation occurs here on shallower peat (typically 0.5- 1.5 m deep). The dominant species in the wet heath are Heather and Purple Moorgrass (*Molinia caerulea*), with species such as Cross-leaved Heath (*Erica tetralix*), Tormentil (*Potentilla erecta*), Lousewort (*Pedicularis sylvatica*) and the bog moss *Sphagnum capillifolium* also being frequent components. Often wet heath vegetation is associated with flushed areas along the margins of narrow streams.

The Site is fringed by commercial forestry plantations, although in a few places there remains a relatively undisturbed transition downslope to poorly-drained acidic grassland. The primary threat to the Site is the spread of conifer trees from the surrounding plantations. As well as altering the water levels and water flow on the blanket bog, the spreading conifers alter its characteristic flora and fauna. A notable feature of the Site is the tall, dense stands of heather which have formed, with individual stems up to 20 years old, suggesting that burning has not been extensive in recent years. There is little evidence of grazing or erosion. Overall, vegetation structure is exceptionally well-conserved due to lack of disturbance.

Blanket bogs are an increasingly rare habitat in Europe, and in Ireland are continually under threat. The intactness of the blanket bog here is remarkable and is echoed in few other areas in Ireland. Of importance for its plant communities the blanket bog is also important for insects and breeding birds and for foraging raptors such as Hen Harrier, Merlin and Peregrine. Whilst traditionally ground nesting in tall heather the Hen Harrier now frequently use the early stages of new and second-rotation conifer plantations. The Ramsar Site together with the wider SPA which includes conifer plantation and rough grassland provides optimum habitat conditions for Hen Harrier and the Slieve Bloom Mountains is one of the top sites in the country for this species.

The Slieve Bloom Mountains are an important amenity area, much used for walking, mountain biking and birdwatching.

### 4.2 - What wetland type(s) are in the site?

#### Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/pools				
Fresh water > Marshes on peat soils >> U: Permanent Non-forested peatlands	Peatland	1	2394	Representative

#### Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Commercial conifer plantations, within but along margins of the site.	36

#### (ECD) Habitat connectivity

The site is isolated from similar wetland habitats in the region. However, it is an extensive site defined by a mountain range which rises from the central plain of Ireland. Commercial conifer plantation, outside or but surrounding the site, provides habi

### 4.3 - Biological components

#### 4.3.1 - Plant species

##### Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTAMAGNOLIOPSIDA	<i>Andromeda polifolia</i>	A small shrub usually associated with raised bogs.
TRACHEOPHYTAMAGNOLIOPSIDA	<i>Vaccinium oxycoccus</i>	Cranberry grows on wet acid sphagnum bogs.

##### Invasive alien plant species

Phylum	Scientific name	Impacts	Changes at RIS update
TRACHEOPHYTAPINOPSIDA	<i>Picea sitchensis</i>	Actual (minor impacts)	unknown
TRACHEOPHYTAPINOPSIDA	<i>Pinus contorta</i>	Actual (minor impacts)	unknown

Optional text box to provide further information

Both Cranberry and Bog-Rosemary are more associated with raised bog habitat, making their occurrence of note at this upland blanket bog site.  
The spread of conifers from adjacent forestry is a threat to the wetland habitats within the site. On - going control (ie removal) of conifers is required.

### 4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/AVES	<i>Numenius arquata</i>				
CHORDATA/AVES	<i>Pluvialis apricaria</i>				

Optional text box to provide further information

The NPWS Leaflet for the Slieve Blooms Nature Reserve describes that in the Nature Reserve (and Ramsar Site). Snow buntings are found in winter. Other bird species found include the raven, snipe, golden plover, lapwing, curlew, wheatear and ring ouzel. Mammals such as fallow deer, feral goats, stoats, pine martens, badgers, Irish hare, otters and red squirrels also occur. Common frog, smooth newt and common lizard can also be found. Insect species include moths such as the fox moth (*Macrothylacia rubi*) and the emperor moth (*Saturnia pavonia*). The caterpillars of both moths feed on heather. Butterflies such as the green hairstreak (*Callophrys rubi*) and the marsh fritillary (*Euphydryas aurinia*), have also been recorded on the site. The common hawkler (*Aeshna juncea*), a large dragonfly species, breeds in the bog pools.

Curlew and Golden Plover are rare breeding birds in Ireland. Further data required with regards to their breeding status at this site, the information available indicates that they use the site (may not be breeding, may be foraging, passing) and have been listed here given their threatened status in Ireland.

## 4.4 - Physical components

### 4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Cfb: Marine west coast (Mild with no dry season, warm summer)

### 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

Streams which connect to several river basins rise in the Slieve Bloom Mountains Ramsar Site. Sub catchments are: Nore\_SC\_020, Camcor\_SC\_010, CLODIAGH[TULLAMORE]\_SC\_010, Silver[Kilcormac]\_SC\_010, LittleBrosna\_SC\_010 (EPAmaps.ie)

### 4.4.3 - Soil

Mineral

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Organic

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes  No

Please provide further information on the soil (optional)

The most important and extensive group of soils on the Slieve Bloom Mountains are gley soils, derived from predominantly sandstone drift material. The most extensive sub-groups are peaty gleys and are interspersed by two phases, non-peaty and undulating.

#### 4.4.4 - Water regime

##### Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

##### Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Water inputs from surface water	<input type="checkbox"/>	No change
Water inputs from groundwater	<input type="checkbox"/>	No change
Water inputs from precipitation	<input checked="" type="checkbox"/>	No change

##### Water destination

Presence?	Changes at RIS update
To downstream catchment	No change

##### Stability of water regime

Presence?	Changes at RIS update
Water levels largely stable	No change
Unknown	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology:

The dominant wetland type within in this Site is blanket bog. This habitat is dependent on climatic conditions and precipitation for its long-term survival. Any change to the hydrology of the site, as a result of anthropogenic impact or natural impacts (e.g. creation of drains, erosion) is likely to have a negative impact on the hydrology of the Site and its habitats. The natural flood regime at the Site has been altered by drainage activities for forestry (embankments, etc.), though the least disturbed areas in the floodplain still retain a substantial wetness.

Blanket bogs are fed only by rainwater, i.e. they are ombrotrophic mires. The hydrology of the area can be affected by drains (cut for purposes of peat cutting, afforestation etc.) and erosion gullies which impact on the hydrology of blanket bog in the local vicinity. To maintain the structure and function of the wetland habitat the natural hydrology should be unaffected by drains and erosion gullies.

#### 4.4.5 - Sediment regime

Sediment regime unknown

#### 4.4.6 - Water pH

Alkaline (pH>7.4)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

#### 4.4.7 - Water salinity

Fresh (<0.5 g/l)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

#### 4.4.8 - Dissolved or suspended nutrients in water

Mesotrophic

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

#### 4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar  ii) significantly different

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

Surrounding area has more intensive agricultural use

Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

Slieve Bloom is an isolated, inland mountain range, the surrounding habitat differs in that there is intensive agriculture on the central plains of Ireland surrounding the Site. Large commercial conifer plantations occur around the margins of the Site.

#### 4.5 - Ecosystem services

#### 4.5.1 - Ecosystem services/benefits

##### Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	Medium
Erosion protection	Soil, sediment and nutrient retention	High
Climate regulation	Local climate regulation/buffering of change	Low

##### Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	Medium
Recreation and tourism	Picnics, outings, touring	Medium
Spiritual and inspirational	Aesthetic and sense of place values	High
Scientific and educational	Long-term monitoring site	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium

##### Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	Medium
Nutrient cycling	Carbon storage/sequestration	Medium
Pollination	Support for pollinators	Low

Within the site:

Outside the site:

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes  No  Unknown

#### 4.5.2 - Social and cultural values

- i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland
- ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland
- iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples
- iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

<no data available>

#### 4.6 - Ecological processes

<no data available>

## 5 - How is the Site managed? (Conservation and management)

### 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

##### Public ownership

Category	Within the Ramsar Site	In the surrounding area
National/Federal government	<input checked="" type="checkbox"/>	<input type="checkbox"/>

##### Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

National Parks & Wildlife Service (NPWS), Department of Housing, Local Government and Heritage  
 Offaly County Council.  
 Environmental Protection Agency (EPA).  
 Coillte Teoranta.

Provide the name and/or title of the person or people with responsibility for the wetland:

Maurice Eakin

Postal address:

National Parks and Wildlife Service, Department of Housing, Local Government and Heritage  
 90 North King Street,  
 Smithfield, Dublin,  
 Ireland  
 D07 N7CV

E-mail address:

maurice.eakin@housing.gov.ie

### 5.2 - Ecological character threats and responses (Management)

#### 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

##### Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Housing and urban areas	Low impact		<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

##### Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Livestock farming and ranching	Low impact	High impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Wood and pulp plantations	High impact		<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Annual and perennial non-timber crops	Low impact	Medium impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

##### Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Roads and railroads	Low impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

##### Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	Low impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

##### Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Fire and fire suppression	Low impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

##### Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Invasive non-native/ alien species	Medium impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Please describe any other threats (optional):

Peat extraction is deemed to be a low-medium threat both inside and outside of the site (NPWS 2015a, 2015b). In their natural state peatlands act as long-term sinks for atmospheric carbon dioxide. A persistently high water table is necessary for this function. Peatlands are the most important long-term carbon store in the terrestrial biosphere. It is highly likely that continued global warming will impact this habitat in the future. In Ireland, the long-term carbon storage function of 47% of our original peatland area has been severely diminished through domestic and mechanical peat extraction (Irish Peatland Conservation Council).

Blanket bogs are fed only by rainwater, i.e. they are ombrotrophic mires. The hydrology of the area can be affected by drains (cut for purposes of peat cutting, afforestation etc.) and erosion gullies which impact on the hydrology of blanket bog in the local vicinity. To maintain the structure and function of the wetland habitat the natural hydrology should be unaffected by drains and erosion gullies.

The primary threat to the area is the spread of conifer trees from the surrounding plantations. As well as altering the water levels and water flow on the blanket bog, the spreading conifers alter the characteristic bogland flora and fauna of the Site.

### 5.2.2 - Legal conservation status

#### Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
EU Natura 2000	Slieve Bloom Special Area of Conservation. Site Code:000412	<a href="https://www.npws.ie/protected-sites/sac/000412">https://www.npws.ie/protected-sites/sac/000412</a>	whole
EU Natura 2000	Slieve Bloom Special Protection Area Site Code: 004160	<a href="https://www.npws.ie/protected-sites/spa/004160">https://www.npws.ie/protected-sites/spa/004160</a>	whole

#### National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
nature reserve	Slieve Bloom Mountains Nature Reserve	<a href="https://www.npws.ie/nature-reserves/slieve-bloom-mountains">https://www.npws.ie/nature-reserves/slieve-bloom-mountains</a>	whole

#### Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Other non-statutory designation	Slieve Bloom Mountains Council of Europe Biogenetic Reserve		whole

### 5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

### 5.2.4 - Key conservation measures

#### Legal protection

Measures	Status
Legal protection	Implemented

#### Habitat

Measures	Status
Hydrology management/restoration	Implemented
Land conversion controls	Implemented
Habitat manipulation/enhancement	Implemented

#### Species

Measures	Status
Control of invasive alien plants	Implemented
Threatened/rare species management programmes	Implemented

Human Activities

Measures	Status
Regulation/management of wastes	Implemented
Livestock management/exclusion (excluding fisheries)	Implemented
Harvest controls/poaching enforcement	Implemented
Research	Implemented
Regulation/management of recreational activities	Implemented

Other:

The Slieve Bloom Mountains Ramsar Site lies within the larger Slieve Bloom Mountains SAC and SPA. Under the European and national legislation Ireland must maintain at favourable conservation status areas designated as Special Areas of Conservation and/or Special Protection Areas. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites. Conservation objectives of this Site have been set for both the SAC and the SPA; these can be accessed on NPWS.ie. The main objectives are

- To maintain the Annex I habitat for which the SAC has been selected at favourable conservation status i.e. Northern Atlantic wet heaths with *Erica tetralix*, Blanket bogs (\* if active bog), Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)\*
- To maintain the species for which the SPA has been selected at favourable conservation status, i.e. Hen Harrier (*Circus cyaneus*).

Slieve Bloom Mountains is a Nature Reserve managed by National Parks & Wildlife Service. Legislation in the Republic of Ireland affords protection to bird species outside of designated sites e.g. all wild bird species are afforded protection by The Wildlife Act 1976. Waterfowl shooting is under license only, managed by the National Parks & Wildlife Service.

5.2.5 - Management planning

Is there a site-specific management plan for the site? No

Has a management effectiveness assessment been undertaken for the site? Yes  No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes  No

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

Further information

The site is part of the Hen Harrier Project which is a 5 year programme (2017 - 2022) targeted specifically at farmers with land designated for the protection of breeding Hen Harrier (<http://www.henharrierproject.ie/about.html>). The programme provides results based payments where farmers improve the habitat condition for Hen Harriers.

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Animal species (please specify)	Implemented
Water quality	Implemented
Water regime monitoring	Implemented
Birds	Implemented
Plant species	Implemented

As an EU Natura 2000 site, it is required under Article 12 and 17 of the EU Birds and Habitat Directives respectively, that the status and trends of the conservation objectives within the Site are monitored and reported on every 6 years.

The Site is regularly inspected by the National Parks and Wildlife Service Conservation Rangers for the area.

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

Kingston, N. (2012) Checklist of protected & rare species in Ireland. Unpublished National Parks & Wildlife Service Report.

NPWS (2016a) Conservation Objectives: Slieve Bloom Mountains SAC 000412. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

NPWS (2013) Site Synopsis for Slieve Bloom Mountains SAC [000412]. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

Ruddock, M., Mee, A., Lusby, J., Nagle, A., O'Neill, S. & O'Toole, L. (2016). The 2015 National Survey of Breeding Hen Harrier in Ireland. Irish Wildlife Manuals, No. 93. National Parks and Wildlife Service, Department of the Arts, Heritage and the Gaeltacht, Ireland.

NPWS (2015a) Slieve Bloom Mountains SAC [000412] Natura 2000 Form. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

NPWS (2016a) Conservation objectives for Slieve Bloom Mountains SPA [004160]. Generic Version 5.0. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

NPWS (2015b) Slieve Bloom Mountains SPA [004160]. Natura 2000 Form. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

NPWS (2014) Site Synopsis for Slieve Bloom Mountains SPA [004160]. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

IUCN 2014. IUCN Red List of Threatened Species. Version 2014.2. . Downloaded on June 2017.

BirdwatchIreland.ie  
<http://www.ramsar.org>  
<http://eunis.eea.europa.eu>

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<no file available>

<no data available>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Slieve Bloom Mountains Ramsar Site and adjacent rough grassland. ( NPWS, October 2017 )



Slieve Bloom Mountains Ramsar Site and adjacent conifer plantation. ( NPWS, October 2017 )



Slieve Bloom Mountains Ramsar Site with deep heather on upland blanket bog. ( NPWS, October 2017 )

#### 6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation