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# National Parks and Wildlife Service

## *Conservation Objectives Series*

## Killarney National Park SPA 004038

NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

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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.

## Qualifying Interests

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

| 004038 | Killarney National Park SPA |
|---|---|
| A098 | Merlin *Falco columbarius* |
| A395 | Greenland White-fronted Goose *Anser albifrons flavirostris* |

**Please note that this SPA overlaps with Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (000365). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping site as appropriate.**

## Supporting documents, relevant reports & publications

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

### NPWS Documents

| | |
|---|---|
| **Year :** | 2022 |
| **Title :** | Survey of breeding merlin in the special protection area network 2018 |
| **Author :** | Lusby, J.; O'Brien, I.; Lauder, A.; Wilson-Parr, R.; Breen, D.; Cummins, S.; Tierney, D. |
| **Series :** | Irish Wildlife Manual No. 139 |
| **Year :** | 2023 |
| **Title :** | A Survey of Breeding Merlin in Killarney National Park Special Protection Area in 2023 |
| **Author :** | Lusby, J. |
| **Series :** | BirdWatch Ireland unpublished report to NPWS |

### Other References

| | |
|---|---|
| **Year :** | 1979 |
| **Title :** | The past and current status of Greenland White-fronted Goose in Ireland and Britain |
| **Author :** | Ruttledge, R. F.; Ogilvie, M. A. |
| **Series :** | Irish Birds 1: 293-363 |
| **Year :** | 1993 |
| **Title :** | The Birds of Killarney National Park - A Guide to the Distribution and Status of Bird Species in the National Park |
| **Author :** | Carruthers, T.; Larner, J. |
| **Series :** | Stationery Office, Dublin |
| **Year :** | 1995 |
| **Title :** | Impacts of hunting disturbance on waterbirds - a review |
| **Author :** | Madsen, J.; Fox, A.D. |
| **Series :** | Wildlife Biology 1(4):193-207 |
| **Year :** | 2005 |
| **Title :** | Merlins of the Wicklow mountains |
| **Author :** | McElheron, A. |
| **Series :** | Currach Press, Dublin |
| **Year :** | 2010 |
| **Title :** | Breeding biology of merlins *Falco columbarius* in Ireland, 1986-1992 |
| **Author :** | Norriss, D.W.; Hara, B.; Hennigan, J.; McElheron, A.; McLaughlin, D.J.; Swan, V; Walsh, A. |
| **Series :** | Irish Birds, 9:23-30 |
| **Year :** | 2011 |
| **Title :** | The feeding ecology of merlin *Falco columbarius* during the breeding season in Ireland, and an assessment of current diet analysis methods |
| **Author :** | Fernández-Bellon, D.; Lusby, J. |
| **Series :** | Irish Birds 9, 159-164 |
| **Year :** | 2013 |
| **Title :** | Report of the 2012/13 international census of Greenland white-fronted geese |
| **Author :** | Fox, T.; Francis, I.; Walsh, A; Norriss, D. |
| **Series :** | Unpublished report |

| | |
|---|---|
| **Year :** | 2016 |
| **Title :** | Assessing connectivity with Special Protection Areas (SPAs) |
| **Author :** | Scottish Natural Heritage |
| **Series :** | Guidance Series Version 3 - June 2016 |
| **Year :** | 2017 |
| **Title :** | Breeding ecology and habitat selection of merlin *Falco columbarius* in forested landscapes |
| **Author :** | Lusby, J.; Corkery, I.; McGuiness, S.; Fernández-Bellon, D.; Toal, L.; Norriss, D.; Breen, D.; O'Donaill, A.; Clarke, D.; Irwin, S.; Quinn, J.L.; O'Halloran, J. |
| **Series :** | Bird Study 64, 445-454 |
| **Year :** | 2018 |
| **Title :** | A review of Greenland white-fronted geese in Ireland 1982/83 – 2011/12 |
| **Author :** | Burke, B.; Egan, F.; Norriss, D.; Wilson, H.J.; Walsh, A.J. |
| **Series :** | Unpublished report |
| **Year :** | 2019 |
| **Title :** | Report of the 2018/19 international census of Greenland white-fronted geese |
| **Author :** | Fox, T.; Francis, I.; Walsh, A; Norriss, D. |
| **Series :** | Unpublished report |

## Conservation Objectives for : Killarney National Park SPA [004038]

**A098** **Merlin *Falco columbarius***

**To maintain the Favourable conservation condition of Merlin in Killarney National Park SPA, which is defined by the following list of attributes and targets:**

| Attribute | Measure | Target | Notes |
|---|---|---|---|
| Population size | Number of occupied territories | Breeding population is increasing/stable | Early season visits improve detectability of Merlin, a challenging species to survey (Norriss et al., 2010; Lusby et al., 2011, 2017). A lack of substantive breeding records for this SPA precludes setting a definitive target. As per Lusby et al. (2017), occupied territories are defined according to highest levels of breeding evidence, i.e. all confirmed breeding pairs and any occupied territories during the survey breeding season (1 Apr - 15 Jul) and sites with recent signs of occupation e.g. plucking posts with fresh kills on repeat visits. For this SPA, an estimate of 3-5 territories by Carruthers and Larner (1993) was based on noted occurrence in 2 of 42 tetrads in the SPA (Lusby, 2023). A 2008 determination of likely carrying capacity (NPWS internal files) had a possible 5 territories (and up to 10), but with few sightings in recent years, and none from recent targeted drone surveys of suitable habitats within the SPA (NPWS internal files), the actual number is unknown |
| Productivity rate | Number of fledged young per breeding attempt with known outcome | Sufficient to meet the population size target | Various Irish studies have provided estimates of productivity and/or breeding success for Merlin (e.g. Norriss et al., 2010; Lusby et al., 2017; Lusby et al., 2022) but general information on life history such as natal dispersal, first year and adult survival are lacking in the Irish context. Further, reproductive performance of pairs at this SPA is not known. In the absence of such data, it is not possible to identify a minimum breeding productivity rate for this SPA. For study areas in Ireland where productivity has been measured, estimates vary. Lusby et al. (2022) reported 3.5 fledged young per successful pair (based on 8 pairs across 6 Merlin SPA's in 2018). Monitoring of five breeding localities from 1986-1992 by Norriss et al. (2010), estimated 2.15 young per territorial pair. An overview of all nest records (1982-2014), including data from Norriss et al. (2010), calculated an average productivity rate of 3 young fledged per successful pair (Lusby et al., 2017) |
| Distribution: extent of available nesting options within the SPA | Numbers and spatial distribution | Sufficient availability of suitable nesting sites throughout the SPA to maintain the population | Formerly ground-nesting in heather, Merlin are now largely tree-nesting in Ireland, often utilising old crows' nests (McElheron, 2005; Norriss et al., 2010; Lusby et al., 2017), albeit some ground-nesting pairs remain. Other nesting options include copses and shelter belts, isolated trees in open upland areas and dense heather. Potentially suitable habitat for breeding pairs in this SPA are likely to be similar to that of Merlin in Connemara (Lusby, 2023). Thus, a sufficiency of available nest sites (e.g. mature trees holding suitable stick nests, including those on vegetated lake islands, that are proximate to open foraging habitats and dense heather stands on sloping ground), distributed across the SPA, is needed to support the breeding population. For those forested areas used by breeding Merlin, Norriss et al. (2010) found 72% of nests (n=61) within 60m of forest plantation edge. Pairs nesting outside the SPA may still forage within the SPA (Lusby et al., 2022) |

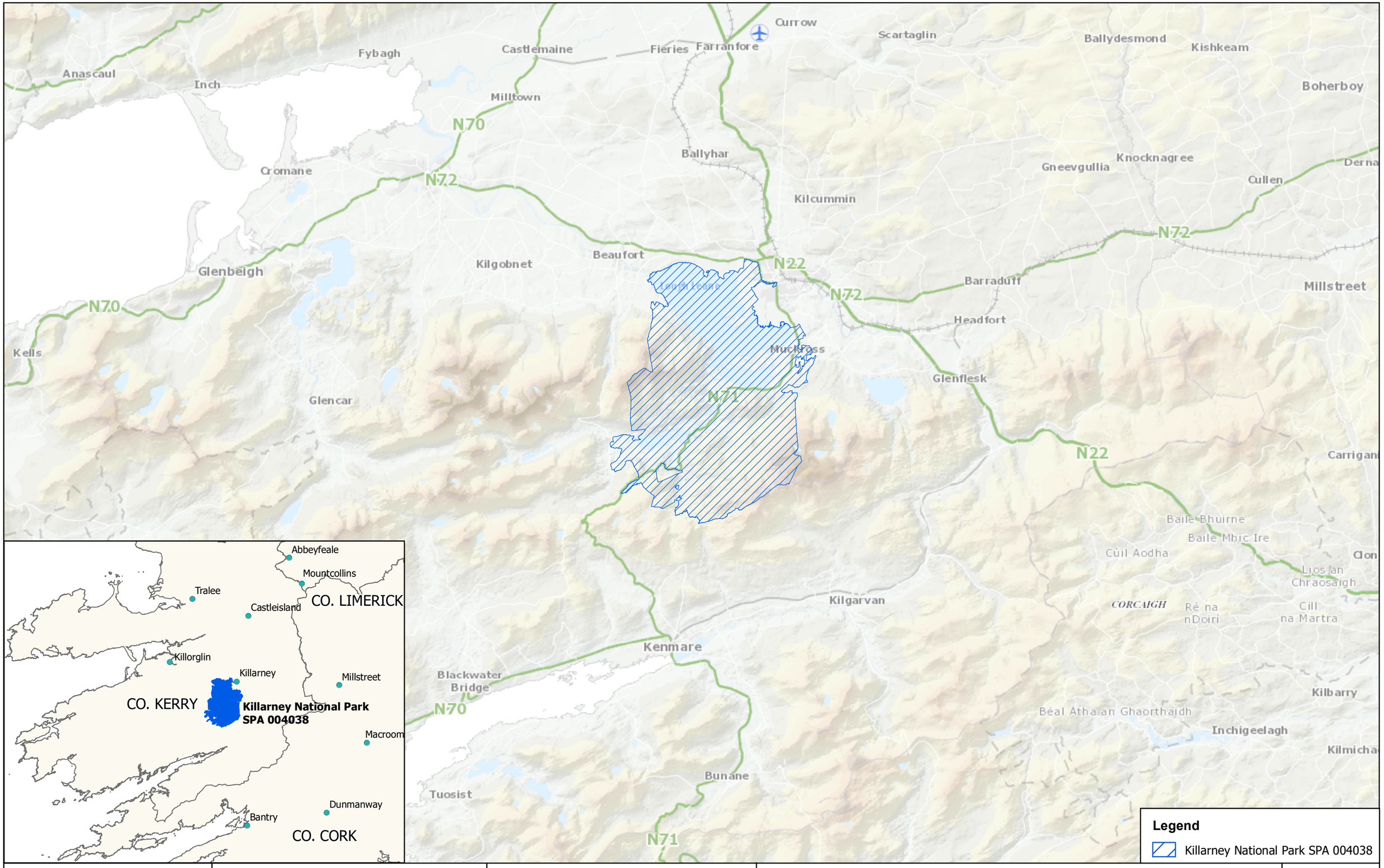
| | | | |
|---|---|---|---|
| Extent and condition of suitable open habitats for foraging | Hectares; condition assessment; prey biomass | Sufficient availability of suitable foraging habitat across the SPA to support targets relating to population size, productivity rate and distribution | The sporadic occupancy of territories by Merlin, and failures of some pairs to lay clutches, is noted for other raptor species where females in poorer territories have difficulty attaining condition to breed (Norriss et al., 2010). Lusby et al. (2017) showed that the proportion of 'open suitable habitat' i.e. moors and heathland, peat bogs and semi-natural grasslands (using CORINE Land Cover) within 5km of nest sites was positively related to breeding success. The lack of nest records for this SPA precludes such analyses. Open foraging habitats include wet and dry heaths; *Molinia*-dominated meadows; blanket bog; semi-open habitats i.e. woodland copses. Preferred prey include open country small passerines and moths; woodland birds feature in April (Fernández-Bellon and Lusby, 2011). Key aspects to consider regarding any assessment of the condition of open habitats for Merlin are structure, soil integrity, overall connectivity and coherence |
| Disturbance at breeding sites | Intensity, frequency, timing and duration | Disturbance occurs at levels that do not significantly impact upon the breeding population | The impact of any significant disturbance on the SPA's breeding population will ultimately be manifested in the targets that relate to population demographics (i.e. population, productivity rate) and the extent of suitable habitat occupied by breeding pairs. Factors such as location (e.g. proximity to nest site), intensity, frequency, timing and duration of a potentially disturbing activity (direct/indirect) need to be taken into account to determine its significance on breeding Merlin. Merlin frequently select the tallest trees in which to nest, thereby potentially increasing nest vulnerability to felling operations for any pairs nesting in commercial forests (Norriss et al., 2010), a small portion of which occurs in the south-west of the SPA. Lusby et al. (2022) described the pressures within the SPA network which include turf-cutting, burning, agricultural intensification and afforestation. As this SPA encompasses a National Park, recreational disturbance is also a consideration |

## A395 Greenland White-fronted Goose *Anser albifrons flavirostris*

**To restore the Favourable conservation condition of Greenland White-fronted Goose in Killarney National Park SPA, which is defined by the following list of attributes and targets:**

| Attribute | Measure | Target | Notes |
|---|---|---|---|
| Winter population trend | Percentage change in number of individuals | Long term winter population trend is stable or increasing | The national population of Greenland White-fronted Goose declined by 13% between 1985 - 2018 (Fox et al., 2019). The Greenland White-fronted Goose flock in the Killarney Valley averaged between 50 and 60 geese in the 1970s (Ruttledge and Ogilvie, 1979), with a peak count of 69 geese in 1982/83 (Burke et al., 2018). The flock has steadily declined since this peak period (Burke et al., 2018) and the species has not been recorded within the SPA since December 2012 when 7 geese were recorded present (Fox et al., 2013) |
| Winter spatial distribution | Hectares, time and intensity of use | Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target | Distribution encapsulates the number of locations and area of potentially suitable habitat for the wintering population and its availability for use. The suitability and availability of habitat areas are likely to vary throughout the season, for example, due to variation in land management practices or the abundance of resources available (due to natural variation and other factors). This will affect the spatio-temporal patterns of use of the habitats by the wintering population |
| Disturbance at wintering site | Intensity, frequency, timing and duration | Disturbance occurs at levels that do not significantly impact the achievement of targets for population trend and spatial distribution | The impact of any significant disturbance (direct or indirect) to the wintering population will ultimately affect the achievement of targets for population trend and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends (see, for example, Madsen and Fox, 1995). Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population trend and spatial distribution |
| Barriers to connectivity and site use | Number, location, shape and hectares | Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA | Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the wintering population, and it may require access to other SPAs or sites for certain activities, such as foraging, when preferred foraging areas are unavailable due to disturbance, extensive flooding, or other factors |
| Forage spatial distribution, extent and abundance | Location, hectares, and forage biomass | Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target | This species is a grazer, feeding on a wide range of vegetation. Key forage materials include roots, tubers (such as potatoes), shoots (such as winter wheat), stolons, rhizomes, leaves (such as grasses), and seed such as (spilled) grain. Key habitats include peat bogs (including raised bogs and blanket bogs), grasslands (such as wet grassland, callows, semi-improved grassland, and intensive grassland), arable stubble, winter cereal fields, coastal grasslands, and occasionally salt marsh. In general, the foraging distance of wintering Greenland White-fronted Goose from night roosts is estimated at 5-8km (Scottish Natural Heritage, 2016), although this will vary depending on site and landscape |

| | | | |
|---|---|---|---|
| Roost spatial distribution and extent | Location and hectares of roosting habitat | Sufficient number of locations, area and availability of suitable roosting habitat to support the population target | Overnight roosting habitat mainly consists of permanent waterbodies, such as lakes, estuaries, bays, and other open waterbodies. When roosting in waterbodies, this species can roost on above-water features such as sandbanks. Roosting is a critical ecological requirement for the wintering population. Daytime roosting is also a common behaviour, where birds minimise activity levels to conserve energy, while benefitting from the vigilance of other flock members. A lack of sufficient and suitable roosting habitats can result in increased mortality risk, whether indirectly (e.g. via increased energy expenditure travelling to/from roost sites) or directly (e.g. via increased predation risk), or reduction in site use; this would ultimately affect the achievement of targets for population trend and/or spatial distribution |
| Supporting habitat: area and quality | Hectares and quality | Sufficient area of utilisable habitat available in ecologically important sites outside the SPA | The wintering population can make extensive use of suitable habitats in important areas outside the SPA, for foraging and roosting. The extent, availability and quality of these supporting habitats may be of importance for the resilience of the SPA population. Suitable supporting habitats include those highlighted in the attributes for foraging and roosting habitat |

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**MAP 1:**
**KILLARNEY NATIONAL PARK SPA**
**CONSERVATION OBJECTIVES**
**SPA DESIGNATION**

Map to be read in conjunction with the NPWS Conservation Objectives Document

**SITE CODE:**
**SPA 004038; version 3**
**CO. KERRY**

0 1.25 2.5 5 Kilometres



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**Map version 1**
**Date: May 2024**

Killarney National Park SPA

Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC

## Legend

- Killarney National Park SPA 004038
- Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC 000365

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**MAP 2:**
**KILLARNEY NATIONAL PARK SPA**
**CONSERVATION OBJECTIVES**
**OVERLAPPING AND ADJACENT SITES**

Map to be read in conjunction with the NPWS Conservation Objectives Document

**SITE CODE:**
**SPA 004038; version 3**
**CO. KERRY**

0 2.5 5 10 Kilometres



N

**Map version 1**
**Date: May 2024**