# **National Parks and Wildlife Service**

# **Conservation Objectives Series**

# Cruagh Island SPA 004170



04 Apr 2025 Version 1 Page 1 of 10

### National Parks and Wildlife Service, Department of Housing, Local Government and Heritage,

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

Web: www.npws.ie E-mail: natureconservation@npws.gov.ie

#### Citation:

NPWS (2025) Conservation Objectives: Cruagh Island SPA 004170. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

Series Editors: Maria Long and Colin Heaslip
ISSN 2009-4086

04 Apr 2025 Version 1 Page 2 of 10

#### 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.

04 Apr 2025 Version 1 Page 3 of 10

# Qualifying Interests

\* indicates a priority habitat under the Habitats Directive

004170	Cruagh Island SPA
A013	Manx Shearwater Puffinus puffinus
A045	Barnacle Goose Branta leucopsis

Please note that this SPA overlaps with West Connacht Coast SAC (002998). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping site(s) as appropriate.

04 Apr 2025 Version 1 Page 4 of 10

## Supporting documents, relevant reports & publications

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

#### **NPWS Documents**

Year: 2013

Title: A review of the SPA network of sites in the Republic of Ireland

Author: NPWS

Series: Published Report

Year: 2019

Title: Irish wetland bird survey: waterbird status and distribution 2009/10-2015/16

Author: Lewis, L.J.; Burke, B.; Fitzgerald, N.; Tierney, T.D.; Kelly, S.

Series: Irish Wildlife Manuals No. 106

Year: 2021

Title: Estimated foraging ranges of the breeding seabirds of Ireland's marine special protected area

network

Author: Power, A.; McDonnell, P.; Tierney, T.D.

Series: Published NPWS report

Year: 2024

Title: Studies of breeding Manx Shearwaters on Cruagh Island, Galway 2023: census, rafting and

IAS mammal monitoring

Author: Colhoun, K.; Latimer, J.; Newton, T.; Sardà-Serra, M.; Collins, J.; Tierney, T.D.

Series: Unpublished report to NPWS

04 Apr 2025 Version 1 Page 5 of 10

#### **Other References**

**Year**: 1973

Title: Population Dynamics of Barnacle Geese, Branta leucopsis, in Ireland

Author: Cabot, D.

Series: Proceedings of the Royal Irish Academy. Section B: Biological, Geological, and Chemical

Science, 73, 415-443

**Year:** 1990

Title: The Manx Shearwater

Author: Brooke, M.

Series: Poyser, London

**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:** 1999

Title: Managing grassland for wild geese in Britain: a review

Author: Vickery, J.; Gill, J.

Series: Biological Conservation, 89(1), pp.93-106

Year: 2004

Title: Seabird populations of Britain and Ireland

Author: Mitchell, P.I.; Newton, S.F.; Ratcliffe, N.; Dunn, T.E.

Series: Poyser, London

**Year**: 2019

Title: Report under Article 12 of the Birds Directive Period 2013-2018

Author: EEA

Series: European Environment Agency. European Topic Centre on Biological Diversity. Pp 1-9.

https://cdr.eionet.europa.eu/Converters/run\_conversion?

file=ie/eu/art12/envxztxxq/IE\_birds\_reports\_20191031-130157.xml&conv=612&source=remote

Year: 2023

Title: Seabirds Count: a census of breeding seabirds in Britain and Ireland (2015-2021)

Author: Burnell, D.; Perkins, A.J.; Newton, S.F.; Bolton, M.; Tierney, T.D.; Dunn, T.E.

Series: Lynx Nature Books, Barcelona

Year: 2023

Title: Home range of a long-distance migrant, the Greenland Barnacle Goose *Branta leucopsis*,

throughout the annual cycle

Author: Doyle, S.; Cabot, D.; Griffin, L.; Kane, A.; Colhoun, K.; Redmond, C.; Walsh, A.; McMahon, B.J.

**Series :** Bird Study, 70(1-2), pp.37-46

**Year**: 2023

Title: Manx Shearwater Puffinus puffinus

Author: Lee, D.S.; Haney, J.C.; Carboneras, C.; Jutglar, F.; Kirwan, G.M.

Series: Birds of the World (N. D. Sly, Editor) Version: 1.1

Year: 2024

Title: Seabird Population Trends and Causes of Change: 1986–2023, the annual report of the

Seabird Monitoring Programme

Author: Harris, S.J.; Baker, H.; Balmer, D.E.; Bolton, M.; Burton, N.H.K.; Caulfield, E.; Clarke, J.A.E.;

Dunn, T.E.; Evans, T.J.; Hereward, H.R.F.; Humphreys, E.M.; Money, S.; O'Hanlon, N.J.

Series: BTO Research Report 771

04 Apr 2025 Version 1 Page 6 of 10

# Conservation Objectives for: Cruagh Island SPA [004170]

### A013 Manx Shearwater *Puffinus puffinus*

# To restore the Favourable conservation condition of Manx Shearwater in Cruagh Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Apparently Occupied Sites (AOS)	Long term SPA population trend is stable or increasing	Manx Shearwater are nocturnal and nest underground on offshore islands which leads to difficulties in surveying this species and generating accurate population estimates. Survey methods and analytical methods have changed between surveys and are likely to change in the future (Burnell et al. 2023). Therefore, caution is required when comparing population estimates between surveys. The presence of a Manx Shearwater colony on Cruagh Island on the west Connemara coast was only confirmed during Seabird 2000 surveys when an estimated 3,286 pairs were recorded in 2001 (Mitchell et al., 2004). Based on a follow up survey conducted in 2023, a significantly larger population estimate of 32,836 pairs was reported making Cruagh Island SPA the second largest Manx Shearwater colony in Ireland (Colhoun et al., 2024)
Productivity rate	Number of fledged young per breeding pair	Sufficient to maintain a stable or increasing population	There was no productivity data available for this species in this SPA. An analysis of monitoring data from 2021, 2023, and 2024 from Skellig Michael, C Kerry produced an estimate of 0.54 presumed fledged chick per active nest (NPWS internal files). In 2023, a productivity rate of 0.60 across three Uk colonies was reported (Harris et al., 2024). America Mink Neogale vison was observed depredating Mar Shearwater in this SPA in 2023. Brown Rat Rattus norvegicus was also recorded at this time so it is possible that these mammalian predators are havin an impact on productivity (Colhoun et al., 2024). A estimated 30 pairs of Great Black-backed Gull Laru marinus were recorded breeding on Cruagh Island and Colhoun et al. (2024) determined it was likely they were having some predatory impact on this species. Also, the island is heavily overgrazed which may be reducing the cover available to Manx Shearwater to hide from predators (Colhoun et al., 2024)
Distribution: extent of available nesting options within the SPA	Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain a stable or increasing population	Manx Shearwater nest in burrows and under boulders. Colonies are typically found on steep grassy slopes on offshore islands where there is reduced predation risk (Lee et al., 2023). The highest density of burrows in this SPA were located on the north-west of Cruagh Island (Colhoun et al., 2024)
Forage spatial distribution, extent, abundance and availability	Location, hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Manx Shearwater feed primarily on clupeiform fish such as Sprat ( <i>Sprattus sprattus</i> ) and Herring ( <i>Clupea harengus</i> ) (Lee et al., 2023). Outside of this period, squid and other marine invertebrates may form a larger part of their diet (Brooke, 1990) Based on several studies, Woodward et al. (2019) provide estimates (i.e. overall mean, mean of maximum distances across all studies, and maximud distance recorded) of foraging ranges from the nesite during the breeding season, which are 136km, 1,347km, and 2,890km respectively (see Power et al., 2021). A tracking study of Manx Shearwater (n=14) breeding in this SPA in 2023 showed that foraging movements were primarily north of the colony with no foraging recorded south of Galway Bay and much activity concentrated along the nearshore areas between Connemara and Donegal Bay (Colhoun et al., 2024)

04 Apr 2025 Version 1 Page 7 of 10

Disturbance at the breeding site	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact on birds at the breeding site	Disturbance events at the nest site/breeding colony level can result in a reduction of overall productivity and even lead to the abandonment of the breeding colony. The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure, which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. 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 size and spatial distribution
Disturbance at areas ecologically connected to the colony	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact on breeding population	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening). Seabirds often sit in groups on the water close to the breeding colony in a behaviour termed 'rafting' where they are likely to engage in maintenance behaviours. A tracking study of Manx Shearwater (n=13) from this colony identified relatively important areas for rafting around the island with a mean distance of rafting of 4.65km ± 2.6km reported (Colhoun et al., 2024)
Barriers to connectivity	Number, location, shape, and area (ha)	Barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	require regular and efficient access to marine waters ecologically connected to the colony in order to

04 Apr 2025 Version 1 Page 8 of 10

### Conservation Objectives for: Cruagh Island SPA [004170]

### A045 Barnacle Goose *Branta leucopsis*

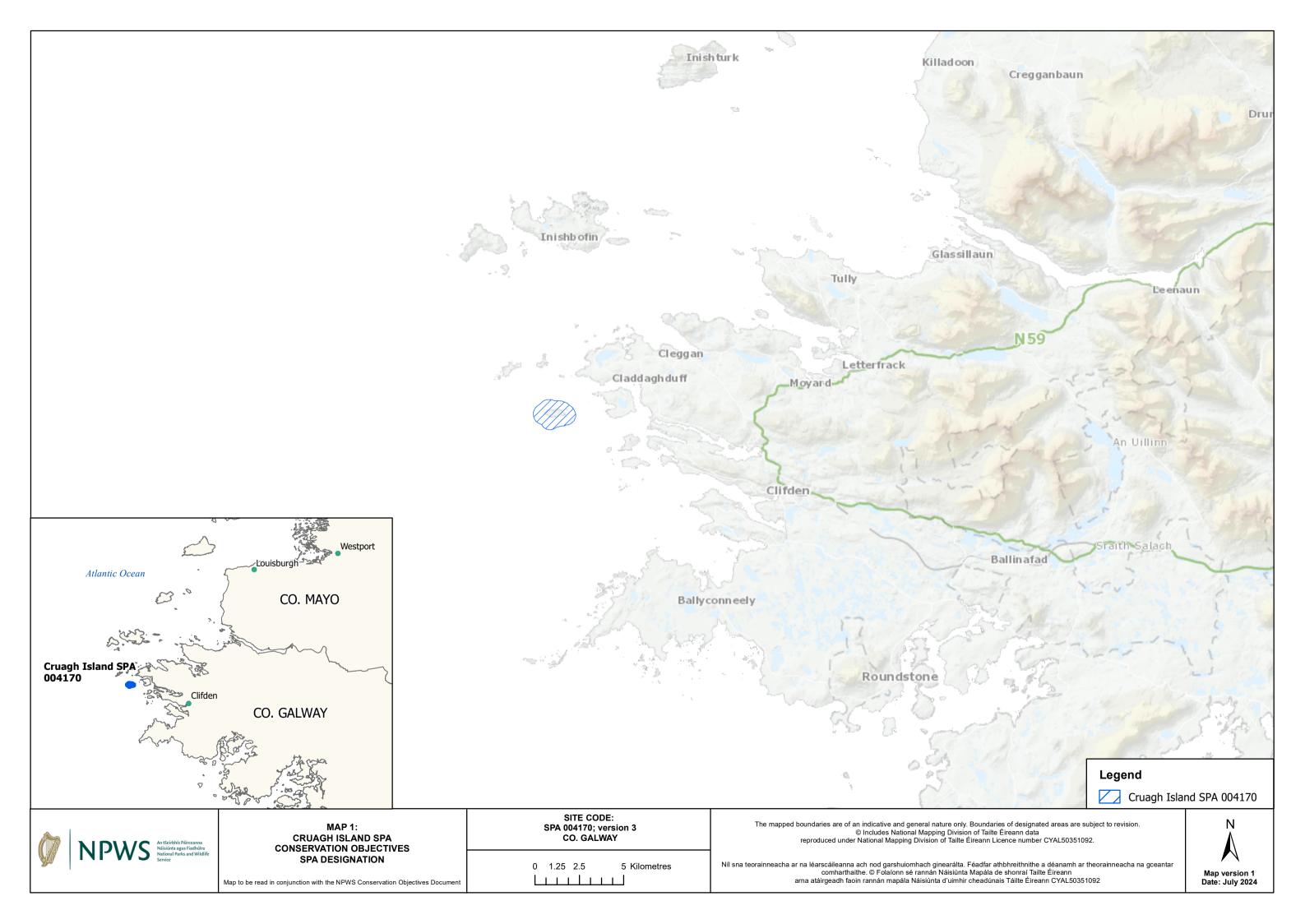
To maintain the Favourable conservation condition of Barnacle Goose in Cruagh Island SPA, which is defined by the following list of attributes and targets:

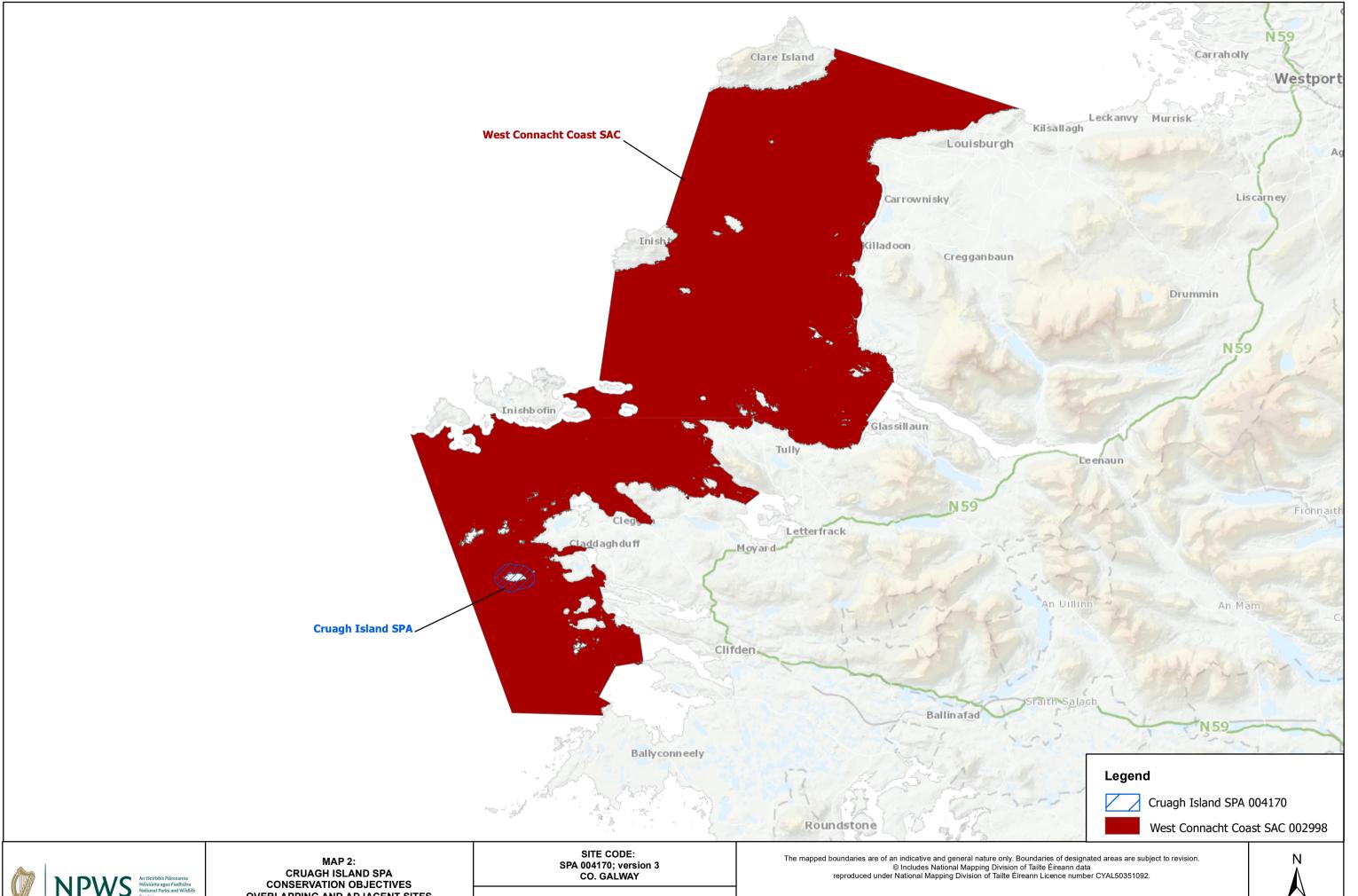
Attribute	Measure	Target	Notes
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	The national population of wintering Barnacle Goose in Ireland has increased by 102% from 1993 - 2018 (Lewis et al., 2019) as monitored by the International Census of Greenland Barnacle Goose. During the baseline assessments to inform SPA designation, 371 Barnacle Goose were estimated to be using this SPA and High Island, Inishshark and Davillaun SPA (4 year mean of census counts for baseline period 1993 - 2003; see NPWS, 2013). More recent data showed a population of 668 Barnacle Goose used these SPAs during the period 2013 - 2023 (4 year mean of census counts from the International Census of Greenland Barnacle Goose). This represents a population increase of 80% since the baseline period, similar to the national trend
Winter spatial distribution	Hectares, time and intensity of use	Sufficient 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

04 Apr 2025 Version 1 Page 9 of 10

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 grazing herbivore. Historically, in Ireland, foraging habitat included salt marsh, but currently the species is typically associated with open coastal pasture, mostly improved and semi-improved agricultural grasslands. Barnacle Goose grazes on leaves, stems, rhizomes, roots and seeds, with grass and <i>Plantago/Bellis/Festuca</i> swards comprising preferred food sources (Cabot, 1973). This species selects a preferred sward height of <10cm but birds can feed on swards >15cm if preferred areas are depleted (based on birds in Islay, see Vickery and Gill, 1999). Birds are highly likely to exhibit foraging site fidelity and may be found foraging on offshore islands as well as commuting to forage on the mainland. Maximum foraging distance is approximately 7km for wintering birds (Doyle et al., 2023)
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	Roosting is a critical ecological requirement for the wintering population. When roosting, this species uses open habitats (primarily pastures) that provide wide sightlines for the birds and which are typically adjacent to water bodies; thus, offshore islands are commonly use. Birds exhibit strong roost site fidelity (Doyle et al., 2023). 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

04 Apr 2025 Version 1 Page 10 of 10







OVERLAPPING AND ADJACENT SITES

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

2 4 8 Kilometres

Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. © Folaíonn sé rannán Náisiúnta Mapála de shonraí Tailte Éireann arna atáirgeadh faoin rannán mapála Náisiúnta d'uimhir cheadúnais Táilte Éireann CYAL50351092

