

National Parks and Wildlife Service

Conservation Objectives Series

Skerries Islands SPA 004122



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

004122	Skerries Islands SPA
A017	Cormorant <i>Phalacrocorax carbo</i>
A018	Shag <i>Phalacrocorax aristotelis</i>
A046	Light-bellied Brent Goose <i>Branta bernicla hrota</i>
A148	Purple Sandpiper <i>Calidris maritima</i>
A169	Turnstone <i>Arenaria interpres</i>
A184	Herring Gull <i>Larus argentatus</i>

Please note that this SPA adjoins with the North-west Irish Sea SPA (004236) and is adjacent to Rockabill to Dalkey Island SAC (003000). See map 2. The conservation objectives for this site should be used in conjunction with those for the adjoining and adjacent sites 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 :	2007
Title :	Seabird Productivity at East and South coast colonies in Ireland in 2007: Site accounts
Author :	Trewby, M.; Burt E.; Newton, S.
Series :	Unpublished report to NPWS
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 :	A survey of breeding seabirds on Lambay Island, Co. Dublin in 2024
Author :	Colhoun, K.; Collins, J.; Latimer, J.; Miley, D.; Sarda-Serra, M.; Trapp, S.
Series :	Unpublished report to NPWS

Other References

Year :	1991
Title :	The status of seabirds in Britain and Ireland
Author :	Lloyd, C., Tasker, M.L. and Partridge, K.
Series :	Poyser Monographs Volume: 50
Year :	1995
Title :	Seabird monitoring handbook for Britain and Ireland: a compilation of methods for survey and monitoring of breeding seabirds
Author :	Walsh, P.; Halley, D.J.; Harris, M.P.; del Nevo, A.; Sim, I.M.W.; Tasker, M.L.
Series :	JNCC, Peterborough
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 :	1997
Title :	The Birds of the Western Palearctic Concise Edition. Vol. 1 Non-Passerines
Author :	Snow, D.W.; Perrins, C.M.
Series :	Oxford University Press

Year : 1998
Title : Flexible foraging techniques in breeding cormorants *Phalacrocorax carbo* and shags *Phalacrocorax aristotelis*: benthic or pelagic feeding?
Author : Grémillet, D.; Argentin, G.; Schulte, B.; Culik, B.M.
Series : Ibis, 140(1), pp.113-119

Year : 1999
Title : Breeding seabirds of Lambay, County Dublin
Author : Merne, O.J.; Madden, B.
Series : Irish Birds, 6(3), pp.345-358

Year : 2003
Title : Implications for seaward extensions to existing breeding seabird colony Special Protection Areas
Author : McSorley, C.A.; Dean, B.J.; Webb, A.; Reid J.B.
Series : JNCC Report No. 329

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 : 2004
Title : Light-bellied Brent Goose *Branta bernicla hrota* (East Canadian High Arctic population) in Canada, Ireland, Iceland, France, Greenland, Scotland, Wales, England, the Channel Islands and Spain, 1960/61-1999/2000
Author : Robinson, J.; Colhoun, K.; Guðmundsson, G.; Boertmann, D.; Merne, O.; O'Briain, M.; Portig, A.; Mackie, K.; Boyd, H.
Series : Waterbird Review Series, The Wildfowl & Wetlands Trust/Joint Nature Conservation Committee, Slimbridge

Year : 2005
Title : Breeding performance and timing of breeding of inland and coastal breeding Cormorants *Phalacrocorax carbo* in England and Wales
Author : Newson, S.E.; Hughes, B.; Hearn, R.; Bregnballe, T.
Series : Bird Study, 52:1, 10-17, DOI: 10.1080/00063650509461369

Year : 2010
Title : How Representative is the Current Monitoring of Breeding Seabirds in the UK?
Author : Cook, A.S.C.P.; Robinson, R.A.
Series : BTO Research Report No. 573

Year : 2016
Title : Roost site selection by Ring-billed and Herring gulls
Author : Clark, D. E.; DeStefano, S.; MacKenzie, K. G.; Koenen, K. K. G.; Whitney, J. J.
Series : Journal of Wildlife Management 80 (4):708-719

Year : 2019
Title : Desk-based revision of seabird foraging ranges used for HRA screening
Author : Woodward, I.; Thaxter, C.B.; Owen, E.; Cook, A.S.C.P.
Series : BTO Research Report No. 724

Year : 2020
Title : Great Cormorant (*Phalacrocorax carbo*), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author : Hatch, J.J.; Brown, K.M.; Hogan, G.G.; Morris, R.D.; Orta, J.; Garcia, E.F.J.; Jutglar, F.; Kirwan, G.M.; Boesman, P.F.D.
Series : Cornell Lab of Ornithology, Ithaca, NY, USA

Year :	2020
Title :	Herring Gull (<i>Larus argentatus</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Weseloh, D. V.; Hebert, C. E.; Mallory, M. L.; Poole, A. F.; Ellis, J. C.; Pyle, P.; Patten, M. A.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Purple Sandpiper (<i>Calidris maritima</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Payne, L.X.; Pierce, E.P.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Ruddy Turnstone (<i>Arenaria interpres</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Nettleship, D.N.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2021
Title :	European Shag (<i>Gulosus aristotelis</i>), version 1.2. In Birds of the World (B. K. Keeney, Editor)
Author :	Orta, J., Garcia, E. F. J.; Jutglar, F.; Kirwan, G. M.; Boesman, P. F. D.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2021
Title :	Definition of Favourable Conservation Status for Great Cormorant, <i>Phalacrocorax carbo</i>
Author :	Newson, S.E.; Austin, G.
Series :	Natural England, pp.25. ISBN: 978-1-78354-723-4
Year :	2022
Title :	Irish wetland bird survey: I-WeBS national and site trends report 1994/95 – 2019/20
Author :	Kennedy, J.; Burke, B.; Fitzgerald, N.; Kelly, S.B.A.; Walsh, A.J.; Lewis, L.J.
Series :	https://birdwatchireland.ie/app/uploads/2022/04/iwebs_trends_report.html
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 :	2024
Title :	Great Cormorant (<i>Phalacrocorax carbo</i>)
Author :	JNCC
Series :	https://jncc.gov.uk/our-work/great-cormorant-phalacrocorax-carbo/
Year :	2024
Title :	European Shag (<i>Phalacrocorax aristotelis</i>)
Author :	JNCC
Series :	https://jncc.gov.uk/our-work/european-shag-phalacrocorax-aristotelis/

Conservation Objectives for : Skerries Islands SPA [004122]

A017 Cormorant *Phalacrocorax carbo*

To restore the Favourable conservation condition of Cormorant in Skerries Islands SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number of Apparently Occupied Nests (AON)	Long term SPA population trend is stable or increasing	The Cormorant colony was established at this site in the 1990s and 558 pairs were recorded breeding here in 1999, the largest colony in Ireland and Britain at that time (Trewby et al., 2007). Numbers fluctuated in subsequent years with 1,155 pairs recorded in 2006 and 956 pairs in 2007. Trewby et al. (2007) suggests that the decrease between 2006 and 2007 is associated with a population increase on Ireland's Eye. It is suspected that breeding birds move between Ireland's Eye SPA, Lambay Island SPA and Skerries Islands SPAs (Merne and Madden, 1999; Trewby et al., 2007). Due to the likely movements between these SPAs, the Cormorant population dynamics of this SPA needs to be viewed in the wider context of the County Dublin breeding population
Productivity rate	Number of fledged young per breeding pair	Sufficient to maintain a stable or increasing population	Trewby et al. (2007) reported a range of 0.17 to 1.14 fledglings per pair, based on a subsample of the 2007 breeding population at Skerries Islands SPA. Five subspecies of Great Cormorant are recognised with the nominate and Atlantic subspecies <i>P. c. carbo</i> breeding in both coastal and inland resorts in Ireland (Burnell et al., 2023). In the United Kingdom, the continental race <i>P. c. sinensis</i> also breeds at inland sites, largely in England, and differences in their productivity rates and overall population trends have been noted (Newson and Austin, 2021; Newson et al., 2005; Burnell et al., 2023). Cormorant colonies in the UK fledged approximately 1.84 chicks per nest per year between 1989 and 2019 (JNCC, 2024)
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	The national population of wintering Cormorant in Ireland has increased by 43% from 1994/95 - 2019/20, as monitored via the Irish Wetland Bird Survey (I-WeBS) (Kennedy et al., 2022). During the baseline assessments to inform SPA designation, 391 Cormorant were estimated to be using this SPA in winter (5 year mean of peak counts for baseline period 1995/96 - 1999/2000; see NPWS, 2013). There is insufficient data available to provide an updated population estimate or population trend for this species within the SPA
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	Distribution encapsulates the number of locations and area of potentially suitable nesting habitat for the breeding population and its availability for use. The suitability and availability of habitat across the SPA may vary through time. This will affect the spatio-temporal patterns of use of the habitats by Cormorant. Typically, coastal Cormorant colonies are located on flat or rocky islets or sea stack tops, less often on cliffs (Walsh et al., 1995). Trewby et al. (2007) noted that the core Cormorant colony on Skerries Islands SPA is located on the coastal cliffs of St. Patrick's Island
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	Winter spatial 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

Forage spatial distribution, extent, abundance and availability (winter and breeding)	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Cormorant diet consists predominantly of small benthic and pelagic fish which are captured by pursuit diving, typically over shallow (<10m) freshwater, estuarine and marine environments (Grémillet et al., 1998; Hatch et al., 2020). Woodward et al. (2019) reviewed the foraging ranges of seabird species from over 300 studies and provides estimates (i.e. overall mean; mean of maximum distances across all studies; and maximum distance recorded) of Cormorant foraging ranges from the nest site during the breeding season, which are 7km, 26km, and 35km respectively (see Power et al., 2021)
Disturbance at breeding or wintering sites	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact the achievement of targets	The impact of any significant disturbance (direct or indirect) to the breeding or wintering population will ultimately affect the achievement of targets for other attributes, such as population trend and/or spatial distribution. 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. 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) as defined in McSorley et al. (2003). Additionally, some species may engage in maintenance behaviours outside of the breeding colony but not in the water. Cormorant, after long periods in the water, may stand in areas away from the colony and engage in a behaviour known as wing-spreading. The main purpose of this behaviour is to dry plumage (Hatch et al., 2020) and may occur on sandbanks and small rocks and islets. Exposure to recreational activities may disrupt breeding birds conducting maintenance behaviours associated with the main breeding area of the SPA. Trewby et al. (2007) suggested that excessive visitor disturbance may limit the attractiveness of the site for breeding seabirds
Winter 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. Similar to foraging environments, Cormorant utilise a range of freshwater, estuarine and coastal areas to roost. Cormorant can roost on the water, on land (on the ground), or on man-made structures (e.g. piers). 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 winter habitat: area and quality	Area (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

Barriers to connectivity and site use (winter and breeding)	Number; location; shape; area (hectares)	Barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the species' 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 species, and it may require access to other SPAs. Seabirds require regular and efficient access to marine waters ecologically connected to the breeding or wintering site for foraging and other behaviours. Based on several studies, Woodward et al. (2019) provides estimates (i.e. overall mean; mean of maximum distances across all studies; and maximum distance recorded) of Cormorant foraging ranges from the nest site during the breeding season, which are 7km, 26km, and 35km respectively (see Power et al., 2021)
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Conservation Objectives for : Skerries Islands SPA [004122]

A018 Shag *Phalacrocorax aristotelis*

To restore the Favourable conservation condition of Shag in Skerries Islands SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number of Apparently Occupied Nests (AON)	Long term SPA population trend is stable or increasing	The Seabird Colony Register (1985-87) recorded 110 pairs of breeding Shag in Skerries Islands SPA (Lloyd et al., 1991). Similarly, 100 pairs were recorded in 1999 (Mitchell et al., 2004). 86 pairs were recorded in 2006 and 54 pairs were recorded in 2007, an overall decline of 46% since 1999. In the same period the population of Shags increased in nearby colonies such as Lambay Island and Ireland's Eye. Due to the potential for movements between these SPAs, the Shag population dynamics of this SPA needs to be viewed in the wider context of the County Dublin breeding population
Productivity rate	Number of fledged young per breeding pair	Sufficient to maintain a stable or increasing population	No contemporary data on Shag breeding productivity on Skerries Islands SPA are available. Shag productivity in Scotland has averaged 1.28 chicks fledged per pair between 1986 and 2019 (JNCC, 2024). In the same time period the population of Shag has decreased 22% in Scotland (Burnell et al., 2023)
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	Distribution encapsulates the number of locations and area of potentially suitable nesting habitat for the breeding population and its availability for use. The suitability and availability of habitat across the SPA may vary through time. This will affect the spatio-temporal patterns of use of the habitats by Shag. Typically Shag breed on sea cliffs, rocks and stacks or on the ground amongst boulders or bushes (Orta et al., 2021). The Shag population nesting on Skerries Islands SPA is concentrated on the north-east end of St. Patrick's Island (Trewby et al., 2007)
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	The diet of Shag is almost exclusively fish, taken chiefly near the sea bed or at intermediate depths, and principally of the families Ammodytidae (sandeel), Gadidae, Clupeidae, Cottidae and Labridae, but a wide range of species are taken, perhaps opportunistically (Orta et al., 2021). Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for Shag, which are 9km, 13km, and 46km respectively (see Power et al., 2021)
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. Trewby et al. (2007) suggested that excessive visitor disturbance may limit the attractiveness of the site for breeding seabirds

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) as defined in McSorley et al. (2003)
Barriers to connectivity	Number; location; shape; area (hectares)	Barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	Seabirds, particularly during the breeding season, require regular and efficient access to marine waters ecologically connected to the colony in order to forage as well as to engage in other maintenance behaviours. Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for Shag, which are 9km, 13km, and 46km respectively (see Power et al., 2021)

Conservation Objectives for : Skerries Islands SPA [004122]

A046 Light-bellied Brent Goose *Branta bernicla hrota*

To maintain the Favourable conservation condition of Light-bellied Brent Goose in Skerries Islands 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 Light-bellied Brent Goose in Ireland has increased by 96% from 1997 - 2017 (Lewis et al., 2019). During the baseline assessments to inform SPA designation, 242 Light-bellied Brent Goose were estimated to be using this SPA (5 year mean of peak counts for baseline period 1995/96 - 1999/2000; see NPWS, 2013). There is insufficient data available to provide an updated population estimate or population trend for this species within the SPA
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	Light-bellied Brent Goose are mostly found on coastal estuaries during the non-breeding (wintering) period. Light-bellied Brent Goose are grazers and are known for their strong preference for foraging in intertidal areas on eelgrass (<i>Zostera</i> spp.) (Robinson et al., 2004). When the eelgrass depletes, or where it is unavailable, the species feeds upon green algae (<i>Enteromorpha</i> spp.) and saltmarsh plants, and subsequently may forage terrestrially in grasslands (including golf courses, parklands, and agricultural grasslands)

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. Light-bellied Brent Goose prefer to roost on the water surface, primarily coastal waters, including estuaries, typically close to land and in calm waters. 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

A148 Purple Sandpiper *Calidris maritima*

To maintain the Favourable conservation condition of Purple Sandpiper in Skerries Islands 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 Purple Sandpiper in Ireland has increased by 24% from 1994/95 - 2019/20, as monitored via the Irish Wetland Bird Survey (I-WeBS) (Kennedy et al., 2022). During the baseline assessments to inform SPA designation, 46 Purple Sandpiper were estimated to be using this SPA (5 year mean of peak counts for baseline period 1995/96 - 1999/2000; see NPWS, 2013). There is insufficient data available to provide an updated population estimate or population trend for this species within the SPA
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
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	In the non-breeding season, Purple Sandpiper primarily forage in rocky (non-estuarine) shorelines, islands, peninsulas, and other coastal areas exposed to wave action, as well as man-made structures providing similar conditions (e.g. breakwaters and pier substructures; Snow and Perrins, 1998). Less often they forage in mudflats or sandy shores. Diet is predominantly invertebrates, including gastropods (such as mussels), annelid worms, insects (adults and larvae), crustaceans, and small amounts of algae. Prey items are taken from amongst seaweed, on and under rocks, in crevices, and sometimes from the shoreline (Payne and Pierce, 2020)

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. During the non-breeding season, Purple Sandpiper show a strong preference for tidal rocky shores, often utilising artificial structures such as piers or breakwaters for roosting. They have been found to be highly faithful to their wintering sites. 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
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A169 Turnstone *Arenaria interpres*

To maintain the Favourable conservation condition of Turnstone in Skerries Islands 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 Turnstone in Ireland has declined by 24% from 1994/95 - 2019/20, as monitored via I-WeBS (Kennedy et al., 2022). During the baseline assessments to inform SPA designation, 242 Turnstone were estimated to be using this SPA (5 year mean of peak counts for baseline period 1995/96 - 1999/2000; see NPWS, 2013). There is insufficient data available to provide an updated population estimate or population trend for this species within the SPA
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
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	Wintering Turnstone are almost exclusively coastal in Ireland. The species is a specialist of shorelines that are rocky/stony with seaweed/algal wrack areas, but also occurs on mudflats and sandflats (Nettleship, 2020). The species is an opportunistic feeder and scavenger, with a chiefly invertebrate diet including a diverse range of crustaceans, molluscs, annelid worms, echinoderms, small fish, and the adults and larvae of insects and arthropods. Prey is taken on or near the surface. The species is also known to consume carrion and human food discard

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. Wintering Turnstone roost in the habitats in which they forage (see above). Turnstone roost communally, often with other bird species, often close to areas first exposed after high tide for subsequent foraging (Nettleship, 2020). 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
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Conservation Objectives for : Skerries Islands SPA [004122]

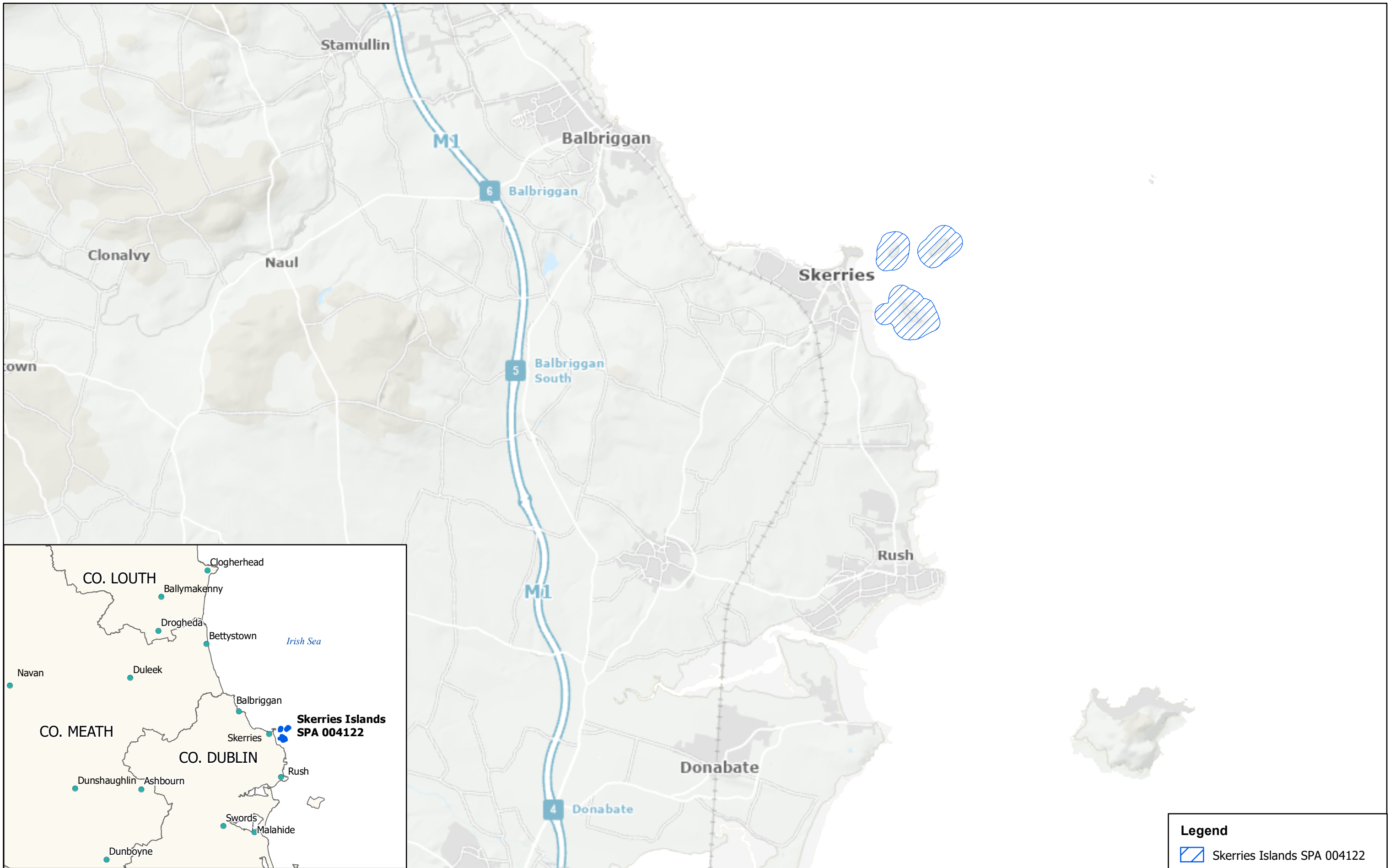
A184 Herring Gull *Larus argentatus*

To restore the Favourable conservation condition of Herring Gull in Skerries Islands SPA, which is defined by the following list of attributes and targets:


Attribute	Measure	Target	Notes
Breeding population size	Number of Apparently Occupied Nests (AON)	Long term SPA population trend is stable or increasing	The Seabird Colony Register (1985-87) recorded 350 pairs of breeding Herring Gull in Skerries Islands SPA (Lloyd et al., 1991). Mitchell et al. (2004) recorded 300 pairs in 1999, by 2007 the population was estimated to be 37 pairs, a decrease of 89% since the mid-1980s (Trewby et al., 2007)
Productivity rate	Number of fledged young per breeding pair	Sufficient to maintain a stable or increasing population	No contemporary data on Herring Gull breeding productivity on Skerries Islands are available. Cook and Robinson (2010) undertook Population Viability Analyses (PVA) of a selection of breeding populations in the UK. Over their study period Herring Gull breeding success was estimated to be 0.75 fledged young per pair. Were this level to be maintained, Herring Gull populations were predicted to decline by 60% over 25 years. For the population to stabilise, breeding success would have to increase to 1.3-1.5 chicks per nest per year
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	During the baseline assessments to inform SPA designation, 560 Herring Gull were estimated to be using Skerries Islands SPA in winter (5 year mean peak count for baseline period 1995/96 - 1999/2000; see NPWS, 2013). There is insufficient data available to provide an updated population estimate or population trend for this species within the SPA
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	Distribution encapsulates the number of locations and area of potentially suitable nesting habitat for the breeding population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by Herring Gull. Typically, coastal Herring Gull colonies are located along rocky coastlines with cliffs, islets and offshore islands (Mitchell et al., 2004). In 2007, breeding Herring Gull (from this depleted population) were distributed on Shennick's, St. Patrick's and Colt Islands. Trewby et al. (2007) suggested that excessive visitor disturbance as well as mammalian predators may limit the attractiveness of the site for breeding seabirds
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	Winter spatial 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 is 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

Forage spatial distribution, extent, abundance and availability (winter and breeding)	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Herring Gull is a generalist and opportunistic feeder and can forage over terrestrial, freshwater and marine habitats, both natural and human-altered. Its diet includes fish, fish offal, bivalves, gastropods, crustaceans, squid, insects, other seabirds, small land birds, small mammals, terrestrial insects, earthworms, berries, carrion, and a wide variety of human refuse (Weseloh et al., 2020). Woodward et al. (2019) reviewed the foraging ranges of seabird species from over 300 studies including: direct tracking of birds; estimates based on flight speeds and time activity; survey observations; and speculative estimates. Resulting estimates of overall mean, mean of maximum distances across all studies, and maximum distance recorded, of Herring Gull foraging ranges from the nest site during the breeding season are 15km, 59km, and 92km respectively (Power et al., 2021). During the non-breeding season, the species typically forages within 100km of roost sites (Clark et al., 2016)
Disturbance at breeding or wintering sites	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact the achievement of targets	The impact of any significant disturbance (direct or indirect) to the breeding or wintering population will ultimately affect the achievement of targets for population trend and/or spatial distribution. 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. On Lambay, Herring Gull nest sites occur across the island but largely inland, away from the cliff faces (Colhoun et al., 2024). 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), which can 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 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) as defined in McSorley et al. (2003)
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. Similar to foraging habitat preferences, Herring Gull can use a variety of roosting habitats across marine, terrestrial and freshwater environments, including a mixture of anthropogenically modified and natural habitats, e.g. coastal waters, lakes, islands, wetlands, parks, pitches and farmland. 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 winter habitat: area and quality	Area (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

Barriers to connectivity and site use (winter and breeding)	Number; location; shape; area (hectares)	Barriers do not significantly impact the 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. 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. Seabirds, particularly during the breeding season, require regular and efficient access to marine waters ecologically connected to the colony in order to forage as well as to engage in other maintenance behaviours. Based on several studies, Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Herring Gull foraging ranges from the nest site during the breeding season, which are 15km, 59km, and 92km respectively (see Power et al., 2021)
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Legend

 Skerries Islands SPA 004122



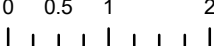
NPWS
 An tSeirbhís Páircanna Náisiúnta agus Fiadhúlra
 National Parks and Wildlife Service

**MAP 1:
 SKERRIES ISLANDS SPA
 CONSERVATION OBJECTIVES
 SPA DESIGNATION**

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

**SITE CODE:
 SPA 004122; version 3
 CO. DUBLIN**

0 0.5 1 2 Kilometres

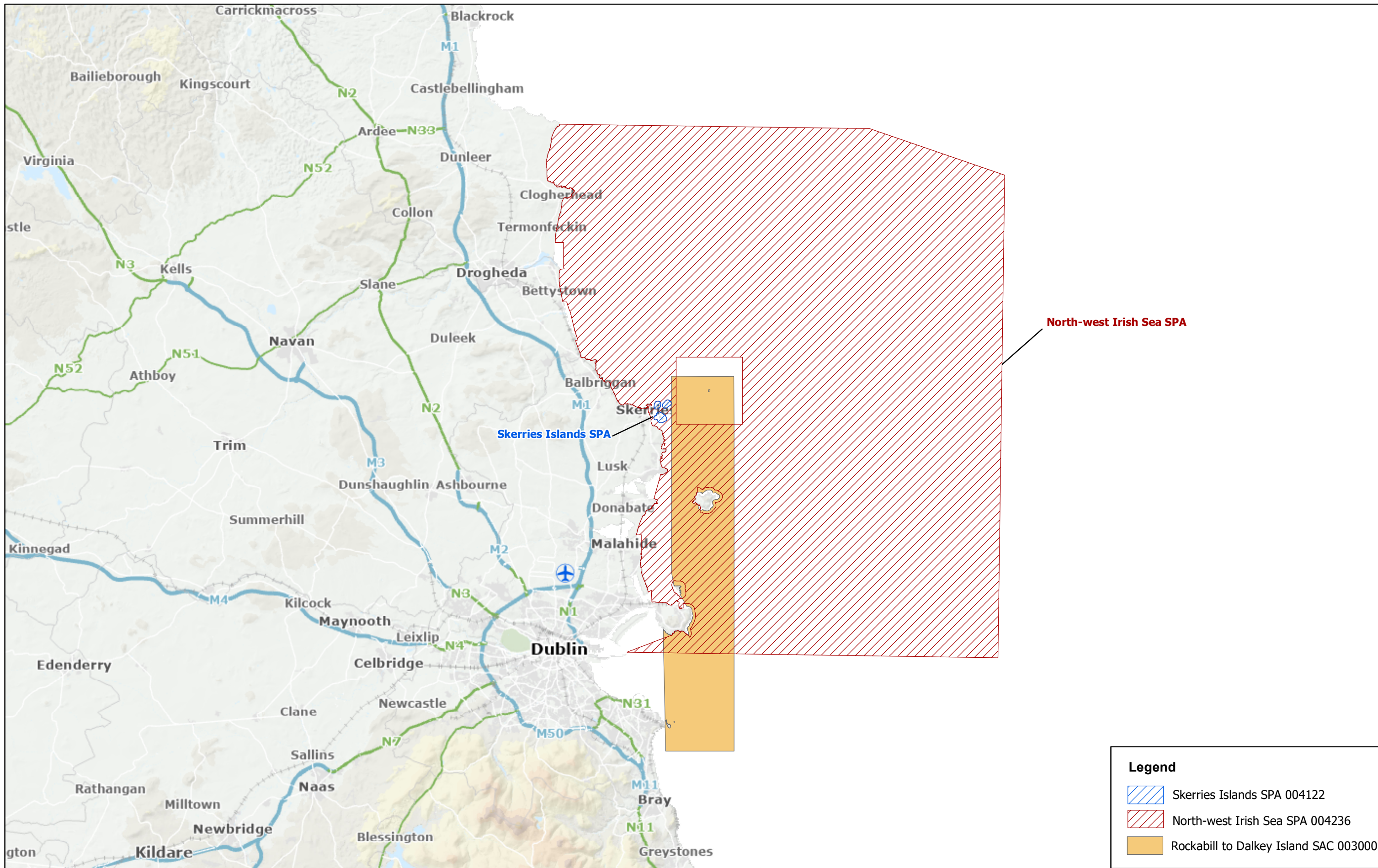


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**Map version 1
 Date: May 2024**




North-west Irish Sea SPA

Skerries Islands SPA

Legend

-  Skerries Islands SPA 004122
-  North-west Irish Sea SPA 004236
-  Rockabill to Dalkey Island SAC 003000




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

**MAP 2:
SKERRIES ISLANDS SPA
CONSERVATION OBJECTIVES
OVERLAPPING AND ADJACENT SITES**

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

**SITE CODE:
SPA 004122; version 3
CO. DUBLIN**



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**Map version 1
Date: May 2024**