

National Parks and Wildlife Service

Conservation Objectives Series

Helvick Head to Ballyquin SPA 004192



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

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- A017 Cormorant *Phalacrocorax carbo*
- A103 Peregrine *Falco peregrinus*
- A184 Herring Gull *Larus argentatus*
- A188 Kittiwake *Rissa tridactyla*
- A346 Chough *Pyrhocorax pyrrhocorax*

Please note that this SPA overlaps with Helvick Head SAC (000665). 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 :	2006
Title :	The status and ecology of the chough <i>Pyrrhocorax pyrrhocorax</i> in the Republic of Ireland, 2002-2005
Author :	Trewby, M.; Gray, N.; Cummins, S.; Thomas, G.; Newton, S.
Series :	Final report to NPWS
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 :	2010
Title :	The seasonal distribution and foraging behaviour of Red-billed Choughs <i>Pyrrhocorax pyrrhocorax</i> in Counties Waterford and Cork, February 2008 to January 2009
Author :	Trewby, M.; Carroll; D.; Mughan, N.; O'Keeffe, D.; Newton, S.
Series :	Unpublished BirdWatch Ireland Report to National Parks & Wildlife Service, Kilcoole, Wicklow
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 :	Status and Distribution of Chough in Ireland: Results of the National Survey 2021
Author :	Colhoun, K.; Rooney, E.; Collins, J.; Keogh, N.P.; Lauder, A.; Heardman, C.; Cummins, S.
Series :	Irish Wildlife Manuals No. 151

Other References

Year :	1900
Title :	The Birds of Ireland: An Account of the Distribution, Migrations and Habits of Birds as Observed in Ireland, with All Additions to the Irish List
Author :	Ussher, R.J.; Warren, R.
Series :	Gurney and Jackson
Year :	1954
Title :	The Birds of Ireland. Their Migrations and Habits. Assessed by G.R. Humphreys
Author :	Kennedy, P.G.; Ruttledge R.F.; Scroope, C.F.
Series :	London: Oliver and Boyd
Year :	1965
Title :	The status of the Chough in Ireland
Author :	Cabot, D.
Series :	Irish Naturalists' Journal 15: 95-100
Year :	1966
Title :	Ireland's Birds: their distribution and migrations
Author :	Ruttledge, R.F.
Series :	Published by HF & G Witherby, London

Year : 1983
Title : The chough in Britain and Ireland
Author : Bullock, I.; Drewett, D.; Mickleburg, S.
Series : British Birds, 76: 377–401

Year : 1983
Title : Survey of the Peregrine *Falco peregrinus* breeding population in the Republic of Ireland in 1981
Author : Norriss, D.W.; Wilson, H.J.
Series : Bird Study, 30:2, 91-101

Year : 1987
Title : The Peregrine Falcon in south-east Ireland, 1981-1986
Author : McGrath, D.
Series : Irish Birds 3: 377-386

Year : 1991
Title : The status of seabirds in Britain and Ireland
Author : Lloyd, C.; Tasker, M.L.; Partridge, K.
Series : Poyser Monographs Volume: 50

Year : 1993
Title : The second international chough survey in Ireland, 1992
Author : Berrow, S.D.; Mackie, K.L.; O'Sullivan, O.; Shepherd, K.B.; Mellon, C.; Coveney, J.A.
Series : Irish Birds, 5: 1-10

Year : 1993
Title : The peregrine falcon. Second edition.
Author : Ratcliffe, D.A.
Series : T. & A.D. Poyser, London

Year : 1993
Title : Seasonal variations in numbers and levels of activity in a communal roost of Choughs *Pyrhacorax pyrrhacorax* in central Spain
Author : Blanco, G.; Fargallo, J.A.; Cuevas, J.A.
Series : Avocetta, 17: 41-44

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 : The 1991 survey and weather impacts on the Peregrine *Falco peregrinus* breeding population in the Republic of Ireland
Author : Norriss, D.W.
Series : Bird Study, 42:1, 20-30

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 : 2002
Title : Recovery of the Peregrine Falcon *Falco peregrinus* in Cumbria, UK, 1966–99
Author : Horne, G; Fielding, A.H.
Series : Bird Study, 49:3, 229-236

Year :	2002
Title :	The status and productivity of the peregrine falcon <i>Falco peregrinus</i> L. in south-east Ireland 1981-2001
Author :	McGrath, D.
Series :	Irish Naturalists' Journal, 27(3): 117-119
Year :	2003
Title :	The status and distribution of choughs <i>Pyrrhocorax pyrrhocorax</i> in the Republic of Ireland 2002/03
Author :	Gray, N.; Thomas, G.; Trewby, M.; Newton, S.F.
Series :	Irish Birds, 7, 147-156
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 :	2005
Title :	Choughs <i>Pyrrhocorax pyrrhocorax</i> breeding in Wales select foraging habitat at different spatial scales
Author :	Whitehead, S.; Johnstone, I.; Wilson, J.
Series :	Bird Study, 52:2, 193-203
Year :	2005
Title :	Breeding performance and timing of breeding of inland and coastal breeding Cormorants <i>Phalacrocorax carbo</i> 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 :	2006
Title :	The breeding season foraging behaviour of choughs <i>Pyrrhocorax pyrrhocorax</i> in three Irish chough important bird areas
Author :	Trewby, M., Gray, N., Cummins, S., Thomas, G. & Newton, S.
Series :	Unpublished BirdWatch Ireland Report, Kilcoole, Wicklow
Year :	2006
Title :	Linking territory quality and reproductive success in the chough (<i>Pyrrhocorax pyrrhocorax</i>): implications for conservation management of an endangered population
Author :	Kerbiriou, C.; Gourmelon, F.; Jiguet, F.; Le Viol, I.; Frédéric Bioret, F.; Julliard, R.
Series :	Ibis, 148 (2), pp.352-364
Year :	2007
Title :	A review of disturbance distances in selected bird species
Author :	Ruddock, M.; Whitfield, D.P.
Series :	A report from Natural Research (Projects) Ltd to Scottish Natural Heritage
Year :	2009
Title :	Raptors: a field guide to survey and monitoring (2nd Edition)
Author :	Hardey, J.; Crick, H.; Wernham, C.; Riley, H.; Etheridge, B.; Thompson, D.
Series :	The Stationery Office, Edinburgh

Year :	2009
Title :	The 2002 survey of the Peregrine <i>Falco peregrinus</i> breeding population in the Republic of Ireland
Author :	Madden, B.; Hunt, J.; Norriss, D.
Series :	Irish Birds 8: 543-548
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 :	2011
Title :	Aspects of the feeding ecology and breeding biology of the red-billed chough (<i>Pyrhcorax pyrrhcorax</i>) in Ireland
Author :	Boylan, M.
Series :	PhD Thesis, National University of Ireland, Cork.
Year :	2011
Title :	A preliminary assessment of the potential impacts of Cormorant (<i>Phalacrocorax carbo</i>) predation on Salmonids in four selected river systems
Author :	Tierney, N.; Lusby, J.; Lauder, A.
Series :	Report Commissioned by Inland Fisheries Ireland and funded by the Salmon Conservation Fund
Year :	2015
Title :	Population status and factors affecting the productivity of Peregrine Falcon <i>Falco peregrinus</i> in Co. Wicklow, Ireland, 2008-2012
Author :	Burke, B.J.; Clarke, D.; Fitzpatrick, A.; Carnus, T.; McMahon, B.J.
Series :	Biology and Environment: Proceedings of the Royal Irish Academy, Vol 115, No. 2, 115-124
Year :	2017
Title :	Productivity of the Black-legged Kittiwake <i>Rissa tridactyla</i> required to maintain numbers
Author :	Coulson, J.C.
Series :	Bird Study 64: 84-89
Year :	2018
Title :	Breeding status of red-billed choughs <i>Pyrhcorax pyrrhcorax</i> in the UK and Isle of Man in 2014
Author :	Hayhow, D.B.; Johnstone, I.; Moore, A.S.; Mucklow, C.; Stratford, A.; Šúr, M.; Eaton, M.A.
Series :	Bird Study, 65(4), 458-470
Year :	2019
Title :	Adverse effects of routine bovine health treatments containing triclobandazole and synthetic pyrethroids on the abundance of dipteran larvae in bovine faeces
Author :	Gilbert, G.; MacGillivray, F.S.; Robertson, H.L.; Jonsson, N.N.
Series :	Nature Scientific Reports 9, 4315
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 :	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/envxtxxq/IE_birds_reports_20191031-130157.xml&conv=612&source=remote

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 : Black-legged Kittiwake (*Rissa tridactyla*), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author : Hatch, S. A.; Robertson, G. J.; Baird, P. H.
Series : Cornell Lab of Ornithology, Ithaca, NY, USA

Year : 2020
Title : Herring Gull (*Larus argentatus*), 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 : 2021
Title : Definition of Favourable Conservation Status for Great Cormorant, *Phalacrocorax carbo*
Author : Newson, S.E.; Austin, G.
Series : Natural England, pp.25. ISBN: 978-1-78354-723-4

Year : 2022
Title : Chough *Pyrrhocorax pyrrhocorax* counts at a Waterford coastal roost
Author : McGrath, D.
Series : Irish Birds 44: 103-107

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 (*Phalacrocorax carbo*)
Author : JNCC
Series : <https://jncc.gov.uk/our-work/great-cormorant-phalacrocorax-carbo/>

Conservation Objectives for : Helvick Head to Ballyquin SPA [004192]

A017 Cormorant *Phalacrocorax carbo*

To restore the Favourable conservation condition of Cormorant in Helvick Head to Ballyquin 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	Helvick Head to Ballyquin SPA is situated on the south-west coast of Co. Waterford and is comprised of sea cliffs some of which are difficult to survey for breeding seabirds. In 1987, an estimated 80 pairs of Cormorant bred at this SPA (Lloyd et al., 1991). Similarly, 83 pairs were recorded in 1999 (Mitchell et al., 2004) and 73 pairs in 2018 (Burnell et al., 2023) an overall decline of 9% since 1987. Similarly, the national population of Cormorant has decreased by 8% in surveys between 1985 - 1988 and 2015 - 2021 (Burnell et al., 2023)
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. Trewby et al. (2007) reported that the average productivity on Lambay Island SPA was 1.05 (\pm 0.11 SE) chicks fledged per AON in 2007 (69 pairs across three subplots). Further monitoring and research work is required in order to identify a minimum productivity rate for this species at this site and at the national level. In addition to the nominate Atlantic subspecies <i>P. c. carbo</i> which breeds in Ireland, the United Kingdom also holds the continental race <i>P. c. sinensis</i> , largely breeding at inland sites in England, and differences in productivity rates and overall population trends between these two subspecies 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)
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). Historically, Cormorant have been subjected to widespread persecution in Britain and Ireland due to their large size and piscivorous diet (Burnell et al., 2023), this may have influenced the breeding distribution of this species in certain areas. Historically, Cormorant in this SPA have been recorded breeding at Seaview to Ballycurreen, Ballynamona, Mine Head, Helvick Head and Crobally to Paulsworth

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	Cormorant diet consists predominantly of small benthic and pelagic fish captured by pursuit diving, typically over shallow (<10m) freshwater, estuarine, and marine environments (Grémillet et al., 1998; Hatch et al., 2020). Based on analysis of 255 diet samples from five sites across Ireland, Tierney et al. (2011) noted Ballan Wrasse <i>Labrus bergylta</i> to be the most important forage species in terms of frequency, followed by Perch <i>Perca fluviatilis</i> and Roach <i>Rutilus rutilus</i> with less frequent records of salmonids and European Eel <i>Anguilla anguilla</i> . Across all sites, 61% of the identifiable prey items were marine species. Woodward et al. (2019) reviewed the foraging ranges of seabird species and provide 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 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. Exposure to recreational activities, such as kayaking, may disrupt breeding birds
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	Cormorant can make extensive use of the 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, this 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, such as kayaking, may disrupt breeding birds
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	Breeding Cormorant may require regular and efficient access to 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) provide 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)

Conservation Objectives for : Helvick Head to Ballyquin SPA [004192]

A103 Peregrine *Falco peregrinus*

To restore the Favourable conservation condition of Peregrine in Helvick Head to Ballyquin 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	Peregrine may breed in their first year, but typically wait until two years old or later (Ratcliffe, 1993). Annual occupancy of available territories can vary. The breeding component of the population for the site is defined here as the total number of occupied territories, based on standard definitions (Hardey et al., 2009). The national population is considered stable (EEA, 2019), but the SPA population has declined. The 1991 national survey recorded 6 occupied territories in the SPA, and the 2002 national survey reported 5 (NPWS internal files). The 2017 national survey, meanwhile, found only one occupied territory in the SPA, and 5 previously occupied sites were vacant (NPWS internal files). Coastal Co. Waterford held 8 Peregrine breeding sites in 1900 (Ussher and Warren, 1900), 11 occupied territories in 1981 (Norriss and Wilson, 1983), 23 occupied territories in 1991 (Norriss, 1995), and 8 occupied territories in 2017 (NPWS internal files)
Productivity rate	Number of fledged young per territorial pair	Sufficient to maintain the population size target	National/partial surveys (1981; 1993; 2002; 2017) have given estimates of productivity and breeding success for Peregrine (Norriss and Wilson, 1983; Norriss, 1995; Madden et al., 2009; NPWS internal files). Cold, wet springs can delay/halt breeding (Norriss and Wilson, 1983; Horne and Fielding, 2002) and affect productivity (Burke et al., 2015). In 1981, 73% of Peregrine pairs on the Waterford coast bred successfully (Norriss and Wilson, 1983). In the 1981 - 1986 period, the productivity rate on the Waterford coast was 0.95, with 43% breeding success (McGrath, 2002). In 1991, only 26% of pairs on the Waterford coast bred successfully (Norriss, 1995). Only 1 fledgling was recorded in the SPA in 2017. A lack of comprehensive published annual data precludes the identification of a minimum productivity rate for this species at this site and at the national level
Distribution: extent of occupied territories within site	Number and distribution of occupied territories across site	Sufficient availability of suitable nesting sites throughout the SPA to maintain the population	Distribution captures the number of occupied territories and areas of suitable nesting habitat available to be used by the population. Peregrine defend nesting territories, with mean nearest-neighbour distances between pairs in districts of Britain ranging from 2.1 - 9km (Ratcliffe, 1993). The mean nearest-neighbour distance between pairs on the Dingle, Iveragh, and Waterford coasts in 1981 was 4.8km (Norriss and Wilson, 1983). Optimal resilience depends on pairs utilising the SPA to the maximum extent possible. Uptake by breeding pairs varies annually, but the spatio-temporal patterns of use of the site by Peregrine should be maintained. Safe, suitable ledges, typically 50cm by 50cm (Ratcliffe, 1993) or crags along coastal cliffs should be available for nesting and levels of disturbance should not limit occupancy of known sites. Peregrine will re-use breeding ledges and in Britain they are also known to nest on the ground on heathery slopes or on steep sand banks (Hardey et al., 2009)

Forage spatial distribution, extent, abundance, and availability	Location, hectares, and forage biomass	Sufficient number of locations, area of suitable habitat, and available prey biomass (i.e. small- to medium-sized birds, mammals) to support the population target	Open landscapes with plentiful supplies of small- to medium-sized birds provide suitable foraging habitat. Peregrine have a generalist diet, feeding largely on birds caught in flight, and require sufficient prey populations of small- to medium-sized birds, though other prey items including small mammals are also taken. Ratcliffe (1993) noted pigeons, grouse, waders (including Snipe, <i>Gallinago gallinago</i>) and passerines occurred in over 80% of diets at 14 study areas across Britain, though the numbers of territories on which these reported figures are based were not provided. At coastal sites in Scotland, auks, petrels, Fulmar (<i>Fulmarus glacialis</i>), Black-headed Gull (<i>Chroicocephalus ridibundus</i>) and Oystercatcher (<i>Haematopus ostralegus</i>) are also taken (Ratcliffe, 1993). Most prey items are caught within 2km of an eyrie, rarely beyond 6km, and hunting areas of neighbouring pairs can overlap (Hardey et al., 2009)
Disturbance to breeding sites	Intensity, timing, frequency, and duration	Disturbance occurs at levels that do not significantly impact upon the breeding population	Factors such as intensity, frequency, timing, location 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, productivity rate and number and distribution of occupied territories. Pairs in remote locations may be more sensitive to disturbance. Activities above a nest are more likely to cause disturbance than those below. Safe viewing distances of nest sites are defined by Ruddock and Whitfield (2007). Disturbance and persecution of breeding Peregrine on the Waterford coast has been an issue for decades. McGrath (1987) noted that all eyries studied in south-east Ireland were subject to some degree of casual disturbance, likely causing some breeding attempts to fail. McGrath (2002) surmised that persecution has constrained the breeding population in south-east Ireland, and surveys in 2002 and 2017 found that nests in this SPA had been deliberately interfered with

Conservation Objectives for : Helvick Head to Ballyquin SPA [004192]

A184 Herring Gull *Larus argentatus*

To restore the Favourable conservation condition of Herring Gull in Helvick Head to Ballyquin 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	Ussher and Warren (1900) state that Herring Gull was the main breeding gull species on the Co. Waterford coast at that time. Combining survey estimates from different count sections from 1985 and 1987 leads to an overall estimate of approximately 325 pairs (NPWS internal files). An estimated 125 pairs were recorded breeding at this site in 1999 (Mitchell et al., 2004) indicating a decline. However, the population was estimated to be 228 pairs in 2018, an increase of 82% compared to the 1999 estimate but a decline of 30% from the mid-1980s (Burnell et al., 2023)
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. Cook and Robinson (2010) undertook Population Viability Analyses (PVA) of a selection of breeding populations in the UK. Over their study period, Herring Gull productivity at monitored nests was 0.75. Were this level to be maintained, Herring Gull populations would 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. A lack of comprehensive Irish data precludes the identification of a minimum productivity rate for this species at the site and at the national level
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). Herring Gull nesting areas are widespread throughout the SPA and have been recorded breeding in most subsites within the SPA since the Seabirds Colony Register (1985 - 1988)
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	Herring Gull is a generalist and opportunistic feeder and can forage over both terrestrial and aquatic habitats. 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. Woodward et al. (2019) provide 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)

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. Exposure to recreational activities, such as kayaking, may disrupt breeding birds
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). Exposure to water-based recreational activities may disrupt breeding birds conducting maintenance behaviours associated with the main breeding area of the SPA
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	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) provide 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)

Conservation Objectives for : Helvick Head to Ballyquin SPA [004192]

A188

Kittiwake *Rissa tridactyla*

To restore the Favourable conservation condition of Kittiwake in Helvick Head to Ballyquin 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	Ussher and Warren (1900) state that Co. Waterford had no significant Kittiwake colonies while Kennedy et al. (1954) and Ruttledge (1966) only mention Dunmore East as a breeding colony in the county. However, a significant Kittiwake colony was established at Helvick Head at some point in the past, with an estimated 1,483 pairs recorded in 1987 (Lloyd et al., 1991). The population estimate in 1999 for Helvick Head was lower, with 934 pairs. This combined with an additional 103 pairs at Ballymona brought the overall SPA total to 1,037 pairs (Mitchell et al., 2004). Based on a 2018 survey the SPA has experienced an acute decline with only 65 pairs recorded, which were restricted to Helvick Head. This equates to a decline of 96% since 1987 (Burnell et al., 2023). The national population has seen a decrease of 36% between 1999 - 2002 and 2015 - 2021 (Burnell et al., 2023)
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. Trewby et al. (2007) reported that the average productivity rate from Lambay Island SPA was 0.65 (\pm 0.07 SE) chicks fledged per AON in 2007 (316 pairs across three subplots). Further monitoring and research work is required in order to identify a minimum productivity rate for this species at this site and at the national level. Coulson (2017) established, based on data from UK Kittiwake colonies during the period 1985 - 2015, that 0.8 fledglings per pair were needed to maintain the size of these colonies. Coulson (2017) also noted that this level of productivity is not a fixed value and changes if the adult mortality rate changes
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 Kittiwake. Typically, this species is a cliff-nester on ledges of offshore islands, sea stacks, or inaccessible areas of coastal mainland (Hatch et al., 2020). Nesting Kittiwake are now entirely located at Helvick Head in this SPA
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	Kittiwake is a surface feeding seabird and primarily piscivorous (e.g. sandeels, herring, gadoids), with some invertebrates (e.g. euphausiids, amphipods) in the diet also recorded (Hatch et al., 2020). Woodward et al. (2019) provide estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Kittiwake foraging ranges from the nest site during the breeding season, which are 55km, 156km, and 770km 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. Exposure to recreational activities, such as kayaking, may disrupt breeding birds
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). Exposure to recreational activities, such as kayaking, may disrupt breeding birds
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	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) provide estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Kittiwake foraging ranges from the nest site during the breeding season, which are 55km, 156km, and 770km respectively (see Power et al., 2021)

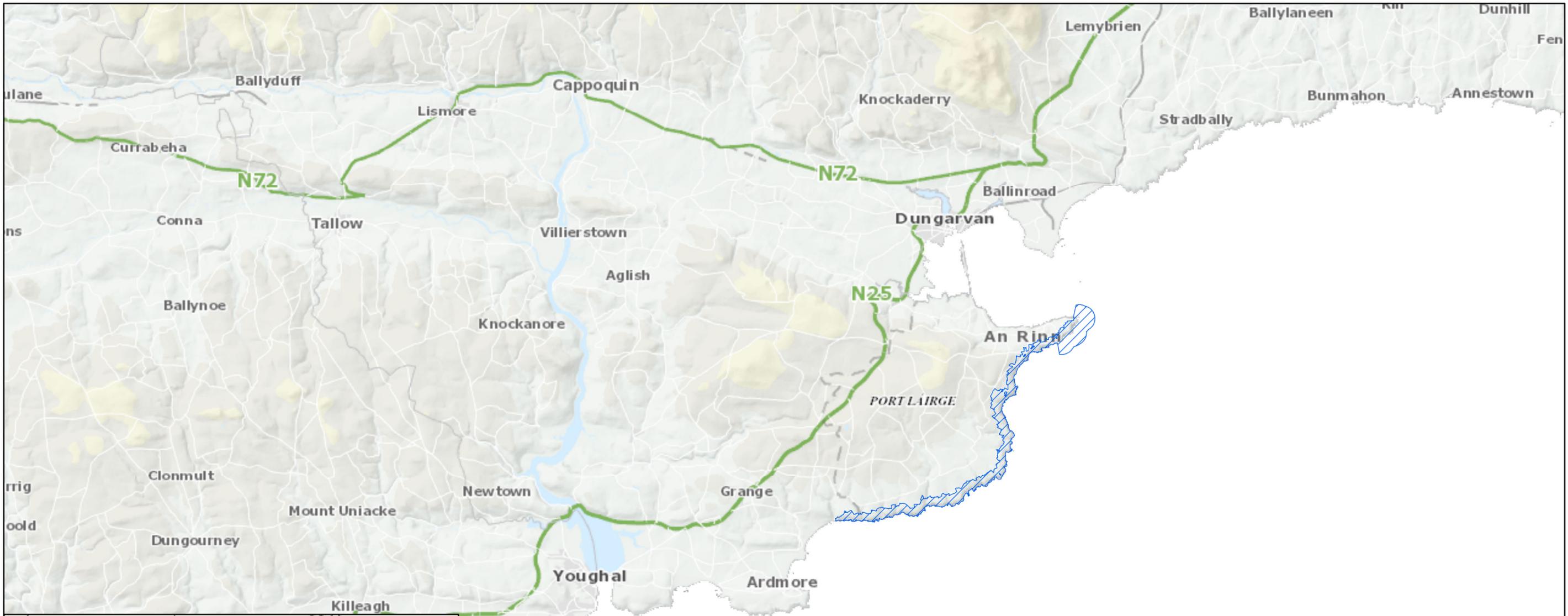
Conservation Objectives for : Helvick Head to Ballyquin SPA [004192]

A346 Chough *Pyrrhocorax pyrrhocorax*

To restore the Favourable conservation condition of Chough in Helvick Head to Ballyquin SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population size	Numbers of breeding pairs	Breeding population is increasing	A review of 1992 and 2002/03 national survey data, including count units and survey methods applied, was undertaken (NPWS internal files). The range of population estimates for the SPA are set out using 'confirmed and probable' breeding pairs only and 'all breeding pair' categories for each national survey since 1992, with 3 - 11 in 1992; 7 - 14 in 2002/03 and 3 - 7 in 2021. Applying stricter 2021 survey criteria (Hayhow et al., 2018; Colhoun et al., 2024) retrospectively to 1992 and 2002/03 records, which exclude records with no breeding evidence (NBE) as per Colhoun et al. (2024), updates these original estimates to 2 - 9 (1992), 7 - 12 pairs (2002/03), and 3 - 7 pairs (2021)
Population trend	Percentage change	Population trend stable or increasing	The breeding component of the population, as opposed to non-breeding flock birds, is considered a more reliable metric to reflect population change (Trewby et al., 2006). Using available data from the 1992 (Berrow et al., 1993), 2002/03 (Gray et al., 2003) and 2021 (Colhoun et al., 2024) national surveys, the population trend for the site is declining in the short term (i.e. 2002/03 - 2021) and more broadly stable in the longer term (1992 - 2021) based on assessments of change in the numbers of known 'confirmed' and 'probable' pair records only; and including all 'possible' breeding pair records for the site, applying 2021 criteria (Colhoun et al., 2024). For the county, the population is at least stable, with pair totals of 21 - 26 in 1963 (Cabot, 1965); 37 - 46 in 1983 (Bullock et al., 1983); 18 - 49 in 1992 (Berrow et al., 1993); 11 - 49 in 2002/03 (Gray et al., 2003); and 18 - 47 (excluding NBEs) in 2021 (Colhoun et al., 2024)
Productivity rate	Number of fledged young per confirmed pair	Sufficient to maintain population size target	Most of the population nest along coastal cliffs or in sea caves. In most instances, due to the inaccessible nature of nesting locations, estimates of breeding productivity and success are based on numbers of fledged young seen with adults post-fledging, unless records are for man-made/artificial sites e.g. cattle sheds, old buildings and castles etc. Some studies have provided estimates of productivity and/or success, (e.g. Berrow et al., 1993; Gray et al., 2003; Boylan, 2011; Trewby et al., 2006), and for Co. Waterford, a figure of 1.79 fledglings per successful pair was estimated by Trewby et al. (2010), using data from 14 breeding pairs. However, this estimate is based on one year's data, and may not be sufficiently representative for the SPA, and wider. Overall, there is a lack of robust representative Irish data to determine a more quantitative target for breeding productivity

Foraging habitat: quality and quantity	Hectares (ha)	Maintain sufficient quality and quantity of coastal grassland and other relevant habitats to support the population targets	Studies in Ireland (e.g. Trewby et al., 2006), Wales (e.g. Whitehead et al., 2005) and elsewhere (e.g. Kerbiriou et al., 2006) have shown that breeding Chough spend most of their time foraging near nest sites (April - June inclusive). Coastal pairs tend to commute along the coast from breeding sites, rather than inland (Trewby et al., 2006). Proximity of suitably-sized feeding areas to nest sites is likely to positively support breeding success (Kerbiriou et al., 2006). Monthly transects in this SPA had 82% of ground observations within 300m of mean high water (Trewby et al., 2010). Grazed habitats with short swards of <5cm are typically preferred and areas of bare ground, where soils are easier to probe e.g. paths, along with earth banks and stone banks. Maritime vegetation on cliffs, especially in spring, is also favoured. Thus, sufficient foraging habitat within 350m of the coastline, where Chough are known to breed, is essential to support breeding pairs
Food availability: prey biomass	Quantity per unit area	Maintain adequate levels of prey biomass (including preferred invertebrate prey items such as leatherjackets, dung beetles etc.)	Chough feed largely on invertebrates (e.g. ants, spiders, worms, insect larvae such as crane fly larvae, leatherjackets and dung beetles), at or near the soil surface where prey items are more accessible. In warmer weather, Chough can be seen picking off active surface insects, e.g. spiders, including from heather plants (Trewby et al., 2010). The dosing of livestock with veterinary parasiticide treatments (including anthelmintics) has knock-on consequences with respect to invertebrate density in grasslands on which Chough depend (Gilbert et al., 2019)
Distribution of roosting sites	Spatial distribution	The distribution of preferred roosts is maintained	Post-breeding, Chough are highly social, forming mobile flocks that can travel several kilometres to feed (McGrath, 2022). Family groups form 'nursery' flocks in July, returning to nest sites to roost, but by summer's end, these flocks begin to converge pre-dusk, along with non-breeding sub-adults, at communal nocturnal roost sites, leaving post-dawn (Trewby et al., 2010; Blanco et al., 1993). Roosts tend to be close to good foraging habitat (e.g. grazed dune systems); and peak attendance is usually in late summer/early autumn, post-breeding. Mine Head, with highest recorded counts of c.29 Chough post-breeding season, is a notable communal roost site for the SPA, though attendance did drop in the autumn of 2008 as birds dispersed further west to the Ardmore to Whiting Bay section of coast (Trewby et al., 2010)
Disturbance	Intensity, timing, frequency and duration	Disturbance occurs at levels that do not significantly impact upon Chough in the SPA	Factors such as intensity, frequency, timing, duration of a (direct or indirect) disturbance source and location (e.g. if access to preferred food sources is restricted), must be taken into account to determine the potential impact upon the targets for population size, population trend, productivity rate and distribution of roosting sites. Further, site fidelity (e.g. pairs to nest sites while breeding, or flocks to roost sites at other times), weather (e.g. prolonged cold spells) and predation/competition should also be factored in. Coastal breeding pairs spend up to 80% of their time within 350m of the nest site (Trewby et al., 2006). For this SPA, 82% of all foraging observations were within 300m of mean high water (Trewby et al., 2010). Impacts are likely to be highest near nest sites (e.g. on coastal cliffs where available foraging habitats are more limited in total area) and at roost sites



Legend

 Helvick Head to Ballyquin SPA 004192



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**MAP 1:
HELVICK HEAD TO BALLYQUIN SPA
CONSERVATION OBJECTIVES
SPA DESIGNATION**

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

**SITE CODE:
SPA 004192; version 3
CO. WATERFORD**

0 1.25 2.5 5 Kilometres

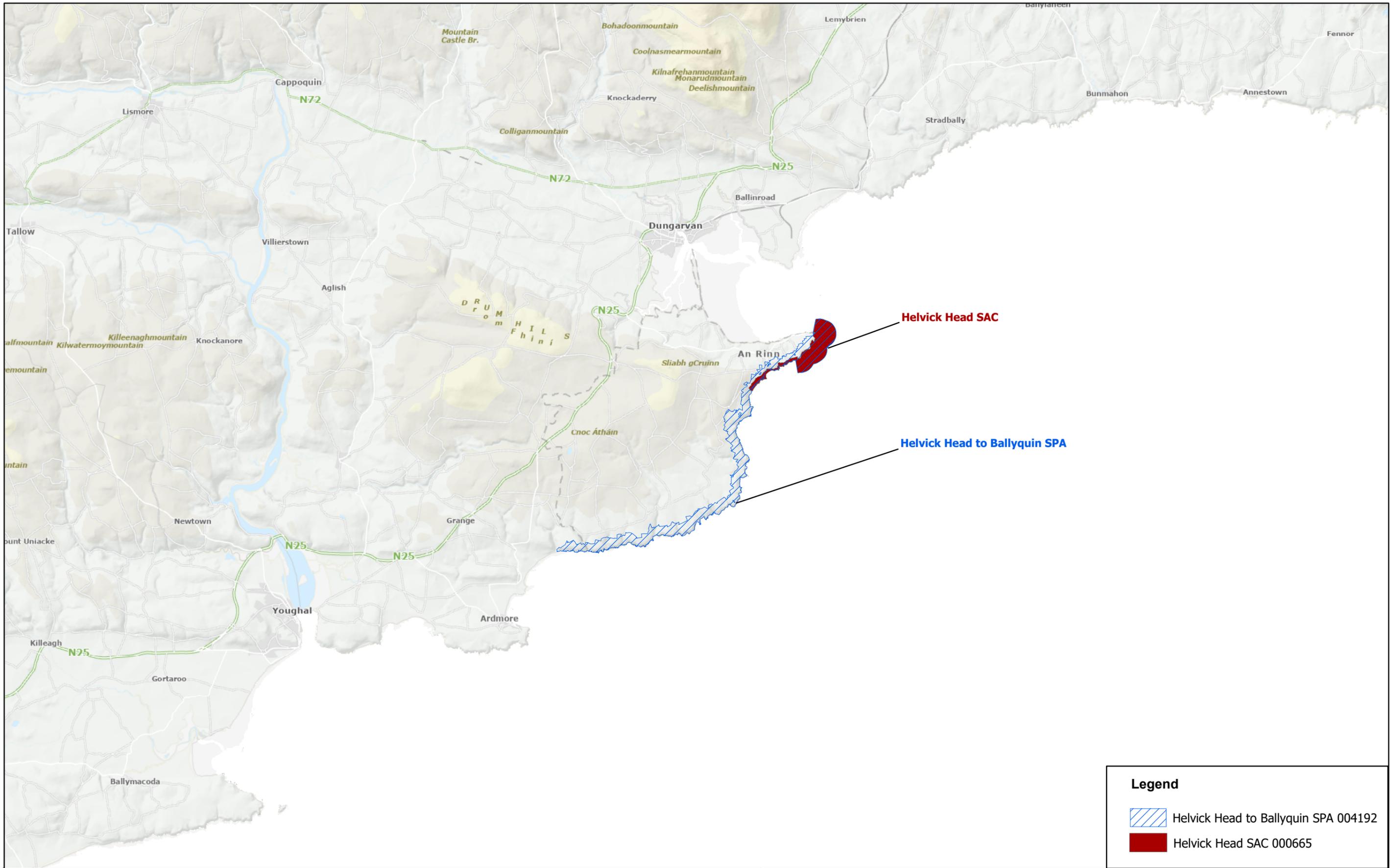


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**Map version 1
Date: August 2024**



Legend

-  Helvick Head to Ballyquin SPA 004192
-  Helvick Head SAC 000665



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**MAP 2:
 HELVICK HEAD TO BALLYQUIN SPA
 CONSERVATION OBJECTIVES
 OVERLAPPING AND ADJACENT SITES**

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

**SITE CODE:
 SPA 004192; version 3
 CO. WATERFORD**

0 1.25 2.5 5 Kilometres



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**Map version 1
 Date: August 2024**