

# National Parks and Wildlife Service

## *Conservation Objectives Series*

Sligo/Leitrim Uplands SPA 004187



**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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004187	Sligo/Leitrim Uplands SPA
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A103	Peregrine <i>Falco peregrinus</i>
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A346	Chough <i>Pyrrhocorax pyrrhocorax</i>
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**Please note that this SPA overlaps with Ben Bulbin, Gleniff and Glenade Complex SAC (000623) and Arroo Mountain SAC (001403), and is adjacent to Glenade Lough SAC (001919). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping and adjoining site(s) as appropriate.**

## Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: [www.npws.ie/Publications](http://www.npws.ie/Publications)

### NPWS Documents

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.; Mugan, N.; O'Keeffe, D.; Newton, S.
Series :	Unpublished BirdWatch Ireland Report to National Parks & Wildlife Service, Kilcoole, Wicklow
Year :	2010
Title :	The seasonal distribution and foraging behaviour of Red-billed Choughs <i>Pyrrhocorax pyrrhocorax</i> in Counties Sligo and Leitrim, February 2009 to January 2010
Author :	Trewby, M.; Carroll, D.; Farrell, F.; Gaj-McKeever, R.; Mugan, N.; Newton, S.
Series :	Unpublished BirdWatch Ireland Report to National Parks & Wildlife Service, Kilcoole, Wicklow
Year :	2024
Title :	Status and distribution of Chough in Ireland: results of the 2021 survey
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 :	1965
Title :	The status of the Chough in Ireland
Author :	Cabot, D.
Series :	Irish Naturalists' Journal 15: 95-100
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 <i>Falco peregrinus</i> breeding population in the Republic of Ireland in 1981
Author :	Norriss, D.W.; Wilson, H.J.
Series :	Bird Study, 30:2, 91-101
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

<b>Year :</b>	1993
<b>Title :</b>	Seasonal variations in numbers and levels of activity in a communal roost of Choughs <i>Pyrrhocorax pyrrhocorax</i> in central Spain
<b>Author :</b>	Blanco, G.; Fargallo, J.A.; Cuevas, J.A.
<b>Series :</b>	Avocetta, 17: 41-44
<b>Year :</b>	1995
<b>Title :</b>	The 1991 survey and weather impacts on the Peregrine <i>Falco peregrinus</i> breeding population in the Republic of Ireland
<b>Author :</b>	Norriess, D.W.
<b>Series :</b>	Bird Study, 42:1, 20-30
<b>Year :</b>	2002
<b>Title :</b>	Recovery of the Peregrine Falcon <i>Falco peregrinus</i> in Cumbria, UK, 1966–99
<b>Author :</b>	Horne, G; Fielding, A.H.
<b>Series :</b>	Bird Study, 49:3, 229-236
<b>Year :</b>	2003
<b>Title :</b>	The status and distribution of choughs <i>Pyrrhocorax pyrrhocorax</i> in the Republic of Ireland 2002/03
<b>Author :</b>	Gray, N.; Thomas, G.; Trewby, M.; Newton, S.F.
<b>Series :</b>	Irish Birds, 7, 147-156
<b>Year :</b>	2005
<b>Title :</b>	Choughs <i>Pyrrhocorax pyrrhocorax</i> breeding in Wales select foraging habitat at different spatial scales
<b>Author :</b>	Whitehead, S.; Johnstone, I.; Wilson, J.
<b>Series :</b>	Bird Study, 52:2, 193-203
<b>Year :</b>	2006
<b>Title :</b>	The breeding season foraging behaviour of choughs <i>Pyrrhocorax pyrrhocorax</i> in three Irish chough important bird areas
<b>Author :</b>	Trewby, M., Gray, N., Cummins, S., Thomas, G. & Newton, S.
<b>Series :</b>	Unpublished BirdWatch Ireland Report, Kilcoole, Wicklow
<b>Year :</b>	2006
<b>Title :</b>	Linking territory quality and reproductive success in the chough ( <i>Pyrrhocorax pyrrhocorax</i> ): implications for conservation management of an endangered population
<b>Author :</b>	Kerbiriou, C.; Gourmelon, F.; Jiguet, F.; Le Viol, I.; Frédéric Bioret, F.; Julliard, R.
<b>Series :</b>	Ibis, 148 (2), pp.352-364
<b>Year :</b>	2007
<b>Title :</b>	A review of disturbance distances in selected bird species
<b>Author :</b>	Ruddock, M.; Whitfield, D.P.
<b>Series :</b>	A report from Natural Research (Projects) Ltd to Scottish Natural Heritage
<b>Year :</b>	2009
<b>Title :</b>	Raptors: a field guide to survey and monitoring (2nd Edition)
<b>Author :</b>	Hardey, J.; Crick, H.; Wernham, C.; Riley, H.; Etheridge, B.; Thompson, D.
<b>Series :</b>	The Stationery Office, Edinburgh
<b>Year :</b>	2009
<b>Title :</b>	The 2002 survey of the Peregrine <i>Falco peregrinus</i> breeding population in the Republic of Ireland
<b>Author :</b>	Madden, B.; Hunt, J.; Norriess, D.
<b>Series :</b>	Irish Birds 8: 543-548

<b>Year :</b>	2011
<b>Title :</b>	Aspects of the feeding ecology and breeding biology of the red-billed chough ( <i>Pyrrhocorax pyrrhocorax</i> ) in Ireland
<b>Author :</b>	Boylan, M.
<b>Series :</b>	PhD Thesis, National University of Ireland, Cork.
<b>Year :</b>	2015
<b>Title :</b>	Population status and factors affecting the productivity of Peregrine Falcon <i>Falco peregrinus</i> in Co. Wicklow, Ireland, 2008-2012
<b>Author :</b>	Burke, B.J.; Clarke, D.; Fitzpatrick, A.; Carnus, T.; McMahon, B.J.
<b>Series :</b>	Biology and Environment: Proceedings of the Royal Irish Academy, Vol 115, No. 2, 115-124
<b>Year :</b>	2018
<b>Title :</b>	Breeding status of red-billed choughs <i>Pyrrhocorax pyrrhocorax</i> in the UK and Isle of Man in 2014
<b>Author :</b>	Hayhow, D.B.; Johnstone, I.; Moore, A.S.; Mucklow, C.; Stratford, A.; Šúr, M.; Eaton, M.A.
<b>Series :</b>	Bird Study, 65(4), 458-470
<b>Year :</b>	2019
<b>Title :</b>	Adverse effects of routine bovine health treatments containing triclabendazole and synthetic pyrethroids on the abundance of dipteran larvae in bovine faeces
<b>Author :</b>	Gilbert, G.; MacGillivray, F.S.; Robertson, H.L.; Jonsson, N.N.
<b>Series :</b>	Nature Scientific Reports 9, 4315
<b>Year :</b>	2019
<b>Title :</b>	Report under Article 12 of the Birds Directive Period 2013-2018
<b>Author :</b>	EEA
<b>Series :</b>	European Environment Agency. European Topic Centre on Biological Diversity. Pp 1-9. <a href="https://cdr.eionet.europa.eu/Converters/run_conversion?file=ie/eu/art12/envxztxxq/IE_birds_reports_20191031-130157.xml&amp;conv=612&amp;source=remote">https://cdr.eionet.europa.eu/Converters/run_conversion?file=ie/eu/art12/envxztxxq/IE_birds_reports_20191031-130157.xml&amp;conv=612&amp;source=remote</a>
<b>Year :</b>	2022
<b>Title :</b>	Chough <i>Pyrrhocorax pyrrhocorax</i> counts at a Waterford coastal roost
<b>Author :</b>	McGrath, D.
<b>Series :</b>	Irish Birds 44: 103-107

## Conservation Objectives for : Sligo/Leitrim Uplands SPA [004187]

### A103 Peregrine *Falco peregrinus*

**To maintain the Favourable conservation condition of Peregrine in Sligo/Leitrim Uplands 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 stable or 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' and based on standard definitions (Hardey et al., 2009). The national population is considered stable (EEA, 2019), and the population in this SPA also appears to be stable, as the two most recent national surveys (in 2002 and 2017) both found 4 occupied territories in the SPA (Madden et al. 2009; NPWS internal files). Older sources indicate the long history of breeding Peregrine in the mountains of Sligo and Leitrim (Ussher and Warren, 1900)
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 (e.g. Norriss and Wilson, 1983; Norriss, 1995; Madden et al., 2009; NPWS internal files). Cold wet springs can delay/halt breeding (e.g. Norriss and Wilson, 1983; Horne and Fielding, 2002) and affect productivity (Burke et al., 2015). In the SPA, 1 successful breeding attempt was noted in 2002, 3 in 2017, but no data were provided on the number of young fledged. A lack of comprehensive published annual data precludes the identification of a minimum productivity rate for the species at this site and at the national level
Distribution: extent of occupied territories within site	Numbers 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 for the population and its availability for use. Peregrine defend nesting territories, with mean nearest-neighbour distances in districts of Britain ranging from 2.1km to 9km (Ratcliffe, 1993). The mean nearest-neighbour distance between pairs in Co. Wicklow (2008 - 12) was 5.7km (Burke et al., 2015). 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, can nest on the ground in 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-medium sized birds, mammals) to support the population target	Open landscapes with plentiful supplies of small to medium-sized birds provide suitable foraging habitat. The SPA includes a variety of open landscapes, such as heath, blanket bog, and grassland. 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. Most prey 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, 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 occupied territories. Pairs in remote locations may be more sensitive to disturbance. Activities above a nest are more likely to cause disturbance than below, and individual pair responses to disturbance may also vary. Safe viewing distances of nest sites are defined by Ruddock and Whitfield (2007). It was noted in the 2017 survey that one of the nesting sites in this SPA is near a busy road in a tourist attraction, and that another is above an active quarry
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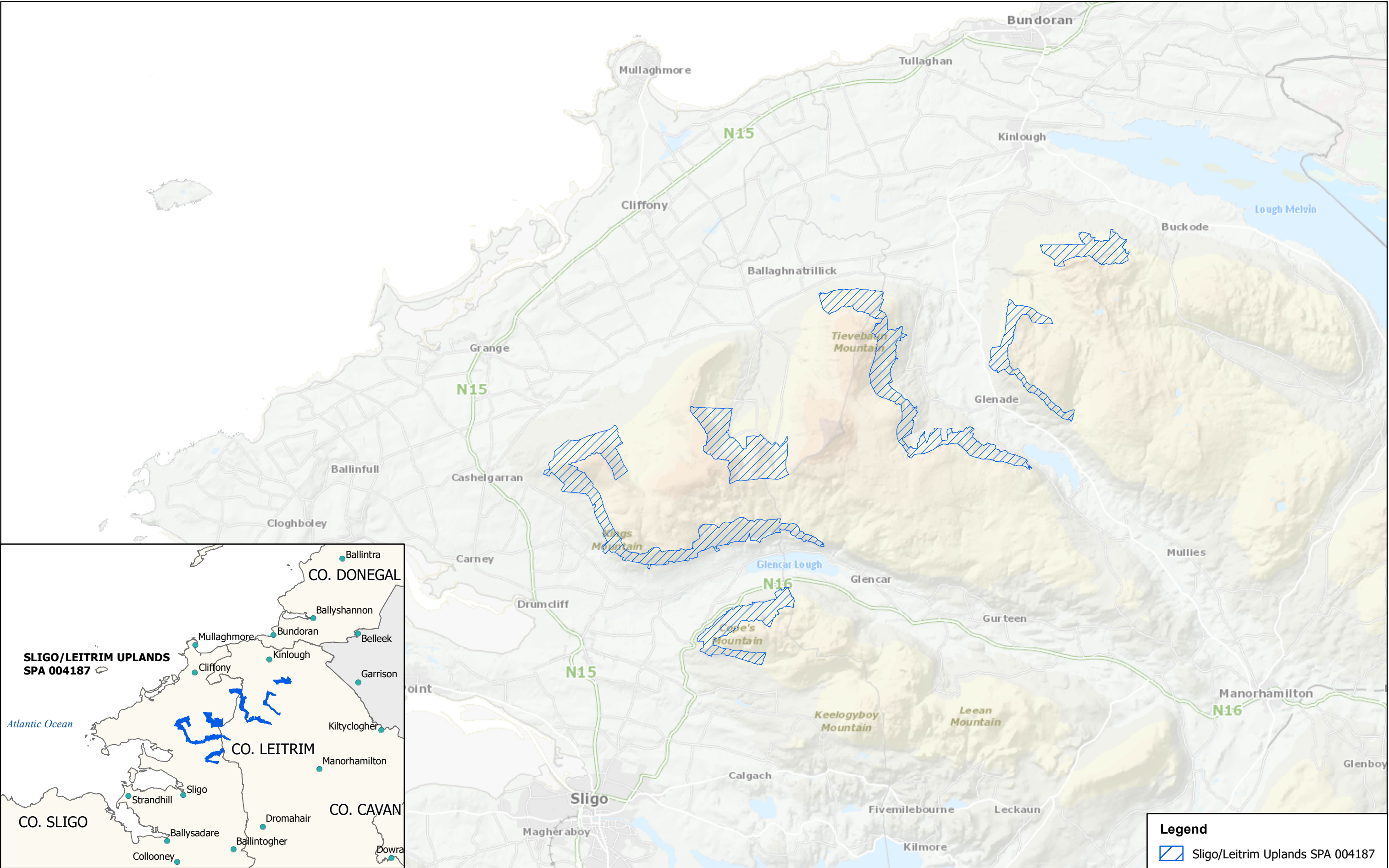
**Conservation Objectives for : Sligo/Leitrim Uplands SPA [004187]****A346 Chough *Pyrrhocorax pyrrhocorax***

**To restore the Favourable conservation condition of Chough in Sligo/Leitrim Uplands SPA, which is defined by the following list of attributes and targets:**


Attribute	Measure	Target	Notes
Population size	Number 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 8 - 14 in 1992; 10 - 15 in 2002/03 and 1 - 4 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 6 - 14 (1992), 10 - 13 pairs (2002/03), and 1 - 4 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 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 Co. Sligo, the population is decreasing, with pair totals of 15 in 1963 (Cabot, 1965); 5 - 6 in 1983 (Bullock et al., 1983); 14 for Co. Sligo respectively, and 4 for Co. Leitrim in 1992 (Berrow et al., 1993); 12 for Co. Sligo and 6 for Co. Leitrim in 2002/03 (Gray et al., 2003); and 5 for Co. Sligo and 3 for Co. Leitrim 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, but for this SPA inland mountainous cliffs are used e.g. King's Mountain (Trewby et al., 2010). 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 counties Sligo and Leitrim a figure of 2.0 fledglings per successful pair was estimated by Trewby et al. (2010), using data from 4 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 of Chough at the level of breeding pairs referred to in the attribute above	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). For this SPA, 78% of individuals were recorded within upland commonage areas (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
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 surface active 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, like grazed dune systems, with peak attendance in late summer/early autumn, post-breeding. In this SPA, a communal roost was identified at King's Mountain (Slievemore) (Trewby et al., 2010). Communal roosts outside the SPA were recorded on the cliffs at the western neck of Mullaghmore Headland (Pollayarry/Classie Bawn cliffs) (Trewby et al., 2010). Birds have been known to roost and forage on the slopes of Knocknarea and have been tracked to the King's Mountain roost (Trewby et al., 2010) suggesting an alteration in seasonal movement between years
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. This fragmented non-coastal SPA has breeding cliffs along upland plateaux, with 68% of observations of Chough in unimproved grassland for Sligo-Leitrim, occurring within the SPA; 54% of Chough numbers were beyond the SPA, with half of those records within 1km of the SPA (Trewby et al., 2010). Impacts are likely to be highest near nest sites (e.g. on breeding cliffs where available foraging habitats are more limited in total area) and at roost sites





**Legend**

 Sligo/Leitrim Uplands SPA 004187



