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National Parks and Wildlife Service

Conservation Objectives Series

Inishduff SPA 004115



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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

004115 Inishduff SPA

A018 Shag Phalacrocorax aristotelis

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 :	2021		
	2021		
Title :	Estimated foraging ranges of the breeding seabirds of Ireland's marine special protected area network		
Title : Author :	Estimated foraging ranges of the breeding seabirds of Ireland's marine special protected area network Power, A.; McDonnell, P.; Tierney, T.D.		

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 :	1991		
Title :	The status of seabirds in Britain and Ireland		
Author :	Lloyd, C.; Tasker, M.L.; Partridge, K.		
Series :	Poyser Monographs Volume: 50		
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 :	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 :	2021		
Title :	European Shag (Gulosus aristotelis), 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 :	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 :	European Shag (Phalacrocorax aristotelis)		
Author :	JNCC		
Series :	https://jncc.gov.uk/our-work/european-shag-phalacrocorax-aristotelis/		

Conservation Objectives for : Inishduff SPA [004115]

A018 Shag *Phalacrocorax aristotelis*

To restore the Favourable conservation condition of Shag in Inishduff 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) noted that Co. Donegal was an important area in Ireland for breeding Shag. In 1985 the population of breeding Shag in this SPA was 116 pairs, the peak count for this site (Lloyd et al., 1991). The site was not surveyed again until 2013 when 45 pairs were recorded, a decline of 61% since 1985 (NPWS internal files). The population recovered somewhat to 81 pairs in 2016 (Burnell et al., 2023). However, the population declined further to 17 and 30 pairs in 2022 and 2023 respectively (NPWS internal files) representing the two lowest counts of breeding Shag for this SPA, an overall decline of 74% since 1985. In contrast the national population has been broadly stable between 1985 - 1988 and 2015 - 2021 with the population increasing by 2% (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 from Lambay Island SPA was $1.69 (\pm 0.08 \text{ SE})$ chicks fledged per AON in 2007 (135 pairs across five 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. Shag productivity in Scotland has averaged 1.28 chicks fledged per pair between 1986 and 2019 (JNCC, 2024). In this time period the Scottish population of Shag has decreased 47% (Burnell et al., 2023). However, the cause of decline may not be related to productivity rate but rather due to significant losses of that adult population during "wrecks" in some winters during this time period (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 Shag. Typically this species breeds on sea cliffs, rocks and stacks (Orta et al., 2021). There are multiple areas across this SPA that hold breeding Shag
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	The diet of Shag is almost exclusively fish, taken chiefly near the sea bed or at intermediate depths, and principally of the families Ammodytidae (sandeels), Gadidae, Clupeidae, Cottidae, and Labridae, but a wide range of other species can be taken, perhaps opportunistically (Orta et al., 2021). Based on several studies, Woodward et al. (2019) provide 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
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, 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 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)

