

National Parks and Wildlife Service

Conservation Objectives Series

Lough Corrib SPA 004042



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

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Citation:

**NPWS (2023) Conservation Objectives: Lough Corrib SPA 004042. Version 1.
National Parks and Wildlife Service, Department of Housing, Local Government
and Heritage.**

**Series Editors: Rebecca Jeffrey and Colin Heaslip
ISSN 2009-4086**

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

004042	Lough Corrib SPA
A051	Gadwall <i>Anas strepera</i>
A056	Shoveler <i>Anas clypeata</i>
A059	Pochard <i>Aythya ferina</i>
A061	Tufted Duck <i>Aythya fuligula</i>
A065	Common Scoter <i>Melanitta nigra</i>
A082	Hen Harrier <i>Circus cyaneus</i>
A125	Coot <i>Fulica atra</i>
A140	Golden Plover <i>Pluvialis apricaria</i>
A179	Black-headed Gull <i>Chroicocephalus ridibundus</i>
A182	Common Gull <i>Larus canus</i>
A193	Common Tern <i>Sterna hirundo</i>
A194	Arctic Tern <i>Sterna paradisaea</i>
A395	Greenland White-fronted Goose <i>Anser albifrons flavirostris</i>
A999	Wetlands

Please note that this SPA overlaps with Lough Corrib SAC (000297) and is adjacent to Maumturk Mountains SAC (002008). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping 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 :	2012
Title :	The breeding status of common scoter <i>Melanitta nigra</i> in Ireland, 2012
Author :	Hunt, J.; Heffernan, M.L.; McLoughlin, D.; Benson, C.; Huxley, C.
Series :	Irish Wildlife Manual No. 66
Year :	2013
Title :	A review of the SPA network of sites in the Republic of Ireland
Author :	NPWS
Series :	Unpublished 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 :	2022
Title :	The status of breeding common scoter in Ireland, 2020
Author :	Heffernan M.L.; Hunt, J.
Series :	Irish Wildlife Manuals No. 136
Year :	2022
Title :	Conservation objectives supporting document: breeding hen harrier
Author :	NPWS
Series :	Conservation objectives supporting document

Other References

Year :	1983
Title :	The breeding waterbirds of Lough Corrib
Author :	Whilde, A.
Series :	Unpublished report to the British Ecological Society
Year :	1984
Title :	The 1984 all Ireland tern survey
Author :	Whilde, A.
Series :	Irish Birds 3: 1-32
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 :	1995
Title :	The status of the common scoter <i>Melanitta nigra</i> in Ireland. Report on the 1995 All-Ireland common scoter Survey
Author :	Gittings, T.
Series :	Unpublished Report for the Irish Wildbird Conservancy
Year :	1997
Title :	The status and distribution of breeding sandwich, roseate, common, arctic and little terns in Ireland in 1995
Author :	Hannon, C.; Berrow, S.D.; Newton, S.F.
Series :	Irish Birds, 6: 1-22
Year :	2007
Title :	A survey of breeding gulls and terns on Lough Corrib, Co.'s Galway and Mayo
Author :	Hunt, J.; Heffernan M.L.
Series :	Report to the Heritage Council
Year :	2011
Title :	Guidelines for winter roost watching
Author :	O'Donoghue, B.G.
Series :	Unpublished Guidance Note
Year :	2011
Title :	Census of inland breeding gulls in Counties Galway and Mayo
Author :	McGreal, E.
Series :	Irish Birds; 9, 173-180
Year :	2016
Title :	Assessing connectivity with Special Protection Areas (SPAs)
Author :	Scottish Natural Heritage
Series :	Guidance Series Version 3 - June 2016
Year :	2017
Title :	Report of the 2016/17 international census of Greenland white-fronted geese
Author :	Fox, T.; Francis, I.; Walsh, A; Norriss, D.
Series :	Unpublished report
Year :	2018
Title :	A review of Greenland white-fronted geese in Ireland 1982/83 – 2011/12
Author :	Burke, B.; Egan, F.; Norriss, D.; Wilson, H.J.
Series :	Unpublished report
Year :	2018
Title :	Report of the 2017/18 international census of Greenland white-fronted geese
Author :	Fox, T.; Francis, I.; Walsh, A; Norriss, D.
Series :	Unpublished report
Year :	2018
Title :	Habitat-and species mediated short-and long-term distributional changes in waterbird abundance linked to variation in European winter weather
Author :	Pavón-Jordán, D.; Clausen, P.; Dagys, M.; Devos, K.; Encarnação, V.; Fox, A.D.; Frost, T.; et al.
Series :	Diversity and Distributions, 1-15
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 :	Annex B – Bird species' status and trends report format (Article 12) for the period 2013 – 2018
Author :	NPWS
Series :	Birds Directive - Article 12 Reporting
Year :	2019
Title :	Report of the 2018/19 international census of Greenland white-fronted geese
Author :	Fox, T.; Francis, I.; Walsh, A; Norriss, D.
Series :	Unpublished report
Year :	2019
Title :	Hen Harrier Roost Types and Guidelines to Roost Watching
Author :	O'Donoghue, B.G.
Series :	Unpublished Guidance Note
Year :	2020
Title :	Report of the 2019/20 international census of Greenland white-fronted geese
Author :	Fox, T.; Francis, I.; Walsh, A.; Norriss, D.
Series :	Unpublished report
Year :	2020
Title :	Common tern (<i>Sterna hirundo</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Arnold, J. M.; Oswald, S. A.; Nisbet, I. C. T.; Pyle, P.; Patten, M. A.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Arctic tern (<i>Sterna paradisaea</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Hatch, J. J.; Gochfeld, M.; Burger, J.; Garcia, E. F. J.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2021
Title :	Report of the 2020/21 international census of Greenland white-fronted geese
Author :	Fox, T.; Francis, I.; Walsh, A.; Norriss, D.; Kelly, S.
Series :	Unpublished report
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

Conservation Objectives for : Lough Corrib SPA [004042]

A051 Gadwall *Anas strepera*

To restore the favourable conservation condition of gadwall in Lough Corrib 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 over-wintering gadwall in Ireland has increased by 24% from 1994/95 to 2019/20, as monitored via the Irish Wetland Bird Survey (I-WeBS; Kennedy et al., 2022). During the baseline assessments to inform SPA designation, 48 gadwall were estimated to be using this SPA (5 year mean of peak counts for baseline period 1995/96 to 1999/2000; see NPWS, 2013). More recent data showed a population of 29 gadwall used the SPA during the period 2012/13 to 2016/17 (4 year mean of peak counts from I-WeBS monitoring, excluding winter 2015/16). This represents a population decrease of 40% since the baseline period, contrary to the national trend. Note: the baseline and recent population estimates rely on survey data from the lower (southern) area of the lake
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 over-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 over-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	Foraging habitats include a range of wetlands, such as marshes, flooded areas, lakes, estuaries and lagoons, as well as grasslands. In winter, gadwall are primarily herbivorous, dabbling for roots, leaves, stems and seeds of plants in surface waters. Gadwall will also consume aquatic insects, crustaceans, and molluscs, and, where adjacent to wetlands, they occasionally graze on grasslands or consume cereal grain

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 over-wintering population. When roosting overnight, gadwall primarily utilise wetlands (see foraging habitats). 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
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Conservation Objectives for : Lough Corrib SPA [004042]

A056 Shoveler *Anas clypeata*

To restore the favourable conservation condition of shoveler in Lough Corrib 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 over-wintering shoveler in Ireland has declined by 11% from 1994/95 to 2019/20, as monitored via the Irish Wetland Bird Survey (I-WeBS; Kennedy et al., 2022). During the baseline assessments to inform SPA designation, 90 shoveler were estimated to be using this SPA (5 year mean of peak counts for baseline period 1995/96 to 1999/2000; see NPWS, 2013). More recent data showed a population of 15 shoveler were estimated to be using the SPA from 2012/13 to 2016/17 (3 year mean of peak counts from I-WeBS monitoring in 2012/13, 2013/14 and 2016/17). This represents a long term population decrease of 84% since the baseline period. This decline is significantly greater than the national trend. Note: the baseline and recent population estimates rely on survey data from the lower (southern) area of the lake
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 over-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 over-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	Foraging habitats include a range of wetlands, such as marshes, rivers, flood-waters, lakes, reservoirs, lagoons and estuaries, as well as grasslands. Shoveler are omnivorous and primarily forage at the surface (dabbling or up-ending) but also dive. The species demonstrates a highly specialised filter-feeding behaviour which allows it to consume a wide variety of planktonic prey items, including crustaceans, molluscs, insects, larvae and various plant materials. It can also dabble for these prey items

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 over-wintering population. When roosting overnight, shoveler primarily utilise wetlands (see foraging habitats). 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
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Conservation Objectives for : Lough Corrib SPA [004042]

A059 Pochard *Aythya ferina*

To restore the favourable conservation condition of pochard in Lough Corrib 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 over-wintering pochard in Ireland has declined by 79% from 1994/95 to 2019/20, as monitored via the Irish Wetland Bird Survey (I-WeBS; Kennedy et al., 2022). During the baseline assessments to inform SPA designation, 10,107 pochard were estimated to be using this SPA (5 year mean of peak counts for baseline period 1995/96 to 1999/2000; see NPWS, 2013). The latest available data showed a population of 625 pochard were estimated to be using the SPA during the period 2012/13 to 2016/17 (4 year mean of peak counts from I-WeBS monitoring, excluding winter 2015/16). This represents a population decrease of 94% since the baseline period. Population declines are likely linked, at least in part, to distribution shifts driven by climate change (see Pavón-Jordan et al., 2018). Note: the baseline and recent population estimates rely on survey data from the lower (southern) area of the lake
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 over-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 over-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	This species is omnivorous and forages primarily in open freshwater or brackish waterbodies. The species prefers shallow areas where it feeds by diving (to depths of 1-2.5m, typically) but also dabbles at the surface. Diet is predominantly aquatic plants (taken when diving or at the surface) but also preys upon molluscs, fish, and insects (such as chironomid larvae). Utilised habitats include lakes, rivers and flood-waters, reservoirs, estuaries, and (less so) coastal areas. In winter, forages alone or as part of large aggregations

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 over-wintering population. When roosting overnight, pochard utilise open waterbodies (see foraging habitats). 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
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Conservation Objectives for : Lough Corrib SPA [004042]

A061 Tufted Duck *Aythya fuligula*

To restore the favourable conservation condition of tufted duck in Lough Corrib 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 Irish national population of over-wintering tufted duck has declined by 18% from 1994/95 to 2019/20, as monitored via the Irish Wetland Bird Survey (I-WeBS; Kennedy et al., 2022). During baseline assessments to inform SPA designation, 5,486 tufted duck were estimated to be using this SPA (5 year mean of peak counts for baseline period 1995/96 to 1999/2000; see NPWS, 2013). Latest available data showed a population of 2,399 tufted duck were estimated to be using the SPA during the period 2012/13 to 2016/17 (4 year mean of peak counts from I-WeBS monitoring, excluding winter 2015/16). This represents a population decrease of 56% since the baseline period. This trend is significantly greater than the noted national population decline. Population declines are likely linked, at least in part, to distribution shifts driven by climate change (see Pavón-Jordan et al., 2018). Note: the baseline and recent population estimates rely on survey data from the lower (southern) area of the lake
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 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
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 over-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 over-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	This species is omnivorous and forages primarily in open freshwater or brackish waterbodies. Molluscs are the main food source, and hence the species prefers shallow areas (to c. 15m depth), but will also consume fish, insects, amphibians and various plant materials (leaves, shoots, tubers, seeds). Tufted duck feed primarily by diving, but to a lesser extent will also feed at the surface of waterbodies, wade in shallows, and forage onshore (e.g. for cereal grain). Utilised habitats include lakes, rivers, ponds, reservoirs, marshes, estuaries, lagoons, and (less so) coastal areas. In winter, individual tufted duck can forage alone or as part of large aggregations
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	When roosting overnight, the species uses a range of waterbodies, as noted for foraging habitat. Roosting is a critical ecological requirement for the over-wintering population. 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

Conservation Objectives for : Lough Corrib SPA [004042]

A065 Common Scoter *Melanitta nigra*

To maintain the favourable conservation condition of common scoter in Lough Corrib SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population trend	Percentage change in number of potential breeding pairs	Long term trend is stable or increasing	The national breeding population of common scoter in Ireland is estimated to have declined by 21% between 1987 and 2020 (see Hunt et al., 2022). Baseline surveys in 1995 to inform SPA designation recorded an estimated 30 potential breeding pairs in the Lough Corrib SPA (Gittings, 1995; see NPWS, 2013). Repeat surveys in 2020 estimated a total of 38 potential breeding pairs in the SPA (Hunt et al., 2022). This represents a long term population increase of 27% since the baseline period (with some fluctuation during that period; see Hunt et al., 2022). These trends are in contrast to the national population trend and those trends recorded at other breeding sites
Productivity rate	Number of young fledged per potential breeding pair	Sufficient productivity to maintain the population trend as stable or increasing	Productivity is a measure of breeding output and a key determinant in whether a population can maintain itself. It is defined here as the total number of young that are successfully reared to fledge (i.e. become independent of their parents) divided by the total number of potential breeding pairs (or breeding female; including failed pairs/females). In 2020, breeding productivity for the Lough Corrib SPA population was estimated at 0.55, despite a low breeding success rate of only 21% (see Hunt et al., 2022). Research in Scotland suggests productivity of 0.6 is required for population growth (see Hunt et al., 2022), although this value is likely specific to the Scottish population. Results from surveys in 1998, 1999 and 2012 suggest productivity in Lough Corrib was >0.6 in these years (see Hunt et al., 2022). The population trends for this SPA suggest long term productivity may have been sufficient for population growth (assuming no significant immigration to the population)
Distribution of nesting habitat	Spatial distribution	No significant loss of distribution in the long term, other than that occurring due to natural patterns of variation	Common scoter nest on land among low-lying vegetation such as heather, shrubs or tall herbaceous plants. In Lough Corrib, evidence to date suggests that the species nested on islands within the lake that were grazed but held areas of suitable nesting cover (see Hunt et al., 2013 and 2022). It is suggested that the grazing of these islands is a key element in their suitability, ensuring vegetation cover does not become too dense/rank. Results from 2020 surveys (Hunt et al., 2022) suggest that the distribution of common scoter on Lough Corrib is largely similar to that of 1995/1996, though with some contraction compared to 2012 survey results (Hunt et al., 2013)
Extent and condition of nesting habitat	Hectares of high quality nesting habitat	Sufficient area of high quality habitat to support the population target	Common scoter nest on land among low-lying vegetation such as heather, shrubs or tall herbaceous plants. In Lough Corrib, evidence to date suggests that the species nested on islands within the lake that were grazed but held areas of suitable nesting cover (see Hunt et al., 2013 and 2022). It is suggested that the grazing of these islands is a key element in their suitability, ensuring vegetation cover does not become too dense/rank

Disturbance at breeding site	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact the achievement of targets for breeding population trend and spatial distribution of nesting habitat	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population trend and/or spatial distribution. 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. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality (in adults and young) or reduced breeding fitness of adults (if energy expenditure is greater than energy intake), and can thus negatively impact population trends. Disturbance is likely to have greatest impact at nesting sites and feeding areas for young, for example, increasing the mortality risk to eggs and young from predation, inclement weather and starvation
Barriers to connectivity and site use	Number, location, shape and hectares	Barriers do not significantly impact the breeding population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the breeding population's access to this SPA or movement within 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	Breeding common scoter forage primarily in freshwater bodies, such as lakes. The species feeds primarily on molluscs by diving, but also preys upon aquatic insects, small fish, fish eggs and seeds. Surface-dwelling, nutrient-rich prey items such as insects are likely to be an essential food source for young, who cannot forage by diving

Conservation Objectives for : Lough Corrib SPA [004042]

A082 Hen Harrier *Circus cyaneus*

To restore the favourable conservation condition of hen harrier in Lough Corrib SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Roost attendance: individual hen harriers	Number	Long term winter population trend within the SPA is stable or increasing	Lough Corrib SPA holds Ireland's largest freshwater lake, along with numerous islands. Its lake fringe (e.g. reedbeds, calcareous fens) and terrestrial habitats (e.g. raised bog, scrub, wet grassland, deciduous birch woodland) provide roosting and foraging options for hen harriers and other raptors during the non-breeding season. However, the extent of suitable roost habitats, and limited visibility for observers in parts of the SPA, makes for challenging roost surveys. Further, more than one roost location can be occupied on any night. The four year mean peak recorded at this SPA (based on the period 2006/07 - 2009/10) was eight hen harriers, determined using standard survey methods (see O'Donoghue, 2011; 2019). Counts (NPWS unpublished data) indicate numbers regularly attending this communal roost site in the SPA have fallen over the past decade or so, likely linked to declines in the Slieve Aughty Mountains SPA breeding population ca. 30km away and nationally (NPWS, 2022)
Forage area spatial distribution, extent and abundance	Location and hectares; prey biomass	Sufficient extent of suitable habitats and biomass of available prey items across the site to help support the population	Key prey items: broad diet encompassing birds and mammals. The total extent of available foraging habitats are not defined here, but include the following key habitats: wetlands (including active and cutaway raised bog), scrub, grasslands and hedgerows. Adjacent areas outside the SPA are also likely used by hen harrier during the non-breeding season albeit to an unknown extent. As mentioned above, recent trends in numbers of harriers using this SPA during the non-breeding season are likely linked to declines in breeding populations elsewhere, as it is considered there has been little change in availability and condition of supporting habitats (and by association, prey biomass) for wintering harriers within the site over the past decade. However, maintaining sufficient availability of suitable foraging habitats across the site to help support the population is key
Roost spatial distribution and extent	Location and hectares of roosting habitat	Sufficient number of locations, area of suitable roosting habitat to support the population	This SPA holds a large communal nocturnal roost 'complex', with a number of locations used by hen harrier (and other raptor species) depending on factors such as water levels in the lake itself. Thus attendance at these locations, which can be kilometres apart, is variable on any given night. Confirmation of roost activity at some locations is more difficult due to the distances involved and lack of good vantage points, and so numbers observed on any survey may not accurately reflect roosting activity in the area. Thus, estimating a definitive size or extent for this roost complex is not possible, but ensuring sufficiency of suitable roosting options adjacent to the lake and on higher ground is necessary to provide adequate roost options and choice to help support the population for this SPA

Disturbance at the roost site Level of impact

Human activities occur at levels that do not significantly impact upon wintering hen harrier

Hen harriers are sensitive to disturbance at roost sites during the non-breeding season. Factors such as location (e.g. proximity to roost site), intensity, frequency, timing and duration of a potentially disturbing activity (direct or indirect) need to be taken into account to determine its significance on the targets for the population, including roost attendance. Known pressures recorded locally at this SPA in the past and present day include wildfowling, burning, turf cutting; known pressures near/adjacent to the SPA have included clay pigeon shooting

Conservation Objectives for : Lough Corrib SPA [004042]

A125 Coot *Fulica atra*

To restore the favourable conservation condition of coot in Lough Corrib 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 population trend stable or increasing	The national population of over-wintering coot in Ireland has declined by 23% from 1994/95 to 2019/20, as monitored via the Irish Wetland Bird Survey (I-WeBS; Kennedy et al., 2022). During the baseline assessments to inform SPA designation, 14,426 coot were estimated to be using this SPA (5 year mean of peak counts for baseline period 1995/96 to 1999/2000; see NPWS, 2013). The latest available data shows a population of 1,912 coot were estimated to be using the SPA during the period 2012/13 to 2016/17 (4 year mean of peak counts from I-WeBS monitoring, excluding winter 2015/16). This represents a population decrease of 87% since the baseline period. This trend is significantly greater than the noted national population decline. Population declines are likely linked, at least in part, to distribution shifts driven by climate change (see Pavón-Jordan et al., 2018). Note: the baseline and recent population estimates rely on survey data from the lower (southern) area of the lake
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 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
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 over-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 over-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	This species is omnivorous; plants dominant the diet but it will also take invertebrate and vertebrate prey. It forages primarily in waterbodies, rarely foraging far from them. The species feeds at the surface and sub-surface of waterbodies by up-ending and diving. It prefers shallow, open, slow moving waterbodies with marginal, floating, emergent or bottom vegetation. Foraging habitats utilised by the coot include rivers, canals, lakes, reservoirs, ponds, lagoons, estuaries, drainage channels and flooded lands. In winter, individual coot can forage alone or as part of large aggregations

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	When roosting overnight, coot use a range of waterbodies, as noted for foraging habitat. Roosting is a critical ecological requirement for the over-wintering population. 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
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Conservation Objectives for : Lough Corrib SPA [004042]

A140 Golden Plover *Pluvialis apricaria*

To maintain the favourable conservation condition of golden plover in Lough Corrib 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 over-wintering golden plover in Ireland has declined by 54% from 1994/95 to 2019/20, as monitored via the Irish Wetland Bird Survey (I-WeBS; Kennedy et al., 2022). During the baseline assessments to inform SPA designation, 1,727 golden plover were estimated to be using this SPA (5 year mean of peak counts for baseline period 1995/96 to 1999/2000; see NPWS, 2013). A population of 2,088 golden plover was estimated to be using the SPA recently (4 year mean of peak counts from I-WeBS monitoring 2012/13 to 2016/17, excluding winter 2015/16; I-WeBS, 2022). This represents a population increase of 21% since the baseline period. Note: the baseline and recent population estimates rely on survey data from the lower (southern) area of the lake
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 over-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 over-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	This species forages exclusively at ground level and relies primarily on surface and sub-surface dwelling invertebrate prey, consuming a wide variety of prey items. The species is reliant on open habitats, including a wide range of wetland habitats such as the edges of lakes, turloughs, river floodplains, lagoons, estuaries, intertidal flats and other wetlands, as well as grasslands (wet grassland, semi-improved and improved grasslands), stubble fields and ploughed farmlands. While golden plover primarily forage diurnally, the species is also known to feed nocturnally on clear and moonlit nights
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	Golden plover roost exclusively at ground level. Roosting is a critical ecological requirement for the over-wintering population. When roosting over-night, this species typically utilises a similar range of habitats as noted for foraging. Day-time roosting is also a common behaviour, where birds minimise activity levels to conserve energy, while benefitting from the vigilance of other flock members. A lack of sufficient and suitable roosting habitats can result in increased mortality risk, whether indirectly (e.g. via increased energy expenditure travelling to/from roost sites) or directly (e.g. via increased predation risk), or reduction in site use; this would ultimately affect the achievement of targets for population trend and/or spatial distribution
Supporting habitat: area and quality	Hectares and quality	Sufficient area of utilisable habitat available in ecologically important sites outside the SPA	The wintering population can make extensive use of suitable habitats in important areas outside the SPA, for foraging and roosting. The extent, availability and quality of these supporting habitats may be of importance for the resilience of the SPA population. Suitable supporting habitats include those highlighted in the attributes for foraging and roosting habitat

Conservation Objectives for : Lough Corrib SPA [004042]

A179 Black-headed Gull *Chroicocephalus ridibundus*

To restore the favourable conservation condition of black-headed gull in Lough Corrib 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 population is stable or increasing	Black-headed gull colonies have been recorded at several locations in Lough Corrib SPA. The most recent SPA population estimate of 400 pairs from one site is based on a 2017 survey (NPWS unpublished data). This represents a short term decline of 51% from the 2010 population as estimated by McGreal (2011) and an acute long term decline since a 1983 survey, where Whilde (1983) estimated circa 3,000 breeding pairs. The attribute 'Apparently Occupied Nests', which equates to the number of breeding pairs, is based on standard survey methods (see Walsh et al., 1995)
Productivity rate	Number of fledged young per AON	Sufficient to maintain population	A lack of comprehensive Irish data precludes the identification of a minimum productivity rate for this relatively long-lived species at this SPA and indeed for black-headed gull at the national level. Walsh et al. (1995) sets out several methods to estimate the productivity rate for this species
Distribution: extent of available nesting options within the SPA	Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain the population	Black-headed gull is a colonial ground nesting bird. Whilde (1983) identified four major colonies (one sited in each of the two basins with two colonies located in the interconnecting narrow section of the lough) and summarised that this gull nested on small, rushy islands with one colony situated on a bracken dominated island. In 2010 McGreal (2011) noted that the SPA's breeding black-headed gull colonies were confined to just two islands (one in each basin). The 2017 survey identified just one colony located in the upper basin
Prey biomass available	Kilogrammes	Sufficient extent of biomass of available prey items across the site to help support the population	Black-headed gull is considered to have an opportunistic foraging strategy and can switch habitat depending on prey availability. Aquatic and terrestrial insects as well as other invertebrates including earthworms can be important. Foraging habitat includes terrestrial, freshwater and marine areas. During the breeding season, black-headed gull can forage up to 18.5km away from the colony (Woodward et al., 2019)
Disturbance at the breeding site	Level of impact	Disturbance occurs at levels that do not significantly impact on black-headed gull at the breeding site	Black-headed gull is a colonial ground nesting bird. Whilde (1983) identified four major colonies (one sited in each of the two basins with two colonies located in the interconnecting narrow section of the lough) and summarised that this gull nested on small, rushy islands with one colony situated on a bracken dominated island. In 2010 McGreal (2011) noted that the SPA's breeding black-headed gull colonies were confined to just two islands (one in each basin). The 2017 survey identified just one colony located in the upper basin
Disturbance at areas ecologically connected to the colony	Level of impact	Disturbance occurs at levels that do not significantly impact on black-headed gull at the breeding site	Foraging habitat includes terrestrial, freshwater and marine areas. During the breeding season, black-headed gull can forage up to 18.5km away from the colony (Woodward et al., 2019)
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	During the breeding season, black-headed gull can forage up to 18.5km away from the colony (Woodward et al., 2019)

Conservation Objectives for : Lough Corrib SPA [004042]

A182 Common Gull *Larus canus*

To restore the favourable conservation condition of common gull in Lough Corrib 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 population is stable or increasing	Common gull breeds across several locations within Lough Corrib SPA. The most recent SPA population estimate of 137 pairs from 14 sites is based on a 2017 survey (NPWS unpublished data). This represents a short term decline of 50% from the 2010 population as estimated by McGreal (2011) and at least a 74% long term decline from the 1983 minimum estimate as reported by Whilde (1983). The attribute 'Apparently Occupied Nests', which equates to the number of breeding pairs, is based on standard survey methods (see Walsh et al., 1995)
Productivity rate	Number of fledged young per AON	Sufficient to maintain population	A lack of comprehensive Irish data precludes the identification of a minimum productivity rate for this relatively long-lived species at this SPA and indeed for common gull at the national level. Walsh et. al. (1995) sets out several methods to estimate the productivity rate for this species
Distribution: extent of available nesting options within the SPA	Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain the population	Common gull is a ground nesting bird and breeds colonially but also in isolated pairs. Whilde (1983) described the nesting habitat as small, rocky islands with willow and on isolated rocks mainly in the upper lough and in the narrow section of the lough connecting the upper and lower basins. In 2010 McGreal (2011) identified 30 breeding sites across the lough and noted that the narrows held the greatest concentration of breeding pairs. Common gull can also site their nests on the lough's navigation markers
Prey biomass available	Kilogrammes	Sufficient extent of biomass of available prey items across the site to help support the population	The diet of the common gull is broad and is likely to vary with season and location. It includes invertebrates and fish as well as offal and birds' eggs. Foraging habitat includes terrestrial, freshwater and marine areas. During the breeding season, common gull can forage up to 50km away from the colony (Woodward et al., 2019)
Disturbance at the breeding site	Level of impact	Disturbance occurs at levels that do not significantly impact on common gull at the breeding site	Common gull, a ground nesting bird, breeds colonially but also in isolated pairs. Whilde (1983) described the nesting habitat as small, rocky islands with willow and on isolated rocks mainly in the upper lough and in the narrow section of the lough connecting the upper and lower basins. In 2010, McGreal (2011) identified 30 breeding sites across the lough and noted that the narrows held the greatest concentration of breeding pairs. Common gull can also site their nests on the lough's navigation markers
Disturbance at areas ecologically connected to the colony	Level of impact	Disturbance occurs at levels that do not significantly impact on breeding common gull	During the breeding season, common gull can forage over up to 50km away from the colony (Woodward et al., 2019). It is likely that, at times, the common gull population associated with this SPA forage away from the colony lough, at other freshwater loughs and in both nearby marine waters and terrestrial area
Barriers to connectivity	Number, location, shape, area (hectares)	No significant increase	During the breeding season, common gull can forage over up to 50km away from the colony (Woodward et al., 2019). It is likely that the common gull population associated with this SPA forage at times away from the colony lough at other freshwater loughs and in both nearby marine waters and terrestrial areas

Conservation Objectives for : Lough Corrib SPA [004042]

A193 Common Tern *Sterna hirundo*

To restore the favourable conservation condition of common tern in Lough Corrib 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 population is stable or increasing	Common tern have nested across several locations within Lough Corrib SPA. The most recent SPA population estimate of 6 pairs from two sites is based on a 2017 survey (NPWS unpublished data). This equates to a short term decline of circa 73% since a 2007 survey (Hunt and Heffernan, 2007). Overall the population of common tern has declined over the short and long terms with 27 pairs estimated to be breeding in 1984 and 37 pairs in 1995 (Whilde, 1984; Hannon et al., 1997). The attribute 'Apparently Occupied Nests', which equates to the number of breeding pairs, is based on standard survey methods (see Walsh et al., 1995)
Productivity rate	Number of fledged young per AON	Sufficient to maintain population	A lack of comprehensive Irish data precludes the identification of a minimum productivity rate for this relatively long-lived species at this SPA and indeed for common tern at the national level. Walsh et al. (1995) sets out several methods to estimate the productivity rate for this species
Distribution: extent of available nesting options within the SPA	Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain the population	Common tern, a ground nesting bird, and breeds colonially usually on islands/islets and often with congener species and/or gulls. Hunt and Heffernan (2007) recorded common tern at four sites within Lough Corrib
Prey biomass available	Kilogrammes	Sufficient extent of biomass of available prey items across the site to help support the population	Common tern forages over open water (marine, freshwater, brackish) and its main prey are small fish up to 150 mm long; at times they can predominantly feed on crustaceans or insects (Arnold et al., 2020). During the breeding season, common tern can forage up to 30km away from the colony (Woodward et al., 2019)
Disturbance at the breeding site	Level of impact	Disturbance occurs at levels that do not significantly impact on common tern at the breeding site	Common tern, a ground nesting bird, breeds colonially usually on islands/islets and often with congener species and/or gulls. Hunt and Heffernan (2007) recorded common tern at four sites within Lough Corrib
Disturbance at areas ecologically connected to the colony	Level of impact	Disturbance occurs at levels that do not significantly impact on breeding common tern	During the breeding season, common tern can forage over open waters up to 30km away from the colony (Woodward et al., 2019)
Barriers to connectivity	Number, location, shape, area (hectares)	No significant increase	During the breeding season, common tern can forage over open waters up to 30km away from the colony (Woodward et al., 2019)

Conservation Objectives for : Lough Corrib SPA [004042]

A194 Arctic Tern *Sterna paradisaea*

To restore the favourable conservation condition of Arctic tern in Lough Corrib 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 population is stable or increasing	Arctic tern have nested across several locations within Lough Corrib SPA. The most recent SPA population estimate of 10 pairs from one site is based on a 2017 survey (NPWS unpublished data). This equates to a short term decline of nearly 80% since a 2007 survey (Hunt and Heffernan, 2007). Overall, the population of Arctic tern breeding on Lough Corrib seems to have fluctuated markedly with 10 pairs estimated in 1984 and 60 pairs in 1995 (Whilde, 1984; Hannon et al., 1997). The attribute 'Apparently Occupied Nests', which equates to the number of breeding pairs, is based on standard survey methods (see Walsh et al., 1995)
Productivity rate	Number of fledged young per AON	Sufficient to maintain population	A lack of comprehensive Irish data precludes the identification of a minimum productivity rate for this relatively long-lived species at this site and indeed for Arctic tern at the national level. Walsh et al (1995) sets out several methods to estimate the productivity rate for this species
Distribution: extent of available nesting options within the SPA	Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain the population	Arctic tern, a ground nesting bird, breeds colonially usually on islands/islets and often with congener species and/or gulls. Hunt and Heffernan (2007) recorded Arctic tern at 10 sites within Lough Corrib primarily located in the narrows section and the upper basin
Prey biomass available	Kilogrammes	Sufficient extent of biomass of available prey items across the site to help support the population	Arctic tern forages over open water (marine, freshwater, brackish) and its diet is largely constituted of small fish (up to circa 150mm long), crustaceans, insects (adults and aquatic larvae); amphipods and euphausiids can be important in certain areas (Hatch et al., 2020). During the breeding season, Arctic tern can forage up to 46km away from the colony (Woodward et al., 2019)
Disturbance at the breeding site	Level of impact	Disturbance occurs at levels that do not significantly impact on Arctic tern at the breeding site	Arctic tern, a ground nesting bird, breeds colonially usually on islands/islets and often with congener species and/or gulls. Hunt and Heffernan (2007) recorded Arctic tern at 10 sites within Lough Corrib primarily located in the narrow section and the upper basin
Disturbance at areas ecologically connected to the colony	Level of impact	Disturbance occurs at levels that do not significantly impact on Arctic tern at the breeding site	During the breeding season, Arctic tern can forage over open waters up to 46km away from the colony (Woodward et al., 2019)
Barriers to connectivity	Number, location, shape, area (hectares)	No significant increase	During the breeding season, Arctic tern can forage over open waters up to 46km away from the colony (Woodward et al., 2019)

Conservation Objectives for : Lough Corrib SPA [004042]

A395 Greenland White-fronted Goose *Anser albifrons flavirostris*

To restore the favourable conservation condition of Greenland white-fronted goose in Lough Corrib SPA, which is defined by the following list of attributes and targets:

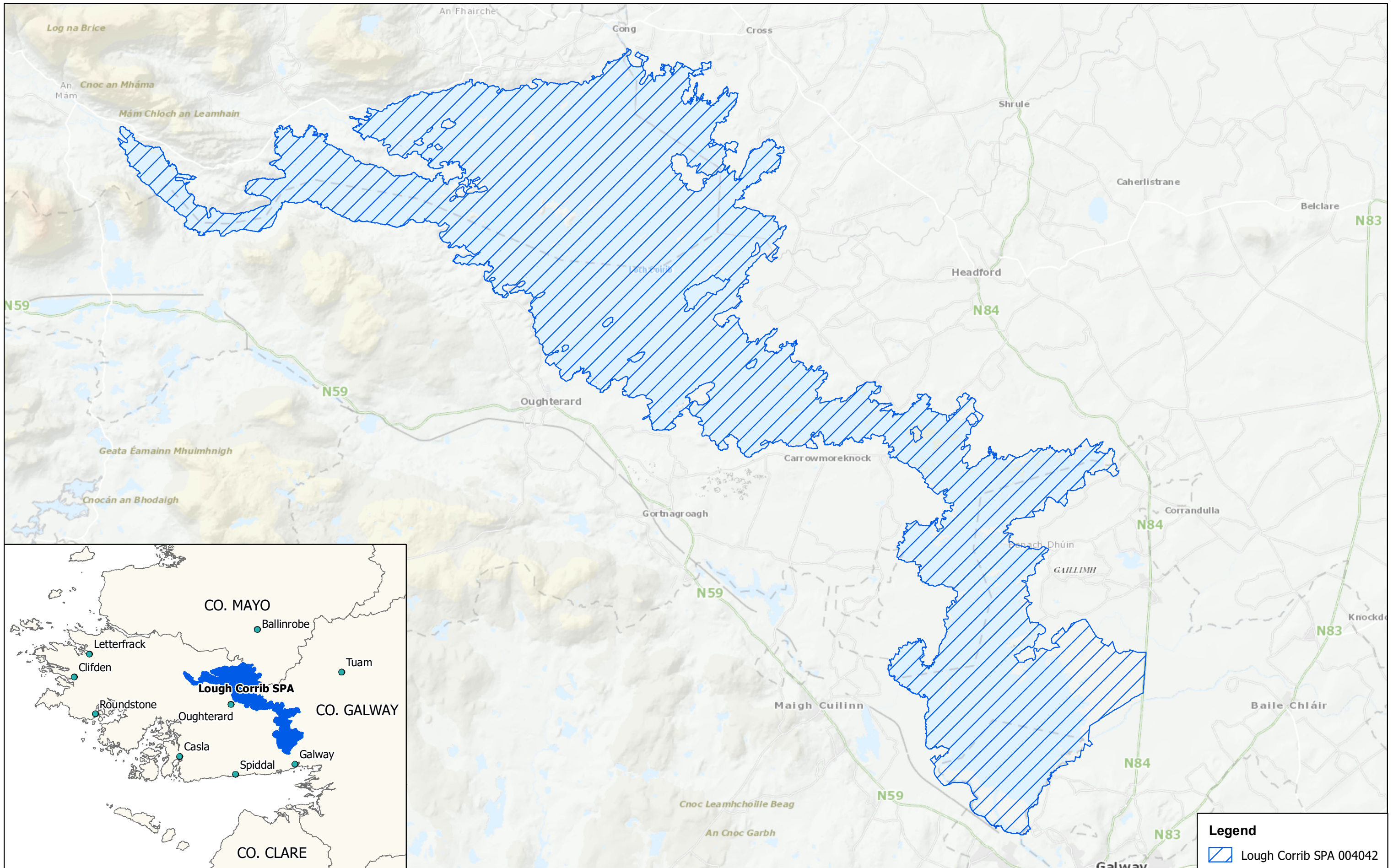
Attribute	Measure	Target	Notes
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	The national population of Greenland white-fronted goose has declined by 13% between 1985 and 2018 (NPWS, 2019). During the baseline assessments to inform SPA designation, 160 geese were estimated to be using this SPA (5 year mean of peak counts for baseline period 1994/95 to 1998/99; note this data relates to individuals occurring within the SPA only, as opposed to all individuals associated with the SPA; see NPWS, 2013). This count includes geese from two discrete flocks; one that uses the southern end of the SPA and one that irregularly uses islands on the north-east side. Both of these flocks declined significantly (55-63%) from the baseline period to 2011/12 (Burke et al., 2018). In recent years, a total of 15 geese were determined to be using the SPA, with no geese from the northern flock recorded within the SPA (5 year mean of peak counts 2016/17 to 2020/21; see Fox et al., 2017-2021). Thus, the SPA population has declined 91% since the baseline period
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	The intensity, frequency, timing and duration of 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 over-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 over-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	No significant impact on 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	This species is a grazer, feeding on a wide range of vegetation. Key forage materials include roots, tubers (such as potatoes), shoots (such as winter wheat), stolons, rhizomes, leaves (such as grasses), and seed such as (spilled) grain. Key habitats include peat bogs (including raised bogs and blanket bogs), grasslands (such as wet grassland, callows, semi-improved grassland, and intensive grassland), arable stubble, winter cereal fields, coastal grasslands, and occasionally salt marsh. In general, the foraging distance of over-wintering Greenland white-fronted goose from night roosts is estimated at 5 to 8km (Scottish Natural Heritage, 2016), although this will vary depending on site and landscape
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	Overnight roosting habitat mainly consists of permanent waterbodies, such as lakes, estuaries, bays, and other open waterbodies. When roosting in waterbodies, this species can roost on above-water features such as sandbanks. Roosting is a critical ecological requirement for the over-wintering population. Daytime roosting is also a common behaviour, where birds minimise activity levels to conserve energy, while benefitting from the vigilance of other flock members. A lack of sufficient and suitable roosting habitats can result in increased mortality risk, whether indirectly (e.g. via increased energy expenditure travelling to/from roost sites) or directly (e.g. via increased predation risk), or reduction in site use; this would ultimately affect the achievement of targets for population trend and/or spatial distribution
Supporting habitat: area and quality	Hectares and quality	Sufficient area of utilisable habitat available in ecologically important sites outside the SPA	The wintering population can make extensive use of suitable habitats in important areas outside the SPA, for foraging and roosting. The extent, availability and quality of these supporting habitats may be of importance for the resilience of the SPA population. Suitable supporting habitats include those highlighted in the attributes for foraging and roosting habitat


A999 Wetlands

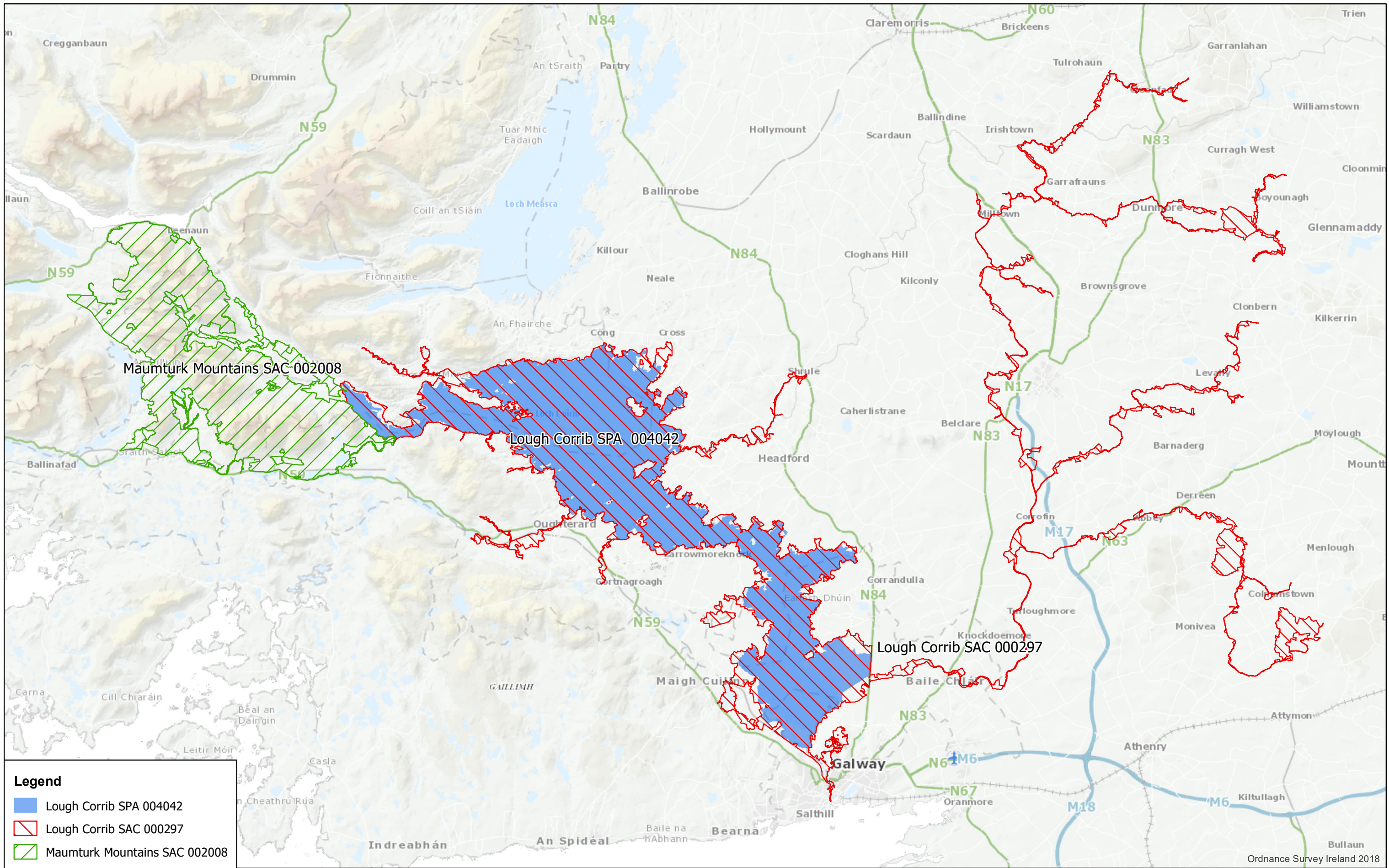
To maintain the favourable conservation condition of wetlands in Lough Corrib SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Wetland habitat area	Hectares	No significant loss to wetland habitat within the SPA, other than that occurring from natural patterns of variation	Any significant loss to the wetland habitat within the SPA would likely negatively impact the regularly-occurring migratory waterbirds that utilise this wetland habitat. Such loss of wetland habitat would likely reduce the diversity and abundance of waterbird species that the wetland can support. This, in turn, could negatively impact the Conservation Objectives for waterbird species listed as Special Conservation Interests in the SPA or other regularly-occurring migratory waterbird species
Wetland habitat quality and functioning	Quality and function of the wetland habitat	No significant impact on the quality or functioning of the wetland habitat within the SPA, other than that occurring from natural patterns of variation	Any significant impact on the quality, functioning and accessibility of the wetland habitat within the SPA would likely negatively impact the regularly-occurring migratory waterbirds that utilise this wetland habitat. Impacts on wetland quality, functioning and accessibility would likely reduce the diversity and abundance of waterbird species that the wetland can support. This, in turn, could negatively impact the Conservation Objectives for waterbird species listed as Special Conservation Interests in the SPA or other regularly-occurring migratory waterbird species



Legend

 Lough Corrib SPA 004042



Legend

- Lough Corrib SPA 004042
- Lough Corrib SAC 000297
- Maumturk Mountains SAC 002008

An Roinn Tithíochta, Rialtais Áitiúil agus Oidhreachta
 Department of Housing, Local Government and Heritage

**MAP 2:
 LOUGH CORRIB SPA
 CONSERVATION OBJECTIVES
 OVERLAPPING AND ADJACENT SITES**

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

**SITE CODE:
 SPA 004042; version 3
 CO GALWAY / MAYO**

0 2.5 5 10 Kilometres

The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaith. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh OSI-NMA-014. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann

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**Map version 1
 Date: January 2023**

Ordnance Survey Ireland 2018