

National Parks and Wildlife Service

Conservation Objectives Series

Ballyallia Lough SPA 004041



NPWS

An tSeirbhís Páirceanna
Náisiúnta agus Fiadhúlra
National Parks and Wildlife
Service

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Citation:

**NPWS (2025) Conservation Objectives: Ballyallia Lough SPA 004041. Version 1.
National Parks and Wildlife Service, Department of Housing, Local Government
and Heritage.**

**Series Editors: Maria Long 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*

004041	Ballyallia Lough SPA
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A050	Wigeon <i>Anas penelope</i>
A051	Gadwall <i>Anas strepera</i>
A052	Teal <i>Anas crecca</i>
A053	Mallard <i>Anas platyrhynchos</i>
A056	Shoveler <i>Anas clypeata</i>
A125	Coot <i>Fulica atra</i>
A156	Black-tailed Godwit <i>Limosa limosa</i>
A999	Wetlands

Please note that this SPA is adjacent to Lower River Shannon SAC (002165) and overlaps with Ballyallia Lake SAC (000014). See map 2. The conservation objectives for this site should be used in conjunction with those for the adjacent/overlapping 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 : 2013
Title : A review of the SPA network of sites in the Republic of Ireland
Author : NPWS
Series : Published Report

Other References

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 : 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 : Report under the Article 12 of the Birds Directive Period 2008-2012
Author : EEA
Series : European Environment Agency. European Topic Centre on Biological Diversity. Pp 1-9

Year : 2020
Title : Green-winged Teal (*Anas crecca*), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author : Johnson, K.; Carboneras, C.; Christie, D. A.; Kirwan, G. M.
Series : Cornell Lab of Ornithology, Ithaca, NY, USA

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 : Ballyallia Lough SPA [004041]

A050

Wigeon *Anas penelope*

To restore the Favourable conservation condition of Wigeon in Ballyallia Lough SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	The national population of wintering Wigeon in Ireland has declined by 18% from 1994/95 - 2019/20, as monitored via the Irish Wetland Bird Survey (I-WeBS) (Kennedy et al., 2022). In a robust statistical analysis of I-WeBS data, Kennedy et al. (2022) determined that the population of Wigeon that used Ballyallia Lough SPA decreased by 24% between winters 1995/96 - 2019/20. This result is similar to the reported national population trend. In their analyses, Kennedy et al. (2022) used indices of the total count of a given species across the entire winter period, providing a more comprehensive assessment of change in the population that used the site compared to approaches such as a comparison of 5 year mean peak values
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 wintering population will ultimately affect the achievement of targets for population trend and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends (see, for example, Madsen and Fox, 1995). Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population trend and spatial distribution
Barriers to connectivity and site use	Number, location, shape and hectares	Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the wintering population, and it may require access to other SPAs or sites for certain activities, such as foraging when preferred foraging areas are unavailable due to disturbance, extensive flooding, or other factors
Forage spatial distribution, extent and abundance	Location, hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	This dabbling duck feeds primarily on aquatic vegetation, at surface level in waterbodies or at ground level in wetland habitats. Key forage materials include leaves, stems, stolons, roots, rhizomes, and seeds (including cereals). Key wintering habitats are marshes, lagoons, estuaries, coastal bays, lakes, rivers and river floodplains, turloughs and other wetland habitats, as well as pastures

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	Wigeon rely primarily on wetlands or waterbodies for roosting. Roosting is a critical ecological requirement for the wintering population. When roosting overnight, this species typically utilises a similar range of habitats as noted for foraging. 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

Conservation Objectives for : Ballyallia Lough SPA [004041]

A051 Gadwall *Anas strepera*

To restore the Favourable conservation condition of Gadwall in Ballyallia Lough SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	The national population of wintering Gadwall in Ireland has increased by 24% from 1994/95 - 2019/20, as monitored via I-WeBS (Kennedy et al., 2022). In a robust statistical analysis of I-WeBS data, Kennedy et al. (2022) determined that the population of Gadwall that used Ballyallia Lough SPA decreased by 46% between winters 1995/96 - 2019/20. This result is in contrast to the reported national population trend. In their analyses, Kennedy et al. (2022) used indices of the total count of a given species across the entire winter period, providing a more comprehensive assessment of change in the population that used the site compared to approaches such as a comparison of 5 year mean peak values
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 wintering population will ultimately affect the achievement of targets for population trend and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of winter mortality or reduced fitness (if energy expenditure is greater than energy gain), which can negatively impact population trends (see, for example, Madsen and Fox, 1995). Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population 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 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 : Ballyallia Lough SPA [004041]

A052

Teal *Anas crecca*

To maintain the Favourable conservation condition of Teal in Ballyallia Lough SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	The national population of wintering Teal in Ireland has increased by 19% from 1994/95 - 2019/20, as monitored via I-WeBS (Kennedy et al., 2022). In a robust statistical analysis of I-WeBS data, Kennedy et al. (2022) determined that the population of Teal that used Ballyallia Lough SPA increased by 24% between winters 1995/96 - 2019/20. This result is similar to the reported national population trend. In their analyses, Kennedy et al. (2022) used indices of the total count of a given species across the entire winter period, providing a more comprehensive assessment of change in the population that used the site compared to approaches such as a comparison of 5 year mean peak values
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 wintering population will ultimately affect the achievement of targets for population trend and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of winter mortality or reduced fitness (if energy expenditure is greater than energy gain), which can negatively impact population trends (see, for example, Madsen and Fox, 1995). Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population 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	Teal utilise a wide range of foraging habitats and have a broad diet. Key food sources are: small seeds of sedges, grasses and aquatic vegetation; aquatic invertebrates, including larvae, such as molluscs and crustaceans; as well as algae (particularly <i>Enteromorpha</i> spp.) (Johnson et al., 2020). Key habitats include shallow water, between depths of 4cm (dabbling) - 24cm (upending), and can be widespread on wetlands with good cover, such as reedbeds. The species uses a wide variety of shallow areas within wetland habitats, both coastal and inland, including estuaries, lagoons, mudflats, marshes, floodplains, lakes, ponds, turloughs and agricultural areas
Roost spatial distribution and extent	Location and hectares of roosting habitat	Sufficient number of locations, area and availability of suitable roosting habitat to support the population target	Roosting is a critical ecological requirement for the wintering population. When roosting overnight, Teal primarily utilise permanent waterbodies, marsh, wide ditches, wet grassland and 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
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 : Ballyallia Lough SPA [004041]

A053

Mallard *Anas platyrhynchos*

To restore the Favourable conservation condition of Mallard in Ballyallia Lough SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	The national population of wintering Mallard in Ireland has decreased by 19% from 1994/95 - 2019/20, as monitored via I-WeBS (Kennedy et al., 2022). In a robust statistical analysis of I-WeBS data, Kennedy et al. (2022) determined that the population of Mallard that used Ballyallia Lough SPA decreased by 56% between winters 1995/96 - 2019/20. This result is significantly greater than the reported national population trend. In their analyses, Kennedy et al. (2022) used indices of the total count of a given species across the entire winter period, providing a more comprehensive assessment of change in the population that used the site compared to approaches such as a comparison of 5 year mean peak values
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 wintering population will ultimately affect the achievement of targets for population trend and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of winter mortality or reduced fitness (if energy expenditure is greater than energy gain), which can negatively impact population trends (see, for example, Madsen and Fox, 1995). Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population 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	Foraging habitats include a range of wetlands, such as marshes, flooded areas, lakes, estuaries and lagoons, as well as grasslands. In winter, Mallard are primarily herbivorous, dabbling for roots, leaves, stems and seeds of plants in surface waters. Mallard 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 wintering population. When roosting overnight, Mallard primarily utilise permanent waterbodies and wetland habitat (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
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 : Ballyallia Lough SPA [004041]

A056 Shoveler *Anas clypeata*

To restore the Favourable conservation condition of Shoveler in Ballyallia Lough SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	The national population of wintering Shoveler in Ireland has decreased by 11% from 1994/95 - 2019/20, as monitored via I-WeBS (Kennedy et al., 2022). In a robust statistical analysis of I-WeBS data, Kennedy et al. (2022) determined that the population of Shoveler that used Ballyallia Lough SPA decreased by 48% between winters 1995/96 - 2019/20. This result is significantly greater than the reported national population trend. In their analyses, Kennedy et al. (2022) used indices of the total count of a given species across the entire winter period, providing a more comprehensive assessment of change in the population that used the site compared to approaches such as a comparison of 5 year mean peak values
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 wintering population will ultimately affect the achievement of targets for population trend and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends (see, for example, Madsen and Fox, 1995). Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population trend and spatial distribution
Barriers to connectivity and site use	Number, location, shape and hectares	Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact
Forage spatial distribution, extent and abundance	Location, hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	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 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 : Ballyallia Lough SPA [004041]

A125

Coot *Fulica atra*

To restore the Favourable conservation condition of Coot in Ballyallia Lough SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	The national population of wintering Coot in Ireland has decreased by 23% from 1994/95 - 2019/20, as monitored via I-WeBS (Kennedy et al., 2022). In a robust statistical analysis of I-WeBS data, Kennedy et al. (2022) determined that the population of Coot that used Ballyallia Lough SPA decreased by 25% between winters 1995/96 - 2019/20. This result is similar to the reported national population trend. In their analyses, Kennedy et al. (2022) used indices of the total count of a given species across the entire winter period, providing a more comprehensive assessment of change in the population that used the site compared to approaches such as a comparison of 5 year mean peak values. Population declines are likely linked, at least in part, to distribution shifts driven by climate change (see Pavón-Jordan et al., 2018)
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 wintering population will ultimately affect the achievement of targets for population trend and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends (see, for example, Madsen and Fox, 1995). Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population trend and spatial distribution
Barriers to connectivity and site use	Number, location, shape and hectares	Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact
Forage spatial distribution, extent and abundance	Location, hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	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 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 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 : Ballyallia Lough SPA [004041]

A156 Black-tailed Godwit *Limosa limosa*

To maintain the Favourable conservation condition of Black-tailed Godwit in Ballyallia Lough SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing	The national population of wintering Black-tailed Godwit in Ireland has increased by 92% from 1994/95 - 2019/20, as monitored via I-WeBS (Kennedy et al., 2022). In a robust statistical analysis of I-WeBS data, Kennedy et al. (2022) determined that the population of Black-tailed Godwit that used Ballyallia Lough SPA increased by 265% between winters 1995/96 - 2019/20. This result is significantly greater than the reported national population trend. In their analyses, Kennedy et al. (2022) used indices of the total count of a given species across the entire winter period, providing a more comprehensive assessment of change in the population that used the site compared to approaches such as a comparison of 5 year mean peak values
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 wintering population will ultimately affect the achievement of targets for population trend and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends (see, for example, Madsen and Fox, 1995). Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population trend and spatial distribution
Barriers to connectivity and site use	Number, location, shape and hectares	Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the wintering population, and it may require access to other SPAs or sites for certain activities, such as foraging when preferred foraging areas are unavailable due to disturbance, extensive flooding, or other factors

Forage spatial distribution, extent and abundance	Location, hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	This species forages exclusively at ground level and avoids tall, dense vegetation and water deeper than it can stand in. The species relies primarily on surface and sub-surface dwelling invertebrate prey, but also consumes plant materials (e.g. cereal grain). This species consumes a wide variety of invertebrate prey, including polychaete worms, molluscs, crabs, amphipods and larvae (e.g. of Tipulidae). The species is reliant on open habitats, including a wide range of wetland habitats, such as marshes, the shores of lakes and turloughs, river floodplains, lagoons, intertidal estuarine flats (preferring mud flats) and other coastal wetlands, as well as grasslands (wet grassland, semi-improved and improved grasslands)
Roost spatial distribution and extent	Location and hectares of roosting habitat	Sufficient number of locations, area and availability of suitable roosting habitat to support the population target	This species roosts exclusively at ground level. Roosting is a critical ecological requirement for the wintering population. When roosting overnight, this species typically utilises a similar range of habitats as noted for foraging. 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

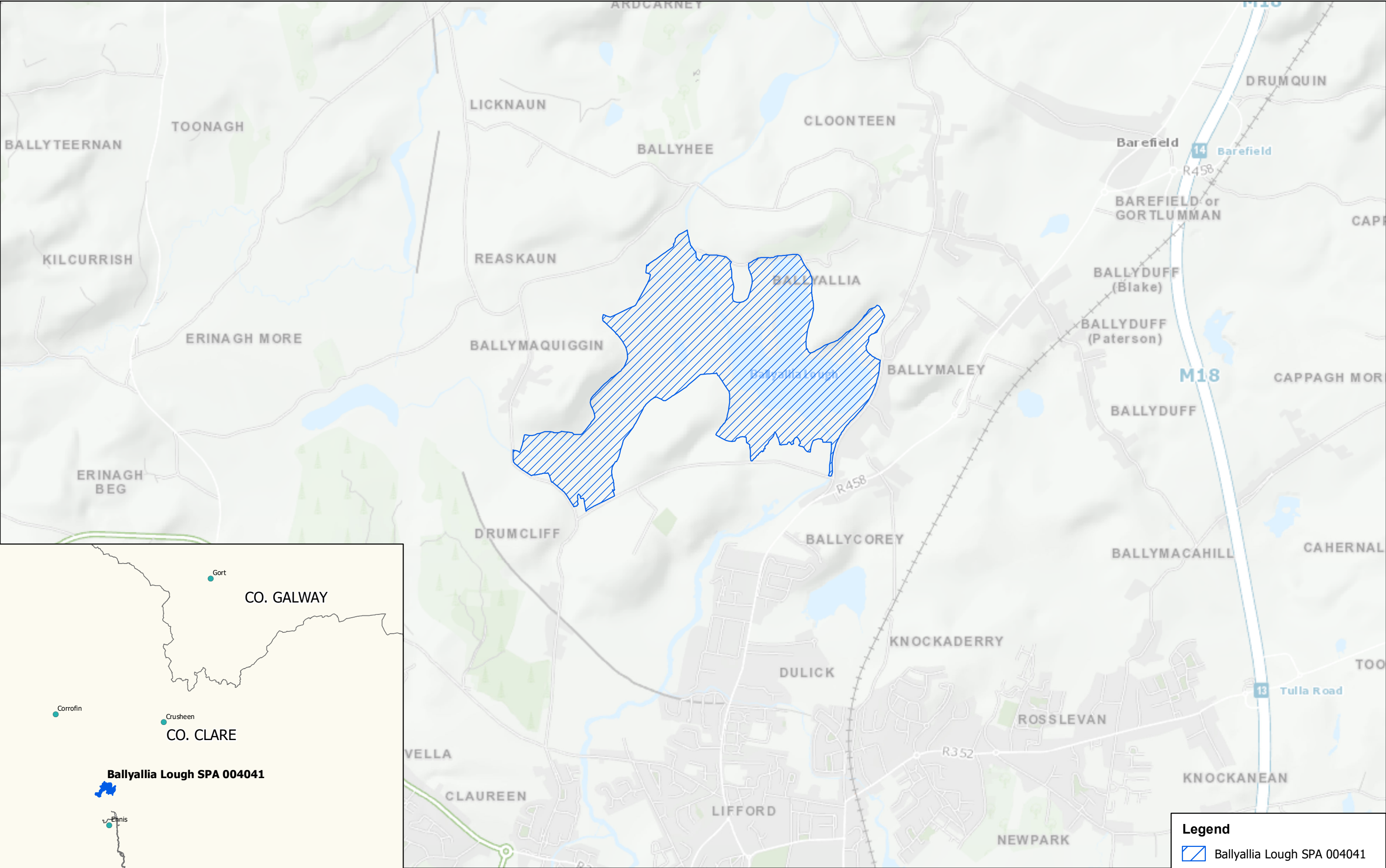
Conservation Objectives for : Ballyallia Lough SPA [004041]

A999


Wetlands

To maintain the Favourable conservation condition of Wetland habitats in Ballyallia Lough SPA as a resource for the regularly-occurring migratory waterbirds that utilise these areas. This 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

 Ballyallia Lough SPA 004041

