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# National Parks and Wildlife Service

**Conservation Objectives Series** 

# Mid-Waterford Coast SPA 004193



National Parks and Wildlife Service, Department of Housing, Local Government and Heritage,

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### Introduction

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance
- exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

• population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and

• the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and

• there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

### Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.

2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.

3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.

4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.

5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

## Qualifying Interests

### \* indicates a priority habitat under the Habitats Directive

| 004193 | Mid-Waterford Coast SPA        |  |
|--------|--------------------------------|--|
| A017   | Cormorant Phalacrocorax carbo  |  |
| A103   | Peregrine Falco peregrinus     |  |
| A184   | Herring Gull Larus argentatus  |  |
| A346   | Chough Pyrrhocorax pyrrhocorax |  |

### Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

### **NPWS Documents**

| Year :   | 2010  |  |
|----------|---|--|
| Title :  | The seasonal distribution and foraging behaviour of Red-billed Choughs <i>Pyrrhocorax pyrrhocorax</i> in Counties Waterford and Cork, February 2008 to January 2009 |  |
| Author : | Trewby, M.; Carroll; D.; Mugan, N.; O'Keeffe, D.; Newton, S.  |  |
| Series : | Unpublished BirdWatch Ireland Report to National Parks & Wildlife Service   |  |
| Year :   | 2021  |  |
| Title :  | Estimated foraging ranges of the breeding seabirds of Ireland's marine special protected area network   |  |
| Author : | Power, A.; McDonnell, P.; Tierney, T.D.   |  |
| Series : | Published NPWS report   |  |
| Year :   | 2024  |  |
| Title :  | Status and distribution of Chough in Ireland: results of the 2021 survey  |  |
| Author : | Colhoun, K.; Rooney, E.; Collins, J.; Keogh, N.P.; Lauder, A.; Heardman, C.; Cummins, S.  |  |
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| Author : | Cabot, D.  |
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| Series : | T. & A.D. Poyser, London   |
| Year :   | 1993   |
| Title :  | Seasonal variations in numbers and levels of activity in a communal roost of Choughs <i>Pyrrhocorax pyrrhocorax</i> in central Spain |
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| 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   |
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| Title :   | The 1991 survey and weather impacts on the Peregrine <i>Falco peregrinus</i> breeding population in the Republic of Ireland  |
| Author :  | Norriss, D.W.  |
| Series :  | Bird Study, 42:1, 20-30  |
| Year :  | 1998   |
| Title :   | Flexible foraging techniques in breeding cormorants <i>Phalacrocorax carbo</i> and shags <i>Phalacrocorax aristotelis</i> : benthic or pelagic feeding?  |
| Author :  | Grémillet, D.; Argentin, G.; Schulte, B.; Culik, B.M.  |
| Series :  | lbis, 140(1), pp.113-119   |
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| Series :  | Bird Study, 49:3, 229-236  |
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| Title :   | The status and productivity of the peregrine falcon <i>Falco peregrinus</i> L. in south-east Ireland 1981-2001   |
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| Series :  | Irish Naturalists' Journal, 27(3): 117-119   |
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| Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :   | Cornell Lab of Ornithology, Ithaca, NY, USA<br>2021<br>Definition of Favourable Conservation Status for Great Cormorant, <i>Phalacrocorax carbo</i><br>Newson, S.E.; Austin, G.<br>Natural England, pp.25. ISBN: 978-1-78354-723-4<br>2022<br>Chough <i>Pyrrhocorax pyrrhocorax</i> counts at a Waterford coastal roost<br>McGrath, D.<br>Irish Birds 44: 103-107<br>2023<br>Seabirds Count: a census of breeding seabird in Britain and Ireland (2015-2021)<br>Burnell, D.; Perkins, A.J.; Newton, S.F.; Bolton, M.; Tierney, T.D.; Dunn, T.E.   |  |
| Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :<br>Series :   | Cornell Lab of Ornithology, Ithaca, NY, USA<br>2021<br>Definition of Favourable Conservation Status for Great Cormorant, <i>Phalacrocorax carbo</i><br>Newson, S.E.; Austin, G.<br>Natural England, pp.25. ISBN: 978-1-78354-723-4<br>2022<br>Chough <i>Pyrrhocorax pyrrhocorax</i> counts at a Waterford coastal roost<br>McGrath, D.<br>Irish Birds 44: 103-107<br>2023<br>Seabirds Count: a census of breeding seabird in Britain and Ireland (2015-2021)<br>Burnell, D.; Perkins, A.J.; Newton, S.F.; Bolton, M.; Tierney, T.D.; Dunn, T.E.<br>Lynx Nature Books, Barcelona   |  |
| Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Year :   | Cornell Lab of Ornithology, Ithaca, NY, USA<br>2021<br>Definition of Favourable Conservation Status for Great Cormorant, <i>Phalacrocorax carbo</i><br>Newson, S.E.; Austin, G.<br>Natural England, pp.25. ISBN: 978-1-78354-723-4<br>2022<br>Chough <i>Pyrrhocorax pyrrhocorax</i> counts at a Waterford coastal roost<br>McGrath, D.<br>Irish Birds 44: 103-107<br>2023<br>Seabirds Count: a census of breeding seabird in Britain and Ireland (2015-2021)<br>Burnell, D.; Perkins, A.J.; Newton, S.F.; Bolton, M.; Tierney, T.D.; Dunn, T.E.<br>Lynx Nature Books, Barcelona<br>2024   |  |
| Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Series :<br>Year :<br>Title :   | Cornell Lab of Ornithology, Ithaca, NY, USA<br>2021<br>Definition of Favourable Conservation Status for Great Cormorant, <i>Phalacrocorax carbo</i><br>Newson, S.E.; Austin, G.<br>Natural England, pp.25. ISBN: 978-1-78354-723-4<br>2022<br>Chough <i>Pyrrhocorax pyrrhocorax</i> counts at a Waterford coastal roost<br>McGrath, D.<br>Irish Birds 44: 103-107<br>2023<br>Seabirds Count: a census of breeding seabird in Britain and Ireland (2015-2021)<br>Burnell, D.; Perkins, A.J.; Newton, S.F.; Bolton, M.; Tierney, T.D.; Dunn, T.E.<br>Lynx Nature Books, Barcelona<br>2024<br>Great Cormorant ( <i>Phalacrocorax carbo</i> )         |  |
| Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year :<br>Title :<br>Author :<br>Series :<br>Year : | Cornell Lab of Ornithology, Ithaca, NY, USA<br>2021<br>Definition of Favourable Conservation Status for Great Cormorant, <i>Phalacrocorax carbo</i><br>Newson, S.E.; Austin, G.<br>Natural England, pp.25. ISBN: 978-1-78354-723-4<br>2022<br>Chough <i>Pyrrhocorax pyrrhocorax</i> counts at a Waterford coastal roost<br>McGrath, D.<br>Irish Birds 44: 103-107<br>2023<br>Seabirds Count: a census of breeding seabird in Britain and Ireland (2015-2021)<br>Burnell, D.; Perkins, A.J.; Newton, S.F.; Bolton, M.; Tierney, T.D.; Dunn, T.E.<br>Lynx Nature Books, Barcelona<br>2024<br>Great Cormorant ( <i>Phalacrocorax carbo</i> )<br>JNCC |  |

### Conservation Objectives for : Mid-Waterford Coast SPA [004193]

### A017 Cormorant *Phalacrocorax carbo*

# To restore the Favourable conservation condition of Cormorant in Mid-Waterford Coast SPA, which is defined by the following list of attributes and targets:

| Attribute   | Measure                                      | Target   | Notes  |
|---|--|--|--|
| Breeding<br>population size   | Number of Apparently<br>Occupied Nests (AON) | Long term SPA population<br>trend is stable or<br>increasing   | The majority of Cormorant nesting habitat along the mid-Waterford coast occurs within the SPA.<br>However, not all stacks, islands and islets are included. The historical seabird count sites for this region do not precisely coincide with the SPA boundary. Therefore, the SPA seabird count data are presented as a range as particular count sites may contain both designated and undesignated areas. The latest population estimate for this SPA, from 2018, is 89-117 pairs, which is broadly similar to the estimate from 1999-2000 (79-125 pairs) but represents a 55% decline from a population estimate derived from counts from 1985-1988. This SPA population trend is dissimilar to the national trend where the current national estimate of 4,124 pairs, based on Seabirds Count (2015-2021), represents a long term increase of 4% from the Seabird Colony Register survey (1985-1988) and a shorter term decrease of 8% from the Seabird 2000 survey (1998-2002) (Burnell et al., 2023; NPWS internal files) |
| Productivity rate   | Number of fledged<br>young per AON           | Sufficient to maintain a<br>stable or increasing<br>population   | Five subspecies of Great Cormorant are recognised<br>with the nominate and Atlantic subspecies <i>P. c.</i><br><i>carbo</i> breeding in both coastal and inland resorts in<br>Ireland (Burnell et al., 2023). In the United Kingdom<br>the continental race <i>P. c. sinensis</i> also breeds at<br>inland sites, largely in England, and differences in<br>their productivity rates and overall population trends<br>have been noted (Newson and Austin, 2021;<br>Newson et al., 2005; Burnell et al., 2023). A lack of<br>comprehensive Irish data precludes the identification<br>of a minimum productivity rate for this species at<br>this site and at the national level. Cormorant<br>colonies in the UK fledged approximately 1.84 chicks<br>per nest per year between 1989 and 2019 (JNCC,<br>2024)   |
| Distribution:<br>extent of available<br>nesting options<br>within the SPA | Numbers and spatial distribution             | Sufficient availability of<br>suitable nesting sites<br>throughout the SPA to<br>maintain a stable or<br>increasing population | Distribution encapsulates the number of locations<br>and area of potentially suitable nesting habitat for<br>the breeding population and its availability for use.<br>The suitability and availability of habitat across the<br>SPA may vary through time. This will affect the<br>spatio-temporal patterns of use of the habitats by<br>Cormorant. Typically, coastal Cormorant colonies are<br>located on flat or rocky islets or sea stack tops, less<br>often on cliffs (Walsh et al., 1995). Cormorant<br>colonies in this SPA are primarily located on islands<br>(e.g. Illaunglass) as well as rocky islets and cliffs<br>such as Ballyvoyle Head and between Bunmahon<br>and Ballydowane   |

| Forage spatial<br>distribution,<br>extent, abundance<br>and availability | Location and hectares,<br>and forage biomass | Sufficient number of<br>locations, area of suitable<br>habitat and available<br>forage biomass to support<br>the population target | Cormorant diet consists predominantly of small<br>benthic and pelagic fish which are captured by<br>pursuit diving, typically over shallow (<10m)<br>freshwater, estuarine and marine environments<br>(Grémillet et al., 1998; Hatch et al., 2020).<br>Woodward et al. (2019) reviewed the foraging<br>ranges of seabird species from over 300 studies<br>including: direct tracking of birds; estimates based<br>on flight speeds and time activity; survey<br>observations; and speculative estimates. Woodward<br>et al. (2019) provides estimates (i.e. overall mean;<br>mean of maximum distances across all studies; and<br>maximum distance recorded) of Cormorant foraging<br>ranges from the nest site during the breeding<br>season, which are 7, 26, and 35km respectively (see<br>Power et al., 2021)  |
|--|--|--|--|
| Disturbance at the breeding site   | Intensity, frequency,<br>timing and duration | Disturbance occurs at<br>levels that do not<br>significantly impact on<br>birds at the breeding site                               | Disturbance events at the nest site/breeding colony<br>level can result in a reduction of overall productivity<br>and even lead to the abandonment of the breeding<br>colony. The impact of any significant disturbance<br>(direct or indirect) to the breeding population will<br>ultimately affect the achievement of targets for<br>population size and/or spatial distribution.<br>Disturbance contributes to increased energetic<br>expenditure which can result in increased likelihood<br>of mortality or reduced fitness (if energy expenditure<br>is greater than energy gain) and, in turn, negatively<br>impact population trends. Factors such as intensity,<br>frequency, timing and duration of a (direct or<br>indirect) disturbance source must be taken into<br>account to determine the potential impact upon the<br>targets for population size and spatial distribution.<br>Cormorant colonies in this SPA are primarily located<br>on islands, rocky islets and cliffs. Exposure to<br>recreational activities, such as kayaking, may disrupt<br>breeding birds |
| Disturbance at<br>areas ecologically<br>connected to the<br>colony       | Intensity, frequency,<br>timing and duration | Disturbance occurs at<br>levels that do not<br>significantly impact on<br>breeding population                                      | Seabird species can make extensive use of the<br>marine waters adjacent to their breeding colonies for<br>non site-specific maintenance behaviours (e.g.<br>courtship, bathing, preening) as defined in McSorley<br>et al. (2003). Additionally, some species may engage<br>in maintenance behaviours outside of the breeding<br>colony but not in the water. Cormorant, after long<br>periods in the water, may stand in areas away from<br>the colony and engage in a behaviour known as<br>wing-spreading. The main purpose of this behaviour<br>is to dry plumage (Hatch et al., 2020) and may<br>occur on sandbanks and small rocks and islets.<br>Exposure to water-based recreational activities may<br>disrupt breeding birds conducting maintenance<br>behaviours associated with the main breeding area<br>of the SPA  |
| Barriers to<br>connectivity  | Number; location;<br>shape; area (hectares)  | No significant increase  | Seabirds, particularly during the breeding season,<br>require regular and efficient access to marine waters<br>ecologically connected to the colony in order to<br>forage as well as to engage in other maintenance<br>behaviours. Based on several studies, Woodward et<br>al. (2019) provides estimates (i.e. overall mean;<br>mean of maximum distances across all studies; and<br>maximum distance recorded) of Cormorant foraging<br>ranges from the nest site during the breeding<br>season, which are 7, 26, and 35km respectively (see<br>Power et al., 2021)  |

### Conservation Objectives for : Mid-Waterford Coast SPA [004193]

### A103 Peregrine *Falco peregrinus*

# To restore the Favourable conservation condition of Peregrine in Mid-Waterford Coast SPA, which is defined by the following list of attributes and targets:

| Attribute   | Measure  | Target  | Notes   |
|---|--|---|---|
| Population size   | Number of occupied<br>territories                                  | Breeding population is increasing   | Peregrine may breed in their first year, but typically wait until two years old or later (Ratcliffe, 1993).<br>Annual occupancy of available territories can vary.<br>The breeding component of the population for the site is defined here as the total number of 'occupied territories' and based on standard definitions (Hardey et al., 2009). The national population is considered stable (EEA, 2019), but the Waterford coast population has fallen from 17 occupied territories in 2002 (Madden et al., 2009) to just 8 in total in 2017 (NPWS internal files). Historically, numbers along the Waterford coast had risen from 11 territories in 1981 (Norriss and Wilson, 1983) to 23 territories in 1991 (Norriss, 1995). For this SPA, the recent population change between national surveys is a decrease of 43% (i.e. from 7 occupied territories in 2002 to 3-4 occupied territories in 2017). Cases of deliberate persecution of Peregrine for the county (e.g. McGrath, 2002) are noteworthy  |
| Productivity rate   | Number of fledged<br>young per territorial pair                    | Sufficient to maintain the population size target   | National surveys (1981; 1993; 2002; 2017) have<br>given estimates of productivity and breeding success<br>for Peregrine (e.g. Norriss and Wilson, 1983; Norriss<br>1995; Madden et al., 2009; NPWS internal files).<br>Cold wet springs can delay/halt breeding (e.g.<br>Norriss and Wilson, 1983; Horne and Fielding, 2002)<br>and affect productivity (Burke et al., 2015). For Co.<br>Waterford (1981-2000), the known productivity rate<br>(i.e. no. fledged young/territorial pair) ranges from<br>0.58 (1991-1995) to 0.99 (1981-1985) (McGrath,<br>2002). National productivity rates were 0.80-0.82 in<br>1981 (Norriss and Wilson, 1983); 1.18 in 1991<br>(Norriss, 1995); 1.23 in 2002 (Madden et al., 2009).<br>For this SPA, 6 fledged from 7 territories in 2002<br>(0.86) and a minimum of 3 fledged from 3-4<br>occupied territories in 2017 (1.0). A lack of<br>comprehensive published annual data precludes the<br>identification of a minimum productivity rate for this<br>species at this site and at the national level   |
| Distribution:<br>extent of occupied<br>territories within<br>site | Numbers and<br>distribution of occupied<br>territories across site | Sufficient availability of<br>suitable nesting sites<br>throughout the SPA to<br>maintain/restore the<br>population | Distribution captures the number of occupied<br>territories and areas of suitable nesting habitat for<br>the breeding population and its availability for use.<br>Optimal resilience depends on breeding pairs<br>utilising the SPA to the maximum extent possible.<br>Though the uptake by pairs varies annually, the<br>spatio-temporal patterns of use of the site by<br>Peregrine should be maintained. Safe suitable<br>ledges, typically 50cm by 50cm (Ratcliffe, 1993) or<br>crags along coastal cliffs are available for nesting<br>and levels of disturbance are not limiting occupancy<br>of known sites. Peregrine will re-use breeding ledges<br>and are known to also nest on the ground in<br>heathery slopes or on steep sand banks in Britain<br>(Hardey et al., 2009). Sea cliffs are the main habitat<br>of the site and occur along its length. Above the<br>cliffs, areas of heath, improved grassland,<br>unimproved wet and dry grassland, and woodland<br>occur. These habitats can provide important nesting<br>and foraging resources for breeding Peregrine |

| Forage spatial<br>distribution,<br>extent, abundance<br>and availability | Location and hectares,<br>and forage biomass | Sufficient number of<br>locations, area of suitable<br>habitat, and available prey<br>biomass (i.e. small-medium<br>sized birds, mammals) to<br>support the population<br>target | Peregrine have a generalist diet, feeding largely on<br>birds caught in flight, and require sufficient prey<br>populations of small to medium sized birds, though<br>other prey items including small mammals are also<br>taken. Ratcliffe (1993) noted pigeons, grouse,<br>waders (including Snipe, <i>Gallinago gallinago</i> ) and<br>passerines occurred in over 80% of diets at 14 study<br>areas across Britain, though the numbers of<br>territories on which these reported figures are based<br>were not provided. At coastal sites in Scotland, auks,<br>petrels, Fulmar ( <i>Fulmarus glacialis</i> ), Black-headed<br>Gull ( <i>Chroicocephalus ridibundus</i> ) and<br>Oystercatcher ( <i>Haematopus ostralegus</i> ) are also<br>taken (Ratcliffe, 1993). Most prey are caught within<br>2km of an eyrie, rarely beyond 6km, and hunting<br>areas of neighbouring pairs can overlap (Hardey et<br>al., 2009)   |
|--|--|--|--|
| Disturbance to<br>breeding sites   | Intensity, timing,<br>frequency and duration | Disturbance occurs at<br>levels that do not<br>significantly impact on<br>birds at the breeding site   | The impact of any significant disturbance at<br>breeding sites will be manifested in the targets that<br>relate to population demographics (i.e. population<br>trend, productivity rate) and the numbers and<br>distribution of occupied territories across the SPA.<br>Factors such as intensity, frequency, timing and<br>duration of a potentially disturbing activity need to<br>be taken into account to determine its significance<br>on breeding pairs. Pairs in remote locations may be<br>more sensitive to disturbance. Activities above nests<br>are more likely to cause disturbance than below.<br>Individual pair responses may also vary. Ruddock<br>and Whitfield (2007) set out safe viewing distances<br>of nest sites. Large numbers of apparently unpaired<br>adults on territory can be a concern (Ratcliffe, 1993)<br>where persecution is known to occur. Deliberate<br>disturbance and/or persecution of breeding pairs in<br>Co. Waterford has occurred (e.g. McGrath, 2002),<br>but it is unknown whether breeding pairs within the<br>SPA itself have been targeted |

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### A184 Herring Gull *Larus argentatus*

# To restore the Favourable conservation condition of Herring Gull in Mid-Waterford Coast SPA, which is defined by the following list of attributes and targets:

| Attribute   | Measure                                      | Target   | Notes  |
|---|--|--|--|
| Breeding<br>population size   | Number of Apparently<br>Occupied Nests (AON) | Long term SPA population<br>trend is stable or<br>increasing   | The majority of Herring Gull nesting habitat along<br>the mid-Waterford coast occurs within the SPA.<br>However, not all stacks, islands and islets are<br>included. Historical seabird count sites for this region<br>do not precisely coincide with the SPA boundary.<br>Thus, SPA count data are presented as a range as<br>some count sites may contain both designated and<br>undesignated areas. The latest population estimate<br>(2018) for this SPA is 473-532 pairs, a notable<br>increase (233%) from the 1999-2000 estimate of<br>147-155 pairs. However, when the contemporary<br>population estimate is compared to the 1985-1986<br>estimate of 792-848 pairs, an overall decrease of<br>39% is reckoned. This is similar to the national trend<br>of a pronounced decrease followed by a partial<br>recovery of the natural-nesting (i.e. non-urban)<br>population. Note that when the urban gull<br>component is integrated, a national population of<br>18,645 pairs is estimated, an increase of 22% since<br>1985-88 (Burnell et al., 2023; NPWS internal files) |
| Productivity rate   | Number of fledged<br>young per AON           | Sufficient to maintain a<br>stable or increasing<br>population   | Cook and Robinson (2010) undertook Population<br>Viability Analyses (PVA) of a selection of breeding<br>populations in the UK. Over their study period<br>Herring Gull productivity at monitored nests was<br>0.75. Were this level to be maintained, Herring Gull<br>populations would decline by 60% over 25 years.<br>For the population to stabilize, breeding success<br>would have to increase to 1.3-1.5 chicks per nest<br>per year. A lack of comprehensive Irish data<br>precludes the identification of a minimum<br>productivity rate for this species at the site and at<br>the national level  |
| Distribution:<br>extent of available<br>nesting options<br>within the SPA | Numbers and spatial<br>distribution          | Sufficient availability of<br>suitable nesting sites<br>throughout the SPA to<br>maintain a stable or<br>increasing population     | Distribution encapsulates the number of locations<br>and area of potentially suitable nesting habitat for<br>the breeding population and its availability for use.<br>The suitability and availability of habitat areas may<br>vary through time. This will affect the spatio-<br>temporal patterns of use of the habitats by Herring<br>Gull. Typically, coastal Herring Gull colonies are<br>located along rocky coastlines with cliffs, islets and<br>offshore islands (Mitchell et al., 2004). Herring Gull<br>nesting areas are widespread throughout the SPA<br>and have been recorded breeding in most subsites<br>within the SPA since the Seabirds Colony Register<br>(1985-1988)   |
| Forage spatial<br>distribution,<br>extent, abundance<br>and availability  | Location and hectares,<br>and forage biomass | Sufficient number of<br>locations, area of suitable<br>habitat and available<br>forage biomass to support<br>the population target | Herring Gull is a generalist and opportunistic feeder<br>and can forage over both terrestrial and aquatic<br>habitats. Its diet includes fish, fish offal, bivalves,<br>gastropods, crustaceans, squid, insects, other<br>seabirds, small land birds, small mammals,<br>terrestrial insects, earthworms, berries, carrion, and<br>a wide variety of human refuse (Weseloh et al.,<br>2020). Woodward et al. (2019) reviewed the<br>foraging ranges of seabird species from over 300<br>studies including: direct tracking of birds; estimates<br>based on flight speeds and time activity; survey<br>observations; and speculative estimates. Woodward<br>et al. (2019) provides estimates (i.e. overall mean,<br>mean of maximum distances across all studies, and<br>maximum distance recorded) of Herring Gull<br>foraging ranges from the nest site during the<br>breeding season, which are 15, 59, and 92km<br>respectively (see Power et al., 2021)   |

| Disturbance at the breeding site                                   | Intensity, frequency,<br>timing and duration | Disturbance occurs at<br>levels that do not<br>significantly impact on<br>birds at the breeding site | Disturbance events at the nest site/breeding colony<br>level can result in a reduction of overall productivity<br>and even lead to the abandonment of the breeding<br>colony. The impact of any significant disturbance<br>(direct or indirect) to the breeding population will<br>ultimately affect the achievement of targets for<br>population size and/or spatial distribution.<br>Disturbance contributes to increased energetic<br>expenditure which can result in increased likelihood<br>of mortality or reduced fitness (if energy expenditure<br>is greater than energy gain) and, in turn, negatively<br>impact population trends. Factors such as intensity,<br>frequency, timing and duration of a (direct or<br>indirect) disturbance source must be taken into<br>account to determine the potential impact upon the<br>targets for population size and spatial distribution.<br>Exposure to recreational activities, such as kayaking,<br>may disrupt breeding birds |
|--|--|--|--|
| Disturbance at<br>areas ecologically<br>connected to the<br>colony | Intensity, frequency,<br>timing and duration | Disturbance occurs at<br>levels that do not<br>significantly impact on<br>breeding population        | Seabird species can make extensive use of the<br>marine waters adjacent to their breeding colonies for<br>non site-specific maintenance behaviours (e.g.<br>courtship, bathing, preening) as defined in McSorley<br>et al. (2003). Additionally, some species may engage<br>in maintenance behaviours outside of the breeding<br>colony but not in the water. Exposure to water-<br>based recreational activities may disrupt breeding<br>birds conducting maintenance behaviours associated<br>with the main breeding area of the SPA   |
| Barriers to<br>connectivity  | Number; location;<br>shape; area (hectares)  | No significant increase  | Seabirds, particularly during the breeding season,<br>require regular and efficient access to marine waters<br>ecologically connected to the colony in order to<br>forage as well as to engage in other maintenance<br>behaviours. Based on several studies, Woodward et<br>al. (2019) provides estimates (i.e. overall mean,<br>mean of maximum distances across all studies, and<br>maximum distance recorded) of Herring Gull<br>foraging ranges from the nest site during the<br>breeding season, which are 15, 59, and 92km<br>respectively (see Power et al., 2021)  |

### **Conservation Objectives for : Mid-Waterford Coast SPA [004193]**

### A346 Chough *Pyrrhocorax pyrrhocorax*

# To maintain the Favourable conservation condition of Chough in Mid-Waterford Coast SPA, which is defined by the following list of attributes and targets:

| Attribute         | Measure  | Target  | Notes  |
|-------------------|--|---|--|
| Population size   | Number of breeding<br>pairs                      | No significant decline                        | A review of 1992 and 2002/03 national survey data,<br>including count units and survey methods applied,<br>was undertaken (NPWS internal files). The range of<br>population estimates for the SPA are set out using<br>'confirmed and probable' breeding pairs only and 'all<br>breeding pair' categories for each national survey<br>since 1992, with 11-22 in 1992; 3-21 in 2002/03<br>and 8-18 in 2021. Applying stricter 2021 survey<br>criteria (Hayhow et al., 2018; Colhoun et al., 2024)<br>retrospectively to 1992 and 2002/03 records<br>updates these original estimates to 5-20 (1992) and<br>3-14 pairs (2002/03), with 3-21 pairs (2021) as per<br>Colhoun et al. (2024). Of note, Trewby et al. (2010)<br>estimated 19-32 pairs for the SPA in 2008/09 with<br>more intensive survey effort through the annual<br>cycle   |
| Population trend  | Percentage change                                | Population trend stable or<br>increasing      | The breeding component of the population, as<br>opposed to non-breeding flock birds, is considered a<br>more reliable metric to reflect population change<br>(Trewby et al., 2006). Using available data from the<br>1992 (Berrow et al., 1993), 2002/03 (Gray et al.,<br>2003) and 2021 (Colhoun et al., 2024) national<br>surveys, the population trend for the site is<br>considered broadly stable in the short (i.e. 2002/03-<br>2021) and longer term (1992-2021) based on<br>assessments of change in the numbers of known<br>'confirmed' and 'probable' pair records only; and<br>including all 'possible' breeding pair records for the<br>site, applying 2021 criteria (Colhoun et al., 2024).<br>For the county, the population is at least stable, with<br>pair totals of 21-26 in 1963 (Cabot, 1965); 37-46 in<br>1983 (Bullock et al., 1983); 49 in 1992 (Berrow et<br>al., 1993); 49 in 2002/03 (Gray et al., 2003); and 47<br>in 2021 (Colhoun et al., 2024). Of note, Trewby et<br>al. (2010) recorded at least 8 territorial pairs which<br>were likely non-breeders |
| Productivity rate | Number of fledged<br>young per confirmed<br>pair | Sufficient to maintain population size target | Most of the population nest along coastal cliffs or in<br>sea caves. In most instances, due to the inaccessible<br>nature of nesting locations, estimates of breeding<br>productivity and success are based on numbers of<br>fledged young seen with adults post-fledging, unless<br>records are for man-made/artificial sites e.g. cattle<br>sheds, old buildings and castles etc. Some studies<br>have provided estimates of productivity and/or<br>success, (e.g. Berrow et al., 1993; Gray et al., 2003;<br>Boylan, 2011; Trewby et al., 2006), and for this<br>SPA, a figure of 1.79 fledglings per successful pair<br>was estimated by Trewby et al. (2010), using data<br>from 14 breeding pairs. However, this estimate is<br>based on one year's data, and may not be<br>sufficiently representative for the SPA, and wider.<br>Overall, there is a lack of robust representative Irish<br>data to determine a more quantitative target for<br>breeding productivity  |

| Foraging habitat:<br>quality and<br>quantity | Hectares (Ha)                                | Maintain sufficient quality<br>and quantity of coastal<br>grassland and other<br>relevant habitats to<br>support the population of<br>Chough at the level of<br>breeding pairs referred to<br>in the attribute above | Studies in Ireland (e.g. Trewby et al., 2006), Wales<br>(e.g. Whitehead et al., 2005) and elsewhere (e.g.<br>Kerbiriou et al., 2006) have shown that breeding<br>Chough spend most of their time foraging near nest<br>sites (April-June inclusive). Coastal pairs tend to<br>commute along the coast from breeding sites, rather<br>than inland (Trewby et al., 2006). Proximity of<br>suitably-sized feeding areas (ha) to nest sites is<br>likely to positively support breeding success<br>(Kerbiriou et al., 2006). Monthly transects for this<br>SPA had 84% of ground observations within 300m<br>of mean high water (Trewby et al., 2010). Grazed<br>habitats with short swards of <5cm are typically<br>preferred and areas of bare ground, where soils are<br>easier to probe e.g. paths, along with earth banks<br>and stone banks. Maritime vegetation on cliffs,<br>especially in spring, is also favoured. Thus, sufficient<br>foraging habitat within 350m of the coastline, where<br>Chough are known to breed, is essential to support<br>breeding pairs              |
|--|--|--|--|
| Food availability:<br>prey biomass           | Quantity per unit area                       | Maintain adequate levels of<br>prey biomass (including<br>preferred invertebrate prey<br>items such as<br>leatherjackets, dung<br>beetles, etc.)   | Chough feeds largely on invertebrates (e.g. ants, spiders, worms, insect larvae such as crane fly larvae, leatherjackets and dung beetles), at or near the soil surface where prey items are more accessible. In warmer weather, Chough can be seen picking off surface active insects, e.g. spiders, including from heather plants (Trewby et al., 2010). The dosing of livestock with veterinary parasiticide treatments (including anthelmintics) has knock-on consequences with respect to invertebrate density in grasslands on which Chough depend (Gilbert et al., 2019)  |
| Distribution of<br>roosting sites            | Spatial distribution                         | The distribution of<br>preferred roosts is<br>maintained   | Post-breeding, Chough are highly social, forming<br>mobile flocks that can travel several kilometres to<br>feed (McGrath, 2022). Family groups form 'nursery'<br>flocks in July, returning to nest sites to roost, but by<br>summer's end, these flocks begin to converge pre-<br>dusk, along with non-breeding sub-adults, at<br>communal nocturnal roost sites, leaving post-dawn<br>(Trewby et al., 2010; Blanco et al., 1993). Roosts<br>tend to be close to good foraging habitat (e.g.<br>grazed dune systems); and peak attendance is<br>usually in late summer/early autum, post-breeding.<br>Islandikane East is a known roost for this SPA (a<br>max of 76 birds in May 2008; 72 in Oct 2022;<br>Trewby et al., 2010; McGrath, 2022) supporting the<br>highest number of Chough of all known roosts in Co.<br>Waterford (Trewby et al., 2010). Ballyvoyle Head<br>roost (peak c.30 Feb 2008) showed high densities of<br>use previously (Trewby et al., 2010) and in recent<br>years numbers regularly exceed 25 birds (McGrath,<br>2022)                                    |
| Disturbance                                  | Intensity, timing,<br>frequency and duration | Disturbance occurs at<br>levels that do not<br>significantly impact upon<br>Chough in the SPA  | A determination of the significance of an activity<br>should consider the frequency, duration, intensity,<br>temporal availability and location (e.g. if access to<br>preferred food sources is restricted, and for how<br>long) of the activity. Further, site fidelity (e.g. pairs<br>to nest sites while breeding, or flocks to roost sites<br>at other times), weather (e.g. prolonged cold spells)<br>and predation/competition. Coastal breeding pairs<br>spend up to 80% of their time within 350m of the<br>nest site (Trewby et al., 2006). For this SPA, 84% of<br>all foraging observations were within 300m of mean<br>high water (Trewby et al., 2010). Impacts are likely<br>to be highest near nest sites (e.g. on coastal cliffs<br>where available foraging habitats are more limited in<br>total area) and at roost sites. The impact of any<br>significant disturbance on the SPA's population will<br>ultimately be manifested in targets relating to<br>population demographics (i.e. population<br>size/population trends/productivity rate) and<br>distribution |

