

National Parks and Wildlife Service

Conservation Objectives Series

Wicklow Mountains SPA 004040



NPWS

An tSeirbhís Páirceanna
Náisiúnta agus Fiadhúlra
National Parks and Wildlife
Service

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Introduction

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

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

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

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

** indicates a priority habitat under the Habitats Directive*

004040	Wicklow Mountains SPA
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A098	Merlin <i>Falco columbarius</i>
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A103	Peregrine <i>Falco peregrinus</i>
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Please note that this SPA overlaps with Wicklow Mountains SAC (002122) and adjacent to Slaney River Valley SAC (000781). 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 :	2013
Title :	A review of the SPA network of sites in the Republic of Ireland
Author :	NPWS
Series :	Unpublished Report
Year :	2022
Title :	Survey of breeding merlin in the special protection area network 2018
Author :	Lusby, J.; O'Brien, I.; Lauder, A.; Wilson-Parr, R.; Breen, D.; Cummins, S.; Tierney, D.
Series :	Irish Wildlife Manual No. 139

Other References

Year :	1983
Title :	Survey of the Peregrine <i>Falco peregrinus</i> breeding population in the Republic of Ireland in 1981
Author :	Norriss, D.W.; Wilson, H.J.
Series :	Bird Study, 30:2, 91-101
Year :	1992
Title :	Status, distribution and breeding biology of the Merlin in North-east Scotland, 1980–1989
Author :	Rebecca, G.W.; Cosnette, B.L.; Hardy, J.J.C.; Payne, A.G.
Series :	Scottish Birds 16, 165–183.
Year :	1993
Title :	The peregrine falcon. Second edition.
Author :	Ratcliffe, D.A.
Series :	T. & A.D. Poyser, London
Year :	1995
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 :	2002
Title :	Recovery of the Peregrine Falcon <i>Falco peregrinus</i> in Cumbria, UK, 1966–99
Author :	Horne, G; Fielding, A.H.
Series :	Bird Study, 49:3, 229-236
Year :	2005
Title :	Merlins of the Wicklow mountains
Author :	McElheron, A.
Series :	Currach Press, Dublin
Year :	2007
Title :	A review of disturbance distances in selected bird species
Author :	Ruddock, M.; Whitfield, D.P.
Series :	A report from Natural Research (Projects) Ltd to Scottish Natural Heritage
Year :	2009
Title :	Raptors: a field guide to survey and monitoring (2nd Edition)
Author :	Hardey, J.; Crick, H.; Wernham, C.; Riley, H.; Etheridge, B.; Thompson, D.
Series :	The Stationery Office, Edinburgh

Year :	2009
Title :	The 2002 survey of the Peregrine <i>Falco peregrinus</i> breeding population in the Republic of Ireland
Author :	Madden, B.; Hunt, J.; Norriss, D.
Series :	Irish Birds 8: 543-548
Year :	2010
Title :	Breeding biology of merlins <i>Falco columbarius</i> in Ireland, 1986-1992
Author :	Norriss, D.W.; Hara, B.; Hennigan, J.; McElheron, A.; McLaughlin, D.J.; Swan, V; Walsh, A.
Series :	Irish Birds, 9:23-30
Year :	2011
Title :	Assessing the effectiveness of monitoring methods for merlin <i>Falco columbarius</i> in Ireland: the pilot merlin survey 2010
Author :	Lusby, J.; Fernández-Bellon, D.; Norriss, D.; Lauder, A.
Series :	Irish Birds 9, 143 – 154
Year :	2011
Title :	The feeding ecology of merlin <i>Falco columbarius</i> during the breeding season in Ireland, and an assessment of current diet analysis methods
Author :	Fernández-Bellon, D.; Lusby, J.
Series :	Irish Birds 9, 159-164
Year :	2015
Title :	Population status and factors affecting the productivity of Peregrine Falcon <i>Falco peregrinus</i> in Co. Wicklow, Ireland, 2008-2012
Author :	Burke, B.J.; Clarke, D.; Fitzpatrick, A.; Carnus, T.; McMahon, B.J.
Series :	Biology and Environment: Proceedings of the Royal Irish Academy, Vol 115, No. 2, 115-124
Year :	2016
Title :	Falcons
Author :	Sale, R.
Series :	New Naturalist Series. Collins.
Year :	2017
Title :	Breeding ecology and habitat selection of merlin <i>Falco columbarius</i> in forested landscapes
Author :	Lusby, J.; Corkery, I.; McGuinness, S.; Fernández-Bellon, D.; Toal, L.; Norriss, D.; Breen, D.; O'Donail, A.; Clarke, D.; Irwin, S.; Quinn, J.L.; O'Halloran, J.
Series :	Bird Study 64, 445-454
Year :	2019
Title :	Report under the Article 12 of the Birds Directive Period 2008-2012
Author :	European Environment Agency
Series :	European Topic Centre on Biological Diversity. Pp 1-9. https://cdr.eionet.europa.eu/Converters/run_conversion?file=ie/eu/art12/envxztxxq/IE_birds_reports_20191031-130157.xml&conv=612&source=remote#A096_B

To maintain the Favourable conservation condition of Merlin in Wicklow Mountains SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population size	Number of occupied territories	Breeding population is increasing/stable	Early season visits improve detectability of Merlin, a challenging species to survey (Norriss et al., 2010; Lusby et al., 2011, 2017). Lusby et al. (2017) defined occupied territories according to highest levels of breeding evidence, i.e. all confirmed breeding pairs and any occupied territories during the survey breeding season (1 Apr - 15 Jul) and sites with recent signs of occupation e.g. plucking posts with fresh kills on repeat visits. A 2018 survey (Lusby et al., 2022) found a minimum of 'at least three' occupied territories, based on circa 14.5% coverage of the SPA. An added complexity is not all territories are occupied each year (Norriss et al., 2010). Active territories across years within 3.5km of one another are defined as the same territory (Rebecca et al., 1992). McElheron (2005) lists a possible 22 locations in the Wicklow Mountains, with c.12 in the SPA. Given likely occupancy year on year, the nine territories set out previously for the SPA (NPWS, 2013) is credible
Productivity rate	Number of fledged young per breeding attempt with known outcome	Sufficient to meet the population size target	Various Irish studies have provided estimates of productivity and/or breeding success for Merlin (e.g. Norriss et al., 2010; Lusby et al., 2017; Lusby et al., 2022). Monitoring of five traditional nesting areas in Ireland from 1986-1992 calculated a mean productivity of 2.23 young per pair based on 141 confirmed pairs (Norriss et al., 2010). A review of long-term regional monitoring data for 1982-2014 estimated productivity at 2.1 young per breeding attempt (Lusby et al., 2017). However, general information on life history such as natal dispersal, first year and adult survival are lacking in the Irish context. Furthermore, reproductive performance of pairs at this SPA is not known. In the absence of such data, it is not possible to identify a minimum breeding productivity rate for this SPA
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	Formerly ground-nesting in heather, Merlin are now largely tree-nesting, often utilising old crows' nests (McElheron, 2005; Norriss et al., 2010; Lusby et al., 2017). Principal tree species which can be used for nesting in Co. Wicklow are Sitka Spruce (<i>Picea sitchensis</i>), Norway Spruce (<i>Picea abies</i>), and broadleaf species. Other nesting options include copses and shelter belts. Thus, a sufficiency of available nest sites (e.g. mature trees holding suitable stick nests, that are proximate to open foraging habitats and dense heather stands on sloping ground), distributed across the SPA, is needed to support the breeding population. For those forested areas used by breeding Merlin, Norriss et al. (2010) found 72% of nests (n=61) within 60m of forest plantation edge, with nests randomly spaced across the five study areas, and with a mean nearest neighbour distance of between 2.72–5.86km. Pairs nesting outside the SPA may still forage within the SPA (Lusby et al., 2022)

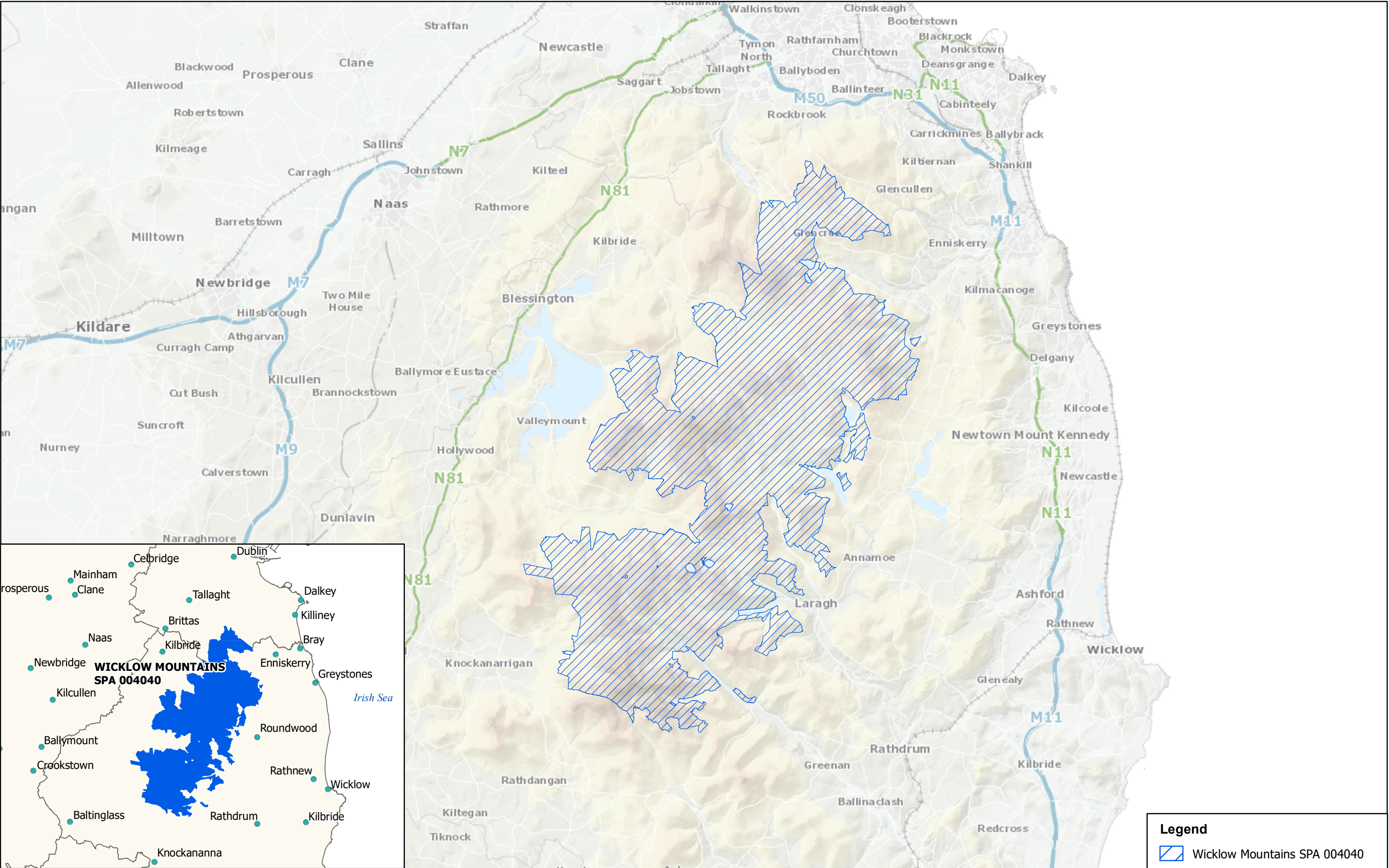
Extent and condition of suitable open habitats for foraging	Hectares; condition assessment; prey biomass	Sufficient availability of suitable foraging habitat across the SPA to support targets relating to population size, productivity rate and distribution	The sporadic occupancy of territories by Merlin, and failures of some pairs to lay clutches, is noted for other raptor species where females in poorer territories have difficulty attaining condition to breed (Norriss et al., 2010). Lusby et al. (2017) showed that the proportion of 'open suitable habitat' i.e. moors and heathland, peat bogs and semi-natural grasslands (using CORINE Land Cover) within 5km of nest sites was positively related to breeding success. Preferred prey include open country small passerines and moths; woodland birds feature in April (Fernández-Bellon and Lusby, 2011). Open foraging habitats include wet and dry heaths; <i>Molinia</i> -dominated meadows; blanket bog; semi-open habitats i.e. woodland copses. The total extent of 'suitable foraging habitat' in this SPA has not been estimated. Key aspects to consider regarding any assessment of the condition of these habitats for Merlin include prey biomass, structure, soil integrity, overall connectivity and coherence
Disturbance at breeding sites	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact upon the breeding population	The impact of any significant disturbance on the SPA's breeding population will ultimately be manifested in the targets that relate to population demographics (i.e. population, productivity rate) and the extent of suitable habitat occupied by breeding pairs. Factors such as location (e.g. proximity to nest site), intensity, frequency, timing and duration of a potentially disturbing activity (direct/indirect) need to be taken into account to determine its significance on breeding Merlin. Merlin frequently select the tallest trees in which to nest, thereby potentially increasing nest vulnerability to felling operations for pairs nesting in commercial forests (Norriss et al., 2010). Lusby et al. (2022) described the pressures within the SPA network, which include turf-cutting, burning, agricultural intensification and afforestation. McElheron (2005) stated that increasing lambing subsidies from the early 1970s led to extensive burning of mixed aged heather by sheep farmers

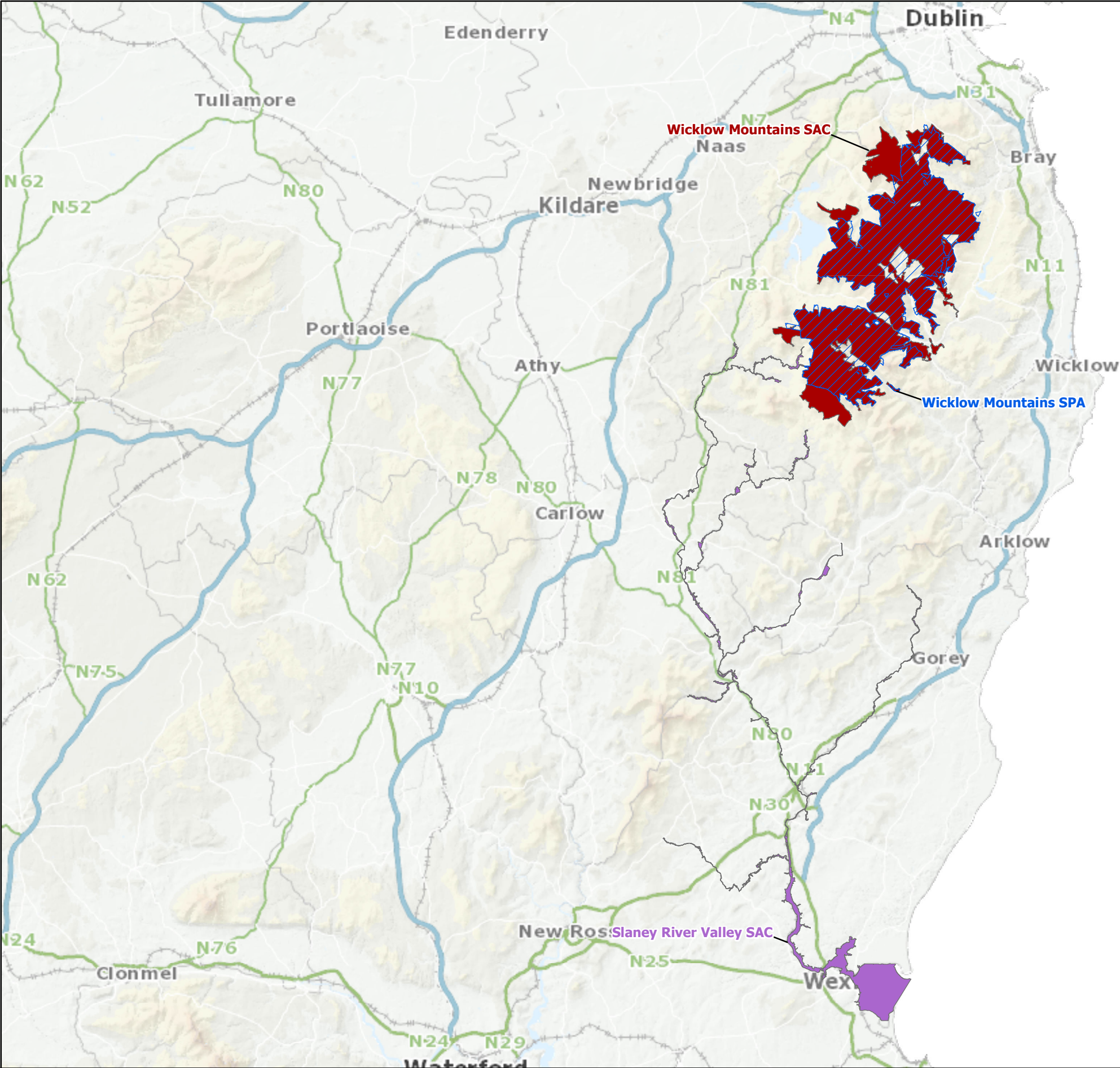
A103 Peregrine *Falco peregrinus*

To maintain the Favourable conservation condition of Peregrine in Wicklow Mountains SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population size	Number of occupied territories	Breeding population is stable/increasing	Peregrine may breed in their first year, but typically wait until two years old or later (Ratcliffe, 1993). Annual occupancy of available territories can vary. The breeding component of the population for the site is defined here as the total number of 'occupied territories' and based on standard definitions (Hardey et al., 2009). The national population is considered stable (EEA, 2019), and the Co. Wicklow population is broadly stable at 28 occupied territories in 1981 (Norris and Wilson, 1983); 27 in 2002 (Madden et al., 2009); 17-27 in 2008-12 (Burke et al., 2015) and 31 occupied in 2017 (NPWS internal files). For the SPA, the population trend is also stable based on the most recent 2002 and 2017 national survey figures (i.e. 22 and 20 occupied territories, respectively)
Productivity rate	Number of fledged young per territorial pair	Sufficient to maintain the population size target	National surveys (1981; 1993; 2002; 2017) have given estimates of productivity and breeding success for Peregrine (e.g. Norris and Wilson, 1983; Norris 1995; Madden et al., 2009; NPWS internal files). Cold wet springs can delay/halt breeding (e.g. Norris and Wilson, 1983; Horne and Fielding, 2002) and affect productivity (Burke et al., 2015). Annual data 2008-12 for Co. Wicklow indicate variability in overall Peregrine breeding success (38.5-78.6%) and productivity rate (0.85-1.68), with the breeding performance of Peregrine (Burke et al., 2015) higher than national averages (Norris and Wilson 1983; Norris 1995; Madden et al., 2009) and also comparing favourably to Europe (Sale, 2016). For the SPA, 11 chicks fledged from 18 occupied territories in 2002 (0.61) and 14 chicks from 16 occupied territories in 2017 (0.88). A lack of comprehensive published annual data precludes the identification of a minimum productivity rate for this species at this site and at the national level
Distribution: extent of occupied territories within site	Numbers and distribution of occupied territories across site	Sufficient availability of suitable nesting sites throughout the SPA to maintain the population	Distribution captures the number of occupied territories and areas of suitable nesting habitat for the population and its availability for use. Peregrine defend nesting territories, with average nearest neighbour distance between pairs in Britain ranging from 2.1-9.0km (Ratcliffe, 1993). The equivalent range in Co. Wicklow (2008-12) was 0.7-16.6km (Burke et al., 2015). Optimal resilience depends on pairs utilising the SPA to the maximum extent possible. Uptake by breeding pairs varies annually, but the spatio-temporal patterns of use of the site by Peregrine should be maintained. Safe suitable ledges, typically 50cm by 50cm (Ratcliffe, 1993) or crags along coastal cliffs are available for nesting and levels of disturbance are not limiting occupancy of known sites. Peregrine will re-use breeding ledges and in Britain can nest on the ground in heathery slopes or on steep sand banks (Hardey et al. 2009)

Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat, and available prey biomass (i.e. small-medium sized birds, mammals) to support the population target	Open landscapes with plentiful supplies of small to medium-sized birds provide suitable foraging habitat. Peregrine have a generalist diet, feeding largely on birds caught in flight, and require sufficient prey populations of small to medium sized birds, though other prey items including small mammals are also taken. Ratcliffe (1993) noted pigeons, grouse, waders (including Snipe, <i>Gallinago gallinago</i>) and passerines occurred in over 80% of diets at 14 study areas across Britain, though the numbers of territories on which these reported figures are based were not provided. Most prey are caught within 2km of an eyrie, rarely beyond 6km, and hunting areas of neighbouring pairs can overlap (Hardey et al., 2009)
Disturbance to breeding sites	Intensity, timing, frequency and duration	Disturbance occurs at levels that does not significantly impact upon breeding population	The impact of any significant disturbance on the SPA's breeding population will ultimately be manifested in the targets that relate to population demographics (i.e. population trend, productivity rate) and the distribution of occupied territories across the SPA. Factors such as intensity, frequency, timing and duration of a potentially disturbing activity need to be taken into account to determine its significance on breeding Peregrine in the SPA. Pairs in remote locations may be more sensitive to disturbance. Activities above a nest are more likely to cause disturbance than below, and individual pair responses to disturbance may also vary. Safe viewing distances of nest sites are defined by Ruddock and Whitfield (2007). Four Wicklow-ringed birds have been recovered shot, as detailed in Burke et al. (2015), but it is unknown whether breeding pairs within the SPA itself have been targeted





Legend

-  Wicklow Mountains SPA 004040
-  Slaney River Valley SAC 000781
-  Wicklow Mountains SAC 002122