

# National Parks and Wildlife Service

## *Conservation Objectives Series*

Cross Lough (Killadoon) SPA 004212



**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*

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004212	Cross Lough (Killadoon) SPA
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A191	Sandwich Tern <i>Sterna sandvicensis</i>
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**Please note that this SPA overlaps with Cross Lough (Killadoon) SAC (000484) and adjoins West Connacht Coast SAC (002998). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping and adjoining sites as appropriate.**

## Supporting documents, relevant reports & publications

*Supporting documents, NPWS reports and publications are available for download from: [www.npws.ie/Publications](http://www.npws.ie/Publications)*

### NPWS Documents

<b>Year :</b>	2021
<b>Title :</b>	Estimated foraging ranges of the breeding seabirds of Ireland's marine special protected area network
<b>Author :</b>	Power, A.; McDonnell, P.; Tierney, T.D.
<b>Series :</b>	Published NPWS report
<b>Year :</b>	2022
<b>Title :</b>	Lady's Island Lake Tern Report 2022
<b>Author :</b>	Stubbings, E.; Büche, B.; Murray, T.; Newton, S.
<b>Series :</b>	BirdWatch Ireland Seabird Conservation Report to NPWS
<b>Year :</b>	2023
<b>Title :</b>	Lady's Island Lake Tern Report 2023
<b>Author :</b>	Stubbings, E.; Büche, B.; Murray, T.; Newton, S.
<b>Series :</b>	BirdWatch Ireland Seabird Conservation Report to NPWS
<b>Year :</b>	2024
<b>Title :</b>	Lady's Island Lake Tern Report 2024
<b>Author :</b>	Stubbings, E.; Büche, B.; Doyle, H.; Burke, B.; Newton, S.
<b>Series :</b>	BirdWatch Ireland Seabird Conservation Report to NPWS

## Other References

<b>Year :</b>	1985
<b>Title :</b>	The 1984 all Ireland tern survey
<b>Author :</b>	Whilde, A.
<b>Series :</b>	Irish Birds 3: 1-32
<b>Year :</b>	1997
<b>Title :</b>	The status and distribution of breeding sandwich, roseate, common, arctic and little terns in Ireland in 1995
<b>Author :</b>	Hannon, C.; Berrow, S.D.; Newton, S.F.
<b>Series :</b>	Irish Birds, 6: 1-22
<b>Year :</b>	2003
<b>Title :</b>	Implications for seaward extensions to existing breeding seabird colony Special Protection Areas
<b>Author :</b>	McSorley, C.A.; Dean, B.J.; Webb, A.; Reid J.B.
<b>Series :</b>	JNCC Report No. 329
<b>Year :</b>	2010
<b>Title :</b>	How Representative is the Current Monitoring of Breeding Seabirds in the UK?
<b>Author :</b>	Cook, A.S.C.P.; Robinson, R.A.
<b>Series :</b>	BTO Research Report No. 573
<b>Year :</b>	2019
<b>Title :</b>	Desk-based revision of seabird foraging ranges used for HRA screening
<b>Author :</b>	Woodward, I.; Thaxter, C.B.; Owen, E.; Cook, A.S.C.P.
<b>Series :</b>	BTO Research Report No. 724
<b>Year :</b>	2020
<b>Title :</b>	Sandwich Tern ( <i>Thalasseus sandvicensis</i> ), version 1.0. In Birds of the World (S. M. Billerman, Editor)
<b>Author :</b>	Shealer, D.; Liechty, J. S.; Pierce, A. R.; Pyle, P.; Patten., M. A.
<b>Series :</b>	Cornell Lab of Ornithology, Ithaca, NY, USA
<b>Year :</b>	2023
<b>Title :</b>	Seabirds Count: a census of breeding seabirds in Britain and Ireland (2015-2021)
<b>Author :</b>	Burnell, D.; Perkins, A.J.; Newton, S.F.; Bolton, M.; Tierney, T.D.; Dunn, T.E.
<b>Series :</b>	Lynx Nature Books, Barcelona

## Conservation Objectives for : Cross Lough (Killadoon) SPA [004212]

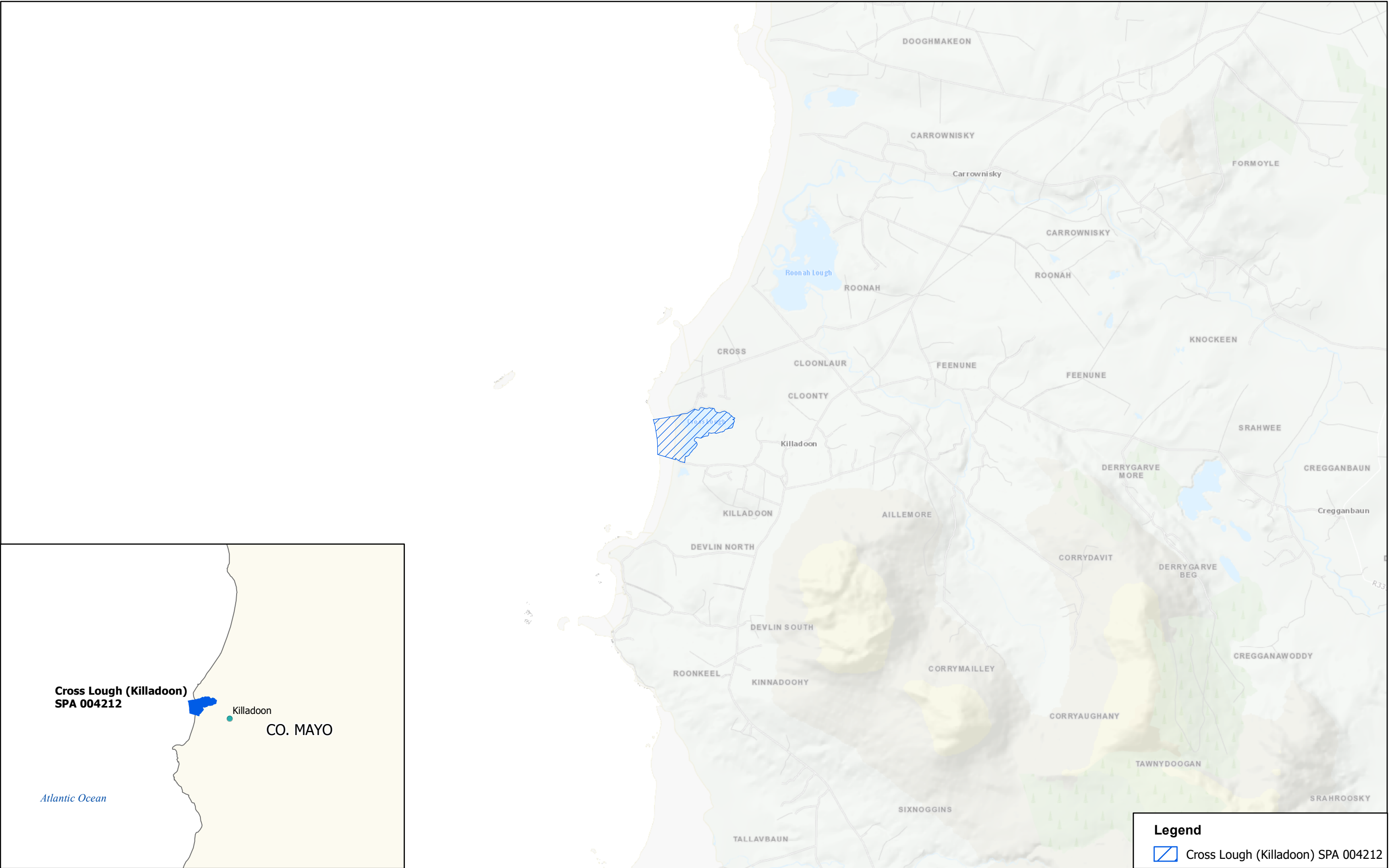
### A191 Sandwich Tern *Sterna sandvicensis*

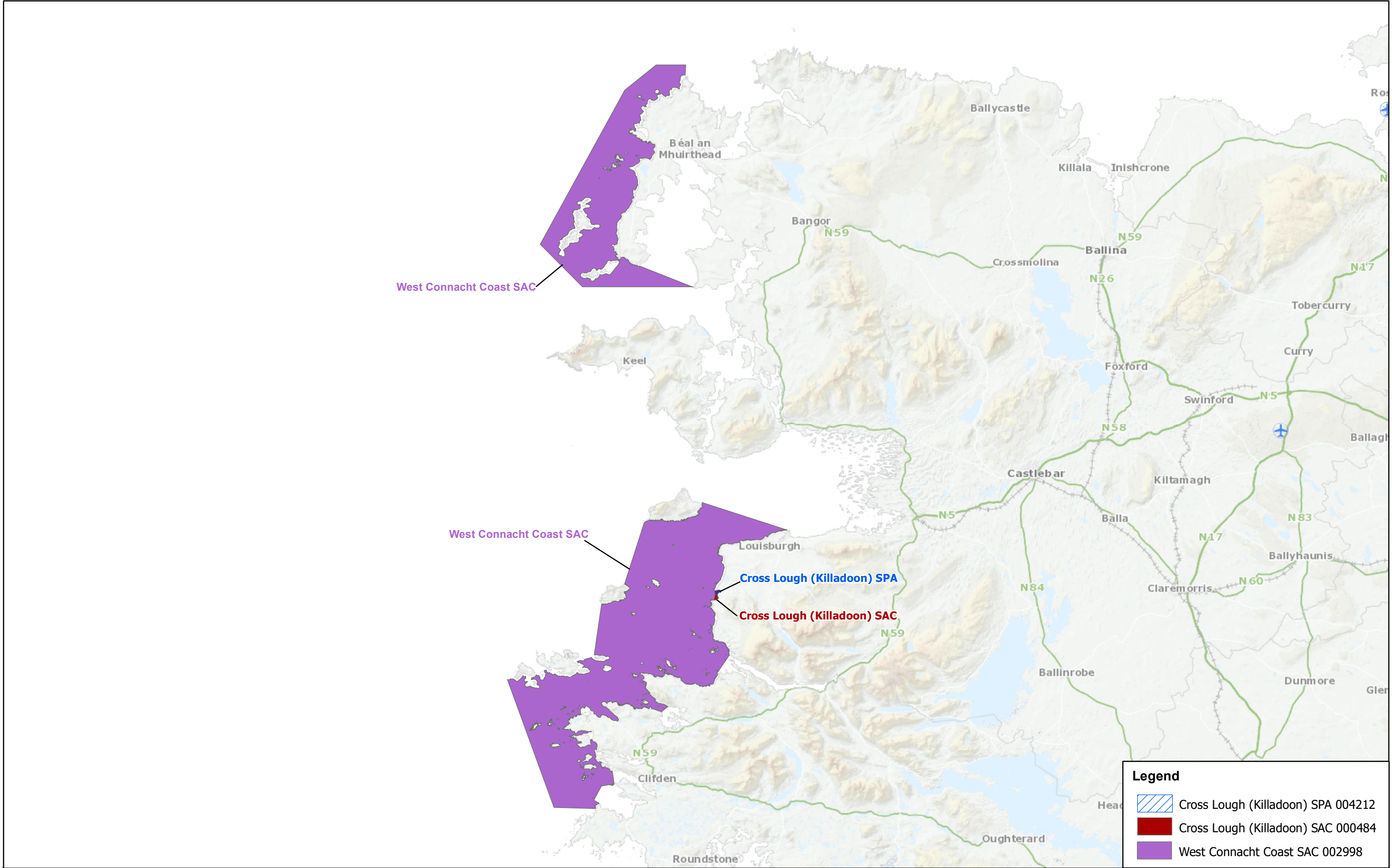
**To restore the Favourable conservation condition of Sandwich Tern in Cross Lough (Killadoon) SPA, which is defined by the following list of attributes and targets:**

Attribute	Measure	Target	Notes
Breeding population size	Number of Apparently Occupied Nests (AON)	Long term SPA population trend is stable or increasing	Sandwich Tern have bred at this SPA since at least 1984 when the population was 107 pairs (Whilde, 1985). The population declined to 70 pairs in 1995 (Hannon et al., 1997). Breeding has not been recorded since, despite visits every year between 2004 and 2024 (NPWS internal files), possibly as a result of predators. Some Sandwich Tern populations show strong site fidelity, but generally this species exhibits a distinct lack of fidelity to particular colony sites in most areas (Shealer et al., 2020). Therefore, if the breeding habitat is still suitable, it is possible that the species will nest there in future. Changing habitat (e.g. vegetation growth) and displacement from breeding colonies by large gull species has resulted in breeding range shifts for this species in Europe (Shealer et al., 2020). In contrast to the SPA, the national population has increased by 39% between 1998 - 2002 and 2015 - 2021, primarily as a result of increases at large wardened colonies (Burnell et al., 2023)
Productivity rate	Number of fledged young per breeding pair	Sufficient to maintain a stable or increasing population	There was no productivity data available for this species in this SPA. The breeding population at Lady's Island Lake SPA is one of the most well monitored in the country. During the period 2022 - 2024 the estimated productively ranged from 0.13 to 0.72 chicks presumed fledged per AON with a mean of 0.49 (Stubbings et al., 2022, 2023 and 2024). Note the particularly low estimate of 0.13 in 2023 was caused by excessive predation at the study site and may not be representative of the SPA as a whole (Stubbings et al., 2023). Cook and Robinson (2010) undertook Population Viability Analyses (PVA) of a selection of breeding populations in the UK. Over their study period, Sandwich Tern productivity at monitored nests was 0.66. Were this level to be maintained, Sandwich Tern populations would decline by 62% over 25 years. For the population to stabilise, breeding success would have to increase to 1.1 chicks per nest per year
Distribution: extent of available nesting options within the SPA	Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain a stable or increasing population	Distribution encapsulates the number of locations and area of potentially suitable nesting habitat for the breeding population and its availability for use. The suitability and availability of habitat across the SPA may vary through time. This will affect the spatio-temporal patterns of use of the habitats by Sandwich Tern. Typically, colonies are located in areas with bare sand, small pebbles, or short grass (Shealer et al., 2020). In Ireland, all known large colonies are situated on marine or inland islands of varying distances from the mainland/shore. Sandwich Terns have traditionally nested at a small islet on this freshwater, coastal lake. The islet is approximately 100m from the lake-shore, making it vulnerable to mammalian predators such as American Mink <i>Neogale vison</i> . It has been suggested that American Mink may have contributed to Sandwich Tern abandoning this islet as a breeding colony (NPWS internal files)

Forage spatial distribution, extent, abundance and availability	Location, hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Sandwich Tern feed primarily along coastal marine areas. They are largely piscivorous. In north-temperate regions of Europe they primarily eat Clupeidae (herrings) and Ammodytidae (sandeels) families (Shealer et al., 2020). Based on several studies, Woodward et al. (2019) provide estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Sandwich Tern foraging ranges from the nest site during the breeding season, which are 9km, 34km, and 80km respectively (see Power et al., 2021)
Disturbance at the breeding site	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact on birds at the breeding site	Disturbance events at the nest site/breeding colony level can result in a reduction of overall productivity and even lead to the abandonment of the breeding colony. The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure, which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing, and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution
Disturbance at areas ecologically connected to the colony	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact on breeding population	Seabird species can make extensive use of the waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003). Additionally, some species may engage in maintenance behaviours outside of the breeding colony but not in the water. For example, terns may roost on rocky islets or beaches away from the breeding colony
Barriers to connectivity	Number, location, shape, and area (ha)	Barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	Seabirds, particularly during the breeding season, require regular access to waters ecologically connected to the colony in order to forage as well as to engage in other maintenance behaviours. Based on several studies, Woodward et al. (2019) provide estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Sandwich Tern foraging ranges from the nest site during the breeding season, which are 9km, 34km, and 80km respectively (see Power et al., 2021)







Legend

Cross Lough (Killadoon) SPA 004212

Cross Lough (Killadoon) SAC 000484

West Connacht Coast SAC 002998