

Information and resources: black-legged kittiwakes

This document provides information and resources on black-legged kittiwakes (*Rissa tridactyla*) to support OPRED Wild Birds Licence applications (but is not limited to these application types). This type of information and context is the minimum JNCC would expect to see in support of a Wild Birds Licence application from such sources, but the inclusion of more recent evidence is also encouraged.

Kittiwake ID and basic ecology

The following sources provide some basic information on kittiwake identification and ecology:

- [RSPB](#)
- [BTO](#)
- [Scottish Wildlife Trust](#)
- [The Cornell Lab](#)

Conservation and legal status

Kittiwakes are currently identified as a conservation priority in the following:

- [EU Birds Directive](#) - migratory species
- OSPAR [List of Threatened and/or Declining Species and Habitats](#)
- Red listed in [Birds of Conservation Concern 4](#) (2015 update)
- Amber listed in [Birds of Conservation Concern in Ireland 2014-2019](#) (2014 update)
- Classified as globally vulnerable on the [IUCN Red List](#)

Further information on [Conservation Designations for UK Taxa](#).

Population trends and estimates

A sample of kittiwake colonies in Britain and Ireland are monitored annually for abundance and productivity (no. of chicks fledged per pair) by the [Seabird Monitoring Programme](#) and these are supplemented by periodic censuses, every 15-20 years, which aim to provide counts for all colonies. Together, these data allow the identification of [trends](#) in both population size and productivity for [kittiwakes](#) in Britain and Ireland.

The population and productivity data are publicly available from the Seabird Monitoring Programme database (<https://app.bto.org/seabirds/public/>).

Behaviour

An overview of kittiwake behaviour during both the breeding and non-breeding seasons can be found in [Coulson, 2011](#). This book covers returning to the colony in spring, fledging, roosting, nesting, growth of chicks and departing the colony at the end of the breeding season, as well as survival, feeding, wintering areas, pressures, and population trends. An understanding of kittiwake behaviour permits a better understanding of bird presence at a colony and the potential impacts of works during various stages of the breeding season.

Phenology

Although kittiwakes have a defined breeding season (April – August), timings of arrival at the colony, nest building and egg laying will vary both within and between colonies due to latitude (northern colonies tend to breed later) and individual age and experience of the birds. Timings also vary between years due to variables including, but not limited to, weather (before and during the breeding season), disturbance and [food supply](#).

Information and data on kittiwake phenology can be found in the following resources:

- [Coulson, 2011](#)
- [Keogan et al 2018](#)
- [Hatch et al 2020](#)
- Annual reports are also produced for the islands of [Fair Isle](#) and [Skomer](#), which include data on kittiwake phenology for these colonies.

Note that no data has so far been collected for kittiwake colonies breeding offshore, but the breeding season is assumed to be the same as onshore colonies.

Factors affecting kittiwake demography

As with other seabird species, kittiwake population trends are strongly influenced by small changes in adult survival (e.g. [Jenouvrier et al 2005](#)). Whilst juvenile and immature survival tends to be lower and more variable year to year, enough young kittiwakes need to survive to recruit into the breeding population and replace older individuals lost from the population. Changes to productivity will also influence colony size and persistence, as will immigration and emigration (e.g. [Jenouvrier et al 2005](#)).

Seabirds are vulnerable to a large number of [pressures](#). Kittiwake demography is influenced by many factors including, but not limited to:

- food availability (e.g. [Christensen-Dalsgaard et al. 2018](#), [Reiertsen et al. 2014](#))
- climate change (e.g. [Alvestad 2015](#), [Cook et al. 2014](#), [Frederiksen et al. 2004](#), [Frederikson et al. 2007](#), [Goyert et al. 2018](#), [Mitchell et al. 2010](#))
- commercial fishing (e.g. [Carroll et al. 2017](#), [Frederikson et al. 2004](#), [Frederiksen et al. 2008](#), [Wanless et al. 2007](#))
- weather (e.g. [Christensen-Dalsgaard et al. 2018](#), [Newell et al. 2015](#), [Sandvik et al. 2005](#))
- pollutants (e.g. [Goutte et al. 2015](#), [Seys et al. 2002](#), [SOSI](#))
- direct mortality such as predation (e.g. [Heubeck 2002](#), [Massaro et al. 2000](#), [Oro & Furness 2002](#))
- collision with offshore wind farms ([Furness et al. 2013](#), [Masden et al. 2010](#)), and
- bycatch (e.g. [Bærum et al. 2019](#), [Miles et al. 2020](#), [Northridge et al. 2020](#)).

See Ruffino et al. 2020 Section 2 (<https://data.incc.gov.uk/data/c563bfa5-8177-4dc0-bcb3-4aeafef24b59/JNCC-Report-651-FINAL-WEB.pdf>) for a comprehensive review of factors influencing demographic rates in kittiwake populations.

General information on pressures that kittiwakes are sensitive to can be found in the following:

- [IUCN Red List](#)
- [International Black-legged Kittiwake Conservation Strategy and Action Plan](#)
- [Black-legged kittiwake population dynamics and drivers of population change in the context of offshore wind development](#)

Humans present a [perceived predation risk](#) to seabirds and so presence of humans around their colonies can result in disturbance. Disturbance may result in either visible behavioural or invisible physiological responses, or both.

Not all responses to disturbance are visible or behavioural. Physiological responses, or stress, have been recorded in a number of bird species (e.g. [Fowler 1999](#), [Nimon et al. 1995](#), [Wilson & Culik 1995](#)), and have been shown to reduce breeding success in some birds (e.g. [Silverin 1986](#)). [Beale and Monaghan, 2004](#) modelled levels of human disturbance and its impact on the breeding success of kittiwakes and guillemots at St Abbs Head NNR.

Evidence of birds breeding on offshore installations

There is currently limited published evidence of kittiwakes breeding on offshore installations in the Atlantic.

Kittiwakes were first observed breeding on platforms in Morecambe Bay by the [North Sea Bird Club](#) in 1998. Their annual reports detail any nesting attempts observed each year until 2017, after which records were no longer collected.

[Christensen-Dalsgaard et al \(2019\)](#) carried out a study to assess the extent of kittiwakes nesting on offshore platforms in Norway, and to compare the productivity of these colonies with those nesting onshore.