

National Parks and Wildlife Service

Conservation Objectives Series

River Boyne and River Blackwater SPA 004232



NPWS

An tSeirbhís Páirceanna
Náisiúnta agus Fiadhúlra
National Parks and Wildlife
Service

**National Parks and Wildlife Service,
Department of Housing, Local Government and Heritage,
90 King Street North, Dublin 7, D07 N7CV, Ireland.
Web: www.npws.ie
E-mail: natureconservation@npws.gov.ie**

Citation:

**NPWS (2024) Conservation Objectives: River Boyne and River Blackwater SPA
004232. 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*

004232 River Boyne and River Blackwater SPA

A229 Kingfisher *Alcedo atthis*

Please note that this SPA overlaps with River Boyne and River Blackwater SAC (002299). The conservation objectives for this site should be used in conjunction with those for the overlapping site 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 :	2008
Title :	Waterways Bird Survey 2008
Author :	Crowe, O.; Webb, G.; Collins, E.; Smiddy, P.
Series :	A report commissioned by the National Parks and Wildlife Service and the Office of Public Works, and prepared by BirdWatch Ireland
Year :	2010
Title :	Assessment of the distribution and abundance of Kingfisher <i>Alcedo atthis</i> and other riparian birds on six SAC river systems in Ireland
Author :	Cummins, S.; Fisher, J.; Gaj McKeever, R.; McNaghten, I.; Crowe, O.
Series :	V1
Year :	2013
Title :	A review of the SPA network of sites in the Republic of Ireland
Author :	NPWS
Series :	Unpublished Report

Other References

Year :	1977
Title :	Breeding, Mortality and Movements of Kingfishers
Author :	Morgan, R.; Glue, D.
Series :	Bird Study, 24(1), 15–24
Year :	1982
Title :	The Kingfisher
Author :	Boag, D.
Series :	Blandford Press, Dorset
Year :	1985
Title :	The birds of the Western Palearctic- Volume IV
Author :	Cramp, S.
Series :	Oxford University Press, Oxford
Year :	1993
Title :	Birds as indicators of changes in water quality
Author :	Ormerod, S.J.; Tyler, S.J.
Series :	In: Furness RW, Greenwood JJD, editors. Birds as monitors of environmental change. Chapman & Hall, London
Year :	1994
Title :	Birds in Europe: their conservation status
Author :	Tucker, G.M.; Heath, M.F.
Series :	BirdLife International, Cambridge, U.K.
Year :	1996
Title :	Foods brought to the nest by breeding Kingfishers <i>Alcedo atthis</i> in the New Forest of southern England
Author :	Reynolds S.J.; Hinge M.D.C.
Series :	Bird Study 43: 96–102

Year :	1997
Title :	The Birds of the Western Palearctic Concise Edition. Vol. 1 Non-Passerines
Author :	Snow, D.W.; Perrins, C.M.
Series :	Oxford University Press
Year :	2001
Title :	Family Acedinidae (Kingfishers)
Author :	Woodall, P.F.
Series :	In: del Hoyo, J., Elliott, A. and Christie, D.A. (eds), Handbook of the Birds of the World. Volume 6: Mousebirds to Hornbills: 130–249
Year :	2010
Title :	An assessment of the current distribution and status of the Kingfisher <i>Alcedo atthis</i> in Ireland
Author :	Crowe, O.; Cummins, S.; Gilligan, N.; Smiddy, P.; Tierney, T.D.
Series :	Irish Birds 9: 41-54
Year :	2011
Title :	Diet of the Common Kingfisher (<i>Alcedo atthis</i>) in relation to habitat type: a summary of results from the Czech Republic
Author :	Čech M.; Čech P.
Series :	Sylvia 47: 33–47
Year :	2012
Title :	Fish prey selection by the Common Kingfisher <i>Alcedo atthis</i> in Northern Iberia
Author :	Vilches A.; Miranda R.; Arizaga J.
Series :	Acta Ornithologica 47(2): 167-175
Year :	2012
Title :	Habitat selection by breeding Common Kingfishers (<i>Alcedo atthis</i> L.) in rivers from Northern Iberia
Author :	Vilches, A.; Miranda, R.; Arizaga, J.; Galicia, D.
Series :	In Annales de Limnologie-International Journal of Limnology (Vol. 48, No. 3, pp. 289-294). EDP Sciences
Year :	2019
Title :	Annex B – Bird species' status and trends report format (Article 12) for the period 2013 – 2018
Author :	NPWS
Series :	Birds Directive - Article 12 Reporting
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 :	Extreme breeding effort of Common Kingfisher (<i>Alcedo atthis</i>)
Author :	Rubáčová, L.; Melišková, M.
Series :	Tichodroma 32: 43-46
Year :	2021
Title :	Using miniaturized GPS archival tags to assess home range features of a small plunge-diving bird: the European Kingfisher (<i>Alcedo atthis</i>)
Author :	Musseau, R.; Bastianelli, M.; Bely, C.; Rouselle, C.; Dehorter, O.
Series :	Avian Research, 12(1):30

Year :	2022
Title :	Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species
Author :	Goodship, N.M.; Furness, R.W. (MacArthur Green)
Series :	NatureScot Research Report 1283
<hr/>	
Year :	2023
Title :	Sensitivity of the European Kingfisher (<i>Alcedo atthis</i>) to global change: evidence from home range features and contaminations by trace elements and organic pollutants, a case study in the marshes of Western Europe
Author :	Musseau, R.; Angelier, F.; Bichet, C.; Millet, M.; Rousselle, C.; Moreau, J.; Bustamante, P.
Series :	4th international Kingfisher conferencen, Biology, ecology & conservation, Wdecki Landscape Parc, Sep 2023, Tleń, Poland
<hr/>	
Year :	2024
Title :	EPA River Quality Surveys: Biological
Author :	EPA
Series :	Enviornmenal Protection Agency Online Resource
<hr/>	

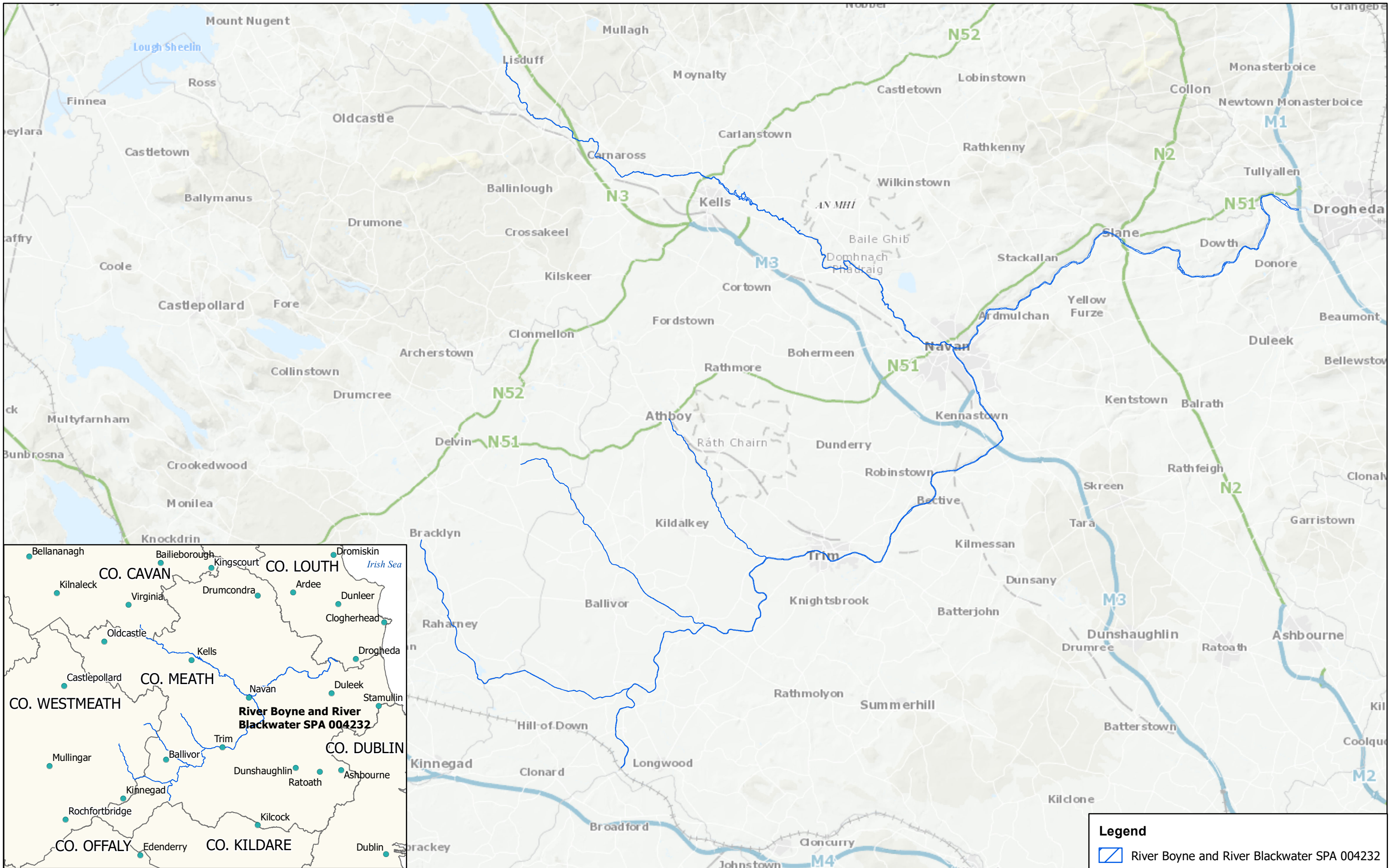
A229 Kingfisher *Alcedo atthis*

To maintain the Favourable conservation condition of Kingfisher in River Boyne and River Blackwater SPA, which is defined by the following list of attributes and targets:


Attribute	Measure	Target	Notes
Population size	Number of breeding territories/pairs	No significant decline in the long term	Kingfisher is a small plunge-diving bird, largely resident and monogamous in the breeding season, found typically along shallow freshwater systems, with some local movement to coastal areas in winter (Snow and Perrins, 1997; Crowe et al., 2010). Almost two-thirds of recoveries in Britain refer to movements of less than 9km (Morgan and Glue, 1977). Widespread in Ireland (NPWS, 2019), it requires slow-moving water that contains thriving prey populations of small fish, and look-out perches from which it can hunt (Snow and Perrins, 1997). The all-Ireland population is estimated at 1,300-2,100 pairs (NPWS, 2013). A survey of six SAC river catchments in 2010 identified this SPA as supporting 15-19 breeding territories/pairs, or up to 1.4% of the all-Ireland population. The measure 'breeding territories' is as per Cummins et al. (2010) and these were estimated based on registrations of birds, birds' activities, and nest holes seen, primarily on the first two survey visits (out of three)
Productivity rate	Number of fledged young per confirmed breeding pair	Sufficient productivity to maintain the population trend as stable or increasing	Generally, the setting of a minimum level of productivity to ensure a stable and/or increasing population at a given site ought to be informed by robust estimates of: post-fledging survival; adult survival; and immigration and emigration rates. A lack of comprehensive Irish data precludes the identification of a minimum productivity rate for this species at this site and at the national level. An analysis of available British nest records by Morgan and Glue (1977) estimated that 76 young must survive to breed for every 100 Kingfisher alive at the start of the year, in order to maintain population stability and offset high adult mortality. Typically one to two broods are reared (Snow and Perrins, 1997), though in Central Europe, up to five breeding attempts have been recorded in a single season in Slovakia (Rubáčová and Melišková, 2020)
Spatial distribution of territories	Numbers and distribution of occupied territories across site	No significant loss of distribution in the long term, other than that occurring due to natural patterns of variation	Distribution encapsulates the number of locations and areas of potentially suitable habitat for Kingfisher and its availability for use. The suitability and availability of habitats are likely to vary through the season, for example, due to water level changes (due to rainfall, natural variation and other factors). These will affect the spatio-temporal patterns of use of the SPA by the breeding population. Optimal resilience depends on Kingfisher utilising the suitable extent of habitat in the SPA to the maximum extent possible. In 2010, densities of 0.09-0.12 territories/km length of channel were recorded for this site (Cummins et al., 2010), and these were among the highest territory abundance recorded in surveys, with the lowest densities (0.04-0.08 territories/km) found on the Barrow and the Munster Blackwater systems (0.05 territories/km). A study of 16 GPS-tagged adult Kingfisher in France (Musseau et al., 2023), estimated mean home range size at 2.5ha (0.25km ²)

Extent and quality of nesting banks and other suitable nesting features	Hectares; condition assessment	Sufficient area of high quality nesting habitat to support the population target	Nesting from March to July in Britain, Boag (1982) detailed Kingfisher breeding habitat as being limited by the amount of prey, and the availability of suitable nest sites. Slow-flowing, shallow watercourses with cover along the banks are preferred. In Ireland, they nest in relatively short stretches of suitable banks of less than 10m high (Crowe et al., 2010), but are reliant on suitable fishing conditions (water depth, clarity, and speed of flow). Suitable sand/loam/mud banks (vertical/overhanging) for nesting are necessary to support breeding pairs (Snow and Perrins, 1997; Crowe et al., 2010). Holes in walls, rotten tree stumps, concrete tunnels in canal banks, or burrows of Sand Martin (<i>Riparia riparia</i>) are also used. Suitable nest sites located away from the river channel are likely less frequently encountered, but records located over 250m from foraging waters occur (Crowe et al., 2010) and often in a stream or tributary of the main watercourse (Morgan and Glue, 1977)
Forage spatial distribution, extent, abundance and availability	Location, hectares, and forage biomass	Sufficient number of locations, area of suitable forage habitat and available forage biomass to support the population target	Kingfisher occur in many wetland habitats, including smaller types (e.g. ditches, ponds, streams), that provide necessary trophic resources and are ecologically connected (Musseau et al., 2021). Kingfisher diet consists predominantly of small fish/aquatic invertebrates which are captured by plunge-diving, typically over shallow freshwater or estuarine waters (Snow and Perrins, 1997). Pelagic and benthic fish species can be taken (Cramp, 1985) e.g. Three-spined Stickleback (<i>Gasterosteus aculeatus</i>), Minnow (<i>Phoxinus phoxinus</i>), Bullhead (<i>Cottus gobio</i>) and Brown Trout (<i>Salmo trutta</i>). Kingfisher prey mostly on small-sized fish, typically 40-70mm in length (Reynolds and Hinge, 1996; Čech and Čech, 2011; Vilches et al., 2012). Availability of suitable fishing perches, along shallow stretches of water from which Kingfisher can hunt (Vilches et al., 2012), is also a key requirement
Water quality	Water quality indicators	Both biotic (i.e. Q-value) and abiotic indices reflect overall good-high quality status	Given that Kingfisher occupy wetlands ecologically connected to the wider landscape, habitat destruction, degradation via pollution (e.g. agricultural run-off; pesticides; increased turbidity) and/or poor management of watercourses (EEA, 2019; Crowe et al., 2010) are a concern. Data are limited for Kingfisher, but Dipper (<i>Cinclus cinclus</i>), an exclusively riparian bird, is less abundant where stream acidity and aluminium concentrations increase; its territories are longer at low pH, and clutch and brood sizes are significantly lower (Ormerod and Tyler, 1993). Thus, minimum water quality standards for the site should be met, as set out by the "River Quality Surveys" (Environmental Protection Agency, 2024). Q-values of ≥ 4 represent satisfactory water quality for Kingfisher. Values are based primarily on the relative proportions of 'pollution sensitive to tolerant macroinvertebrates'. These macroinvertebrates are eaten by both Kingfisher and their prey species (e.g. Brown Trout)
Barriers to connectivity	Number, location, shape and hectares	No significant increase	An adult male Kingfisher is territorial and usually defends its territory from the previous summer (Snow and Perrins, 1997), including necessary access to forage in freshwater habitats ecologically connected to their territory. Along the River Boyne system in 2008, Kingfisher were observed flying out of grass on banks (often short grass) and into fields for 150-200m, where they would disappear out of view (Crowe et al., 2008). Barriers limiting access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population size 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

Disturbance to breeding sites	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact upon breeding Kingfisher	The impact of any significant disturbance on the SPA's breeding population will ultimately be manifested in the targets, which relate to population demographics (i.e. population size, productivity rate) and the distribution of territories along the linear river catchments. Canalisation of streams and clearance of emergent vegetation to improve drainage result in loss of nesting and feeding habitat and declines in fish numbers (Tucker and Heath, 1994). In Britain, Kingfisher have been known to be at risk locally from human persecution to protect fish stocks (Woodall, 2001), but no evidence of this threat has been reported in Ireland. Likely disturbance distances in relation to human activities are set out in Goodship and Furness (MacArthur Green) (2022). 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 demographics
-------------------------------	---	--	--



Legend

 River Boyne and River Blackwater SPA 004232

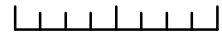


**MAP 1:
RIVER BOYNE AND RIVER BLACKWATER SPA
CONSERVATION OBJECTIVES
SPA DESIGNATION**

Map to be read in conjunction with the NPWS Conservation Objectives Document

**SITE CODE:
SPA 004232; version 3
CO. CAVAN, LOUTH, MEATH, WESTMEATH**

0 1.25 2.5 5 Kilometres



The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
© Includes National Mapping Division of Tailte Éireann data
reproduced under National Mapping Division of Tailte Éireann Licence number CYAL50351092.

Níl sna teorainneacha ar na léarscáileanna ach nod garshuimhach ginearálta. Féadfar athbheithnithe a déanamh ar theorainneacha na gceantar comharthaithe. © Folaíonn sé rannán Náisiúnta Mapála de shonraí Tailte Éireann
arna atáirgeadh faoin rannán mapála Náisiúnta d'úimhir cheadúnais Tailte Éireann CYAL50351092

**Map version 1
Date: May 2024**



