

# National Parks and Wildlife Service

## *Conservation Objectives Series*

### Ballinduff Turlough SAC 002295



An Roinn Tithíochta,  
Rialtais Áitiúil agus Oidhreacht  
Department of Housing,  
Local Government and Heritage

**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](http://www.npws.ie)  
E-mail: [nature.conservation@chg.gov.ie](mailto:nature.conservation@chg.gov.ie)**

**Citation:**

**NPWS (2021) Conservation Objectives: Ballinduff Turlough SAC 002295. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.**

**Series Editor: Rebecca Jeffrey  
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*

---

002295      Ballinduff Turlough SAC

---

3180      Turloughs\*

## 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

**Year :** 2017  
**Title :** Conservation objectives supporting document: Turloughs\* and Rivers with muddy banks with *Chenopodium rubri* p.p. and *Bidention* p.p. vegetation  
**Author :** O Connor, Á.  
**Series :** Conservation objectives supporting document

---

### Other References

**Year :** 1987  
**Title :** *Eurycercus glacialis*, a chydorid cladoceran new to Ireland  
**Author :** Duigan, C.A.; Frey, D.G.  
**Series :** Irish Naturalists' Journal 22 (5), 180–183

---

**Year :** 1992  
**Title :** A review of the scarce and threatened Coleoptera of Great Britain. Part 1. UK. Nature Conservation: 3  
**Author :** Hyman, P. S.; Parsons, M. S.  
**Series :** Joint Nature Conservation Committee, Peterborough, UK

---

**Year :** 1997  
**Title :** An Investigation of the Flooding Problems in the Gort–Ardrahan Area of South Galway. Ecology Baseline Study. Vols I and II.  
**Author :** Southern Water Global and Jennings O'Donovan and Partners (eds)  
**Series :** The Office of Public Works, Dublin

---

**Year :** 2005  
**Title :** Guidance on the Pressures and Impacts on Groundwater Dependent Terrestrial Ecosystems. Risk Assessment Sheet GWDTERA2a - Turloughs  
**Author :** Working Group on Groundwater (Turlough sub-committee)  
**Series :** Water Framework Directive Pressures and Impact Assessment Methodology - Guidance Document No. GW9

---

**Year :** 2005  
**Title :** An investigation of the plant, carabid, and staphylinid communities of turloughs in southeast Galway/north Clare, Ireland  
**Author :** Regan, E.C.  
**Series :** Unpublished Ph.D. Thesis, National University of Ireland, Galway

---

**Year :** 2005  
**Title :** Further records of carabid beetles from turloughs  
**Author :** Regan, E.C.  
**Series :** Irish Naturalists' Journal, 28(2): 59–61

---

**Year :** 2009  
**Title :** Teagasc EPA soil and subsoils mapping project-final report. Volume II  
**Author :** Fealy, R. M.; Green, S.; Loftus, M.; Meehan, R.; Radford, T.; Cronin, C.; Bulfin, M.  
**Series :** Teagasc, Dublin

---

**Year :** 2014  
**Title :** Interim classification, harmonisation and generalisation of county soil maps of Ireland. Irish soil information system final technical report 1  
**Author :** Jones, R.J.A.; Hannam, J.A.; Palmer, R.C.; Truckell, I.G.; Creamer, R.E.; McDonald, E.  
**Series :** Report for the EPA prepared by Teagasc and Cranfield University

---

**Year :** 2018  
**Title :** Irish Vegetation Classification: Technical Progress Report No. 4  
**Author :** Perrin, P.  
**Series :** Report submitted to National Biodiversity Data Centre

---

## Spatial data sources

**Year :** 2020

**Title :** Goodwillie et al. (1997) Land vegetation in the Gort lowlands

**GIS Operations :** Goodwillie et al. map scanned and georectified. Turlough as outlined on map digitised. New turlough dataset clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising

**Used For :** 3180 (map 2)

---

## Conservation Objectives for : Ballinduff Turlough SAC [002295]

### 3180 Turloughs\*

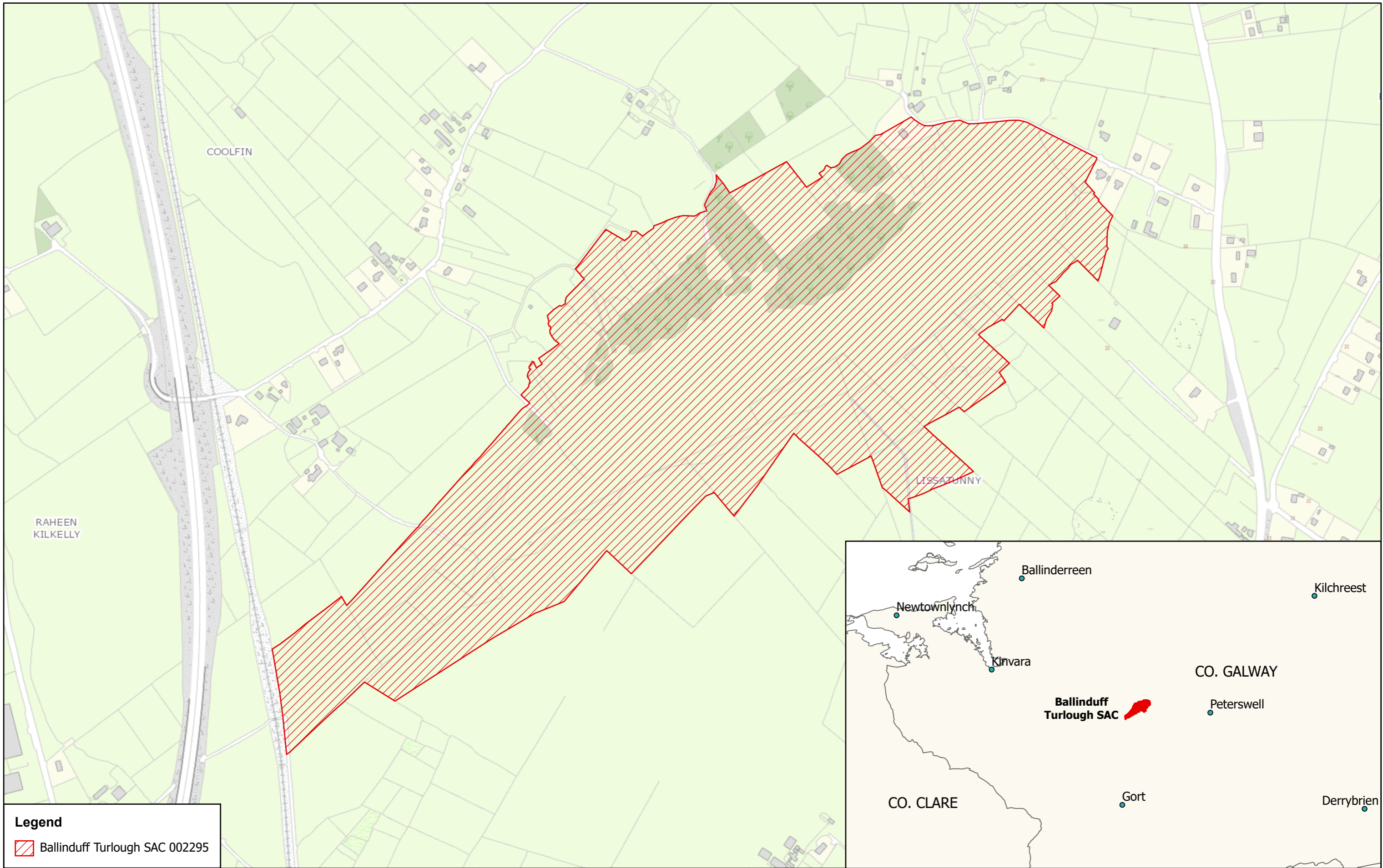
**To maintain the favourable conservation condition of Turloughs in Ballinduff Turlough SAC, which is defined by the following list of attributes and targets:**

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	Ballinduff Turlough SAC was studied by Goodwillie et al. (1997) as part of the Gort Flood Relief Scheme, and by Regan (2005). The turlough area in the SAC has been calculated as 29.8ha based on Goodwillie et al. (1997). See map 2 for known extent. See O Connor (2017) for information on all attributes and targets
Habitat distribution	Occurrence	No decline, subject to natural processes	See map 2
Hydrological regime	Various	Maintain appropriate natural hydrological regime necessary to support the natural structure and functioning of the habitat	Hydrological regime is sub-divided into more detailed attributes (groundwater contribution, flood duration, frequency, area and depth, and permanently flooded/wet areas) and targets in O Connor (2017). The hydrology of Ballinduff Turlough was studied as part of the Gort Flood Relief Scheme (SWG and Jennings O'Donovan and Partners, 1997). Ballinduff Turlough is part of the Coole Lough complex of lakes and turloughs. It is late-draining and a pool persists into June or July and re-floods easily. A marshy hollow in the middle of the southern section receives an inflow of water from the south. The hydrology of the site is likely to be controlled by a complex of swallow holes and subsidence near Coolfin. During floods, the turlough drains overland towards Coole Lough
Soil type	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	The Teagasc/EPA soils map by Fealy et al. (2009) classified the soils surrounding the central flooded turlough basin as lacustrine. Beyond this, most was shallow, well-drained, basic mineral soil over calcareous rock, with the north-eastern end characterised by deep, well-drained, basic mineral soil over limestone tills. Jones et al. (2014) classified the soils outside the central flooded basin as predominantly well-drained, fine loamy soil over limestone bedrock, with the north-eastern end classified as well-drained, fine loamy drift with limestones
Soil nutrient status: nitrogen and phosphorus	N and P concentration in soil	Maintain nutrient status appropriate to soil types and vegetation communities	
Physical structure: bare ground	Presence	Maintain sufficient wet bare ground, as appropriate	
Chemical processes: calcium carbonate deposition and concentration	Calcium carbonate deposition rate/soil concentration	Maintain appropriate calcium carbonate deposition rate and concentration in soil	
Active peat formation	Flood duration	Maintain active peat formation	



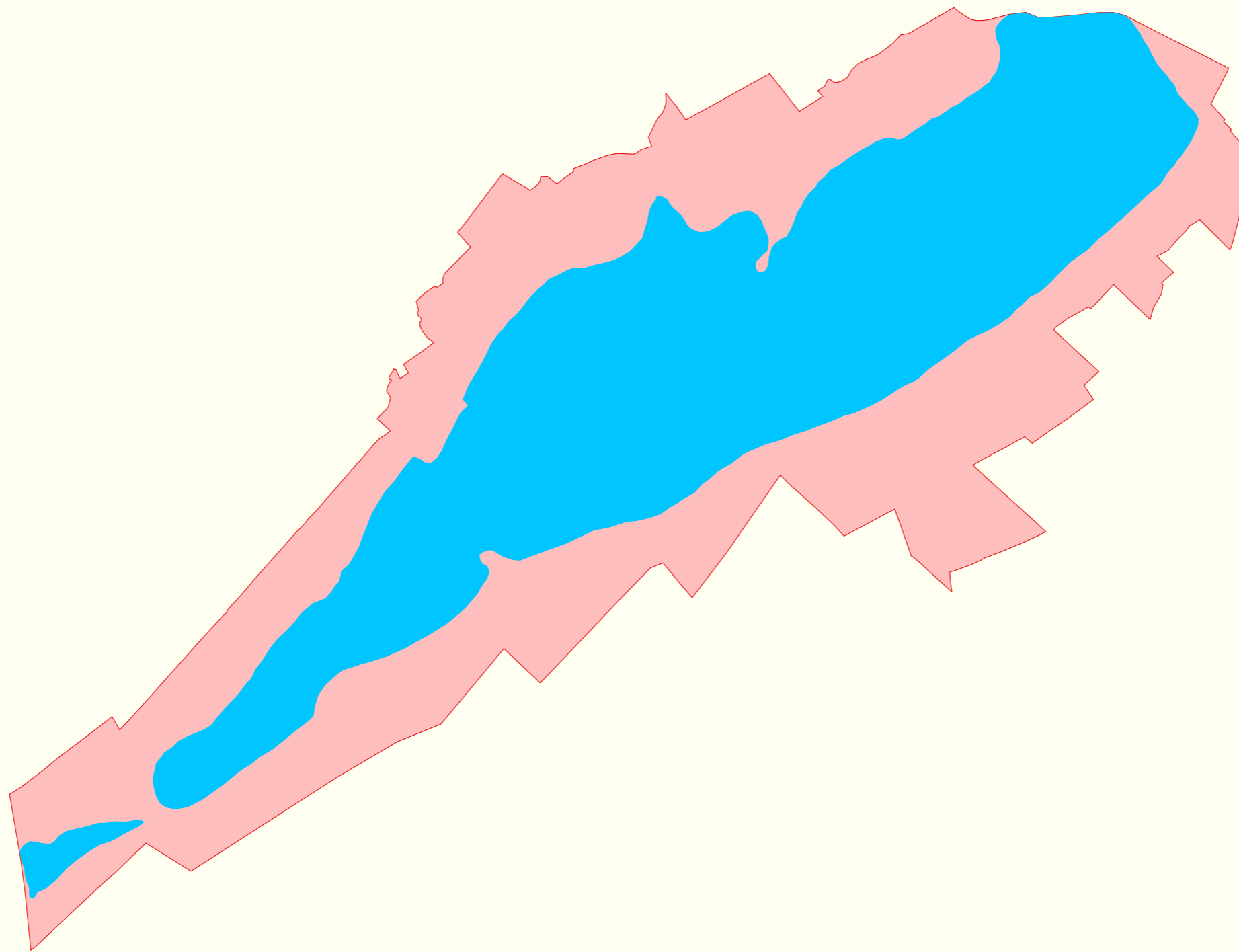
Water quality	Various	Maintain appropriate water quality to support the natural structure and functioning of the habitat	Water quality is sub-divided into more detailed attributes (nutrients, colour, phytoplankton and epiphyton biomass) and targets in O Connor (2017). See also The European Communities Environmental Objectives (Surface Waters) (Amendment) Regulations 2019. According to the Working Group on Groundwater (Turlough sub-committee) (2005), this turlough is classed as having a high trophic sensitivity (i.e. oligotrophic), but its natural trophic sensitivity is unknown. At a minimum, however, to be in favourable condition, Ballinduff Turlough has targets of $\leq 20\mu\text{g/l}$ for total phosphorus and should maintain trace/absent epiphyton as algal mats (<2% cover)
Vegetation composition: area of vegetation communities	Hectares	Maintain area of sensitive and high conservation value vegetation communities/units	Goodwillie et al. (1997) mapped the diverse communities of Ballinduff, which included a community of <i>Equisetum fluviatile</i> , <i>Polygonum amphibium</i> , <i>Eleocharis palustris</i> and <i>Schoenoplectus lacustris</i> in the wettest areas; a less wet community of <i>Carex lepidocarpa</i> , <i>Hydrocotyle vulgare</i> and <i>Juncus articulatus</i> ; a wide band of nutrient-poor <i>Molinia careulea</i> with <i>Carex nigra</i> , <i>C. lepidocarpa</i> and <i>C. hostiana</i> ; and a low <i>Rhamnus cathartica</i> woodland with <i>Fraxinus excelsior</i> , <i>Crataegus monogyna</i> , <i>Viburnum opulus</i> and others. Regan (2005) recorded three plots at Ballinduff. The data were run through the ERICA Tool Version 4.0 (Perrin, 2018) to identify the Irish Vegetation Classification community they most closely matched. Two plots were assigned to FE3B <i>C. nigra</i> - <i>Potentilla anserina</i> fen/mire community. The third plot was transitional but was closest to FE3A <i>C. nigra</i> - <i>Ranunculus flammula</i> fen/mire community
Vegetation composition: vegetation zonation	Distribution	Maintain vegetation zonation/mosaic characteristic of the turlough	Goodwillie et al. (1997) describes the zonation between various vegetation communities. In the wettest parts, species such as <i>Equisetum fluviatile</i> , <i>Polygonum amphibium</i> , <i>Eleocharis palustris</i> and <i>Schoenoplectus lacustris</i> occur. Higher up, <i>Carex lepidocarpa</i> , <i>Hydrocotyle vulgaris</i> and <i>Juncus articulatus</i> occur on marly rises. Another community with <i>Carex nigra</i> , <i>Agrostis stolonifera</i> , <i>Potentilla reptans</i> and <i>Potentilla anserina</i> was also reported, along with a wide band of a nutrient-poor <i>Molinia</i> -sedge community with <i>Carex nigra</i> , <i>C. lepidocarpa</i> and <i>C. hostiana</i> , and a raised area with <i>Littorella uniiflora</i> , <i>M. caerulea</i> , <i>Ophioglossum vulgatum</i> and others. Vegetation in the vicinity of the swallow-holes was also distinct, with a good woodland edge and tall herbs such as <i>Lysimachia vulgaris</i> and <i>Thalictrum flavum</i>
Vegetation structure: sward height	Centimetres	Maintain sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	Goodwillie et al. (1997) said there was little if any grazing at that time. Regan (2005) described the turlough as "abandoned", in terms of agricultural use, at the time of her survey
Typical species	Presence	Maintain typical species within the turlough	Typical species is sub-divided into more detailed attributes (terrestrial, wetland and aquatic plants, invertebrates and birds) and targets in O Connor (2017). Goodwillie et al. (1997) list <i>Rhamnus cathartica</i> and <i>Littorella uniiflora</i> as notably prominent. Regan (2005) recorded seven rare carabids here, of which <i>Badister meridionalis</i> , <i>Blethisia multipunctata</i> , <i>Chlaenius nigricomis</i> , <i>Pterostichus anthracinus</i> and <i>Pelophila borealis</i> are listed in the British Red Data Book (Hyman and Parsons, 1992), <i>Agonum lugens</i> is one of the few invertebrates recorded in Ireland and not in Britain, and <i>Pterostichus gracilis</i> has few modern records. The water flea <i>Eurycerus glacialis</i> was recorded at Ballinduff Turlough by Duigan and Frey (1987). The turlough is also noted for wintering whooper and Bewick's swans, both listed on Annex I of the Birds Directive

Fringing habitats: area	Hectares	Maintain marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations	
Vegetation structure: turlough woodland	Species diversity and woodland structure	Maintain appropriate turlough woodland diversity and structure	Low dense woodland that is liable to flood occurs in Ballinduff Turlough, mostly along the north-western edge of the basin. <i>Fraxinus excelsior</i> , <i>Rhamnus cathartica</i> and <i>Crataegus monogyna</i> are the main constituents, with other shrubs such as <i>Viburnum opulus</i> and <i>Euonymus europaeus</i> . The vicinity of the swallow-holes also has a good woodland edge, with tall herbs such as <i>Lysimachia vulgaris</i> , <i>Rubus caesius</i> and a large colony of <i>Thalictrum flavum</i> reported here



**Legend**

 Ballinduff Turlough SAC 002295



**Legend**

- 3180 Turloughs\*
- Ballinduff Turlough SAC 002295

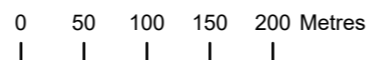


An Roinn Tithíochta,  
Rialtais Áitiúil agus Oidhreachta  
Department of Housing,  
Local Government and Heritage

**MAP 3:  
BALLINDUFF TURLOUGH SAC 002295  
CONSERVATION OBJECTIVES  
TURLOUGHs**

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

**SITE CODE:  
SAC 002295; version 3.01. CO. GALWAY**



The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.  
Ordnance Survey of Ireland Licence No OSI-NMA-014. © Ordnance Survey of Ireland Government of Ireland

Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbheithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh OSI-NMA-014. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann



**Map Version 1  
Date: November 2020**