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Conservation Objectives Series

Ballyvaughan Turlough SAC 000996

An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
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
E-mail: nature.conservation@chg.gov.ie

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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***

000996	Ballyvaughan Turlough SAC

3180	Turloughs*

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	1972
Title :	A preliminary report on Areas of Scientific Interest in County Clare
Author :	Goodwillie, R.N.
Series :	Unpublished report
Year :	2016
Title :	Ireland Red List No. 10: Vascular Plants
Author :	Wyse Jackson, M.; FitzPatrick, Ú.; Cole, E.; Jebb, M.; McFerran, D.; Sheehy Skeffington, M.; Wright, M.
Series :	Ireland Red List Series, NPWS
Year :	2017
Title :	Conservation objectives supporting document: Turloughs* and Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation
Author :	O Connor, Á.
Series :	Conservation objectives supporting document
Year :	2019
Title :	The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments
Author :	NPWS
Series :	Conservation assessments

Other References

Year :	1983
Title :	Flora of Connemara and the Burren
Author :	Webb, D.A.; Scannell, M.J.P.
Series :	Royal Dublin Society, Dublin and Cambridge University Press, Cambridge
Year :	2000
Title :	Flora of Connemara and the Burren - Records from 1984
Author :	Scannell, M.J.P.; Jebb, M.H.P.
Series :	Glasra 4: 7-45
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 :	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

Spatial data sources

Year :	2020
Title :	Internal NPWS data
GIS Operations :	Paper map scanned and georectified. Turlough as outlined on map digitised and clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	3180 (map 2)

Conservation Objectives for : Ballyvaughan Turlough SAC [000996]

3180 Turloughs*

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

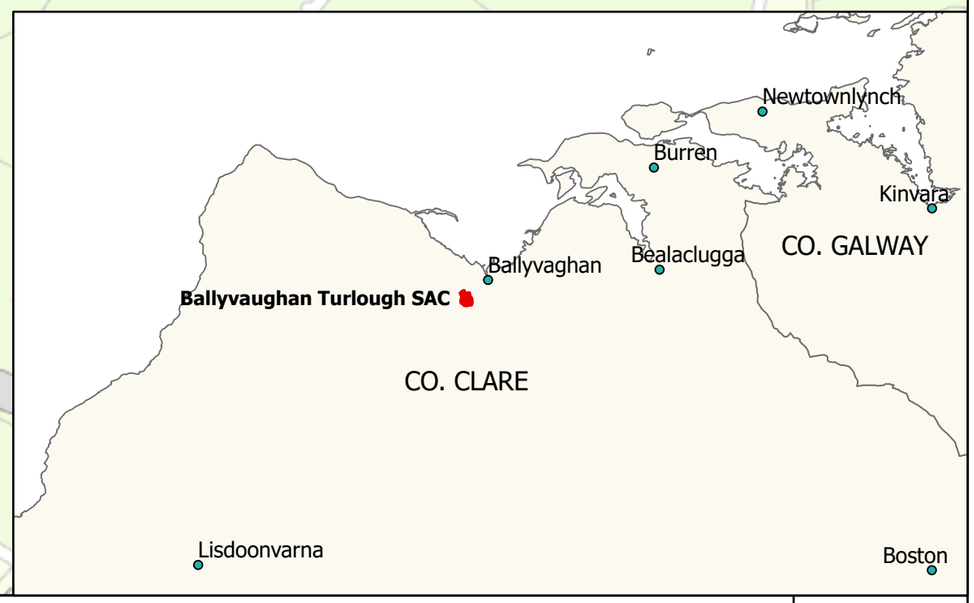
Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	A number of studies have been carried out at Ballyvaughan Turlough SAC (Goodwillie, 1972; Webb and Scannell, 1983; Scannell and Jebb, 2000; O'Neill and Martin, 2015). The turlough area in the SAC has been calculated as 2.7ha based on NPWS internal files. 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). Goodwillie (1972) and O'Neill and Martin (2015) described this turlough as dry in character. The land apparently floods from groundwater in the winter and is usually dry in the summer; the turlough also fills via a drain leading from another turlough in the area and empties via a drain into a ponding area that is maintained to help drain the pasture (O'Neill and Martin, 2015)
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 most of the soil in Ballyvaughan Turlough as basic, shallow, well-drained mineral soil over calcareous rock, with a smaller area of basic, deep, well-drained mineral soil over limestone tills identified to the south. Jones et al. (2014) in a later soil survey classified half of the soils in the turlough as well-drained loamy soil over limestone bedrock and the other half 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	Goodwillie (1972) described this turlough as "rather dry". O'Neill and Martin (2015) gave a similar description and did not note any bare ground, wet or dry, in the site description
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	There was no indication from the soil maps of Fealy et al. (2009) or Jones et al. (2014) of any peat formation at Ballyvaughan Turlough
Water quality	Various	Restore 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 Working Group on Groundwater (Turlough sub-committee) (2005), Ballyvaughan Turlough is currently classed as having a medium trophic sensitivity (i.e. mesotrophic), but is considered to be naturally oligotrophic. Therefore it has targets of ≤20µg/l for total phosphorus and trace/absent epiphyton as algal mats (<2% cover) to achieve favourable conservation condition

Vegetation composition: area of vegetation communities	Hectares	Restore area of sensitive and high conservation value vegetation communities/units	Goodwillie (1972) ranked this turlough as of Regional importance on the basis of abundant *Potentilla fruticosa*. However, a visit to the turlough in 2015 counted just 30 plants of *P. fruticosa* and the percentage of *Rhamnus cathartica-Potentilla fruticosa* scrub woodland was estimated at 25% (O'Neill and Martin, 2015). O'Neill and Martin (2015) rated the majority of the vegetation at the turlough as being of low conservation value because of the prevalence of improved agricultural grassland dominated by *Lolium perenne*, and a smaller proportion, approximately 20%, of species-poor semi-natural *Agrostis stolonifera-Ranunculus repens* grassland
Vegetation composition: vegetation zonation	Distribution	Maintain/restore vegetation zonation/mosaic characteristic of the turlough	According to O'Neill and Martin (2015), vegetation zonation does occur, from scrub (*Rhamnus cathartica*) to *Lolium* grassland to an *Agrostis stolonifera-Ranunculus repens* grass-forb community
Vegetation structure: sward height	Centimetres	Maintain/restore sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	NPWS internal files describe the turlough as relatively undisturbed with few signs of grazing or attempts at agricultural improvement. However, a more recent study (O'Neill and Martin, 2015) described the site as cattle pasture, with half the site improved agricultural grassland. Approximately 25% of the site was scrub, with *Rhamnus cathartica* frequent and *Potentilla fruticosa* occasional. This study found that the farmer prevented grazing in these areas to allow the rare *P. fruticosa* to grow. In the small areas of grass-forb vegetation that were not grazed, broadleaved herbs such as *Filipendula ulmaria* and *Lythrum salicaria* dominated (O'Neill and Martin, 2015)
Typical species	Presence	Maintain/restore 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). A rare *Taraxacum* species, *T. webbii,* was recorded from this turlough in the 1980s (Webb and Scannell, 1983). Goodwillie (1972) and NPWS internal files note the importance of Ballyvaughan Turlough for *Potentilla fruticosa*, a rare plant species listed as Vulnerable in Wyse Jackson et al. (2016). However, Scannell and Jebb (2000) noted a communication from A.S. Dunn to D.A. Webb in 1985 to the effect that *P. fruticosa* could not be found at the site, and that the site had been cleared in autumn-winter 1983-84. A survey in 2015 counted approximately 30 plants at this site (O'Neill and Martin, 2015)
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	NPWS internal files describe the vegetation of the turlough floor as dominated by shrubby species, particularly *Potentilla fruticosa*, with other shrubby species such as *Rhamnus cathartica* and *Viburnum opulus*. Turlough scrub around the edge was also described, mainly comprising *Corylus avellana* scrub with some *Fraxinus excelsior*, and grading into small patches of woodland in places, with *Euonymus europaeus* and *Ilex aquifolium* occurring as understorey species. A later study by O'Neill and Martin (2015) noted that approximately 25% of the site was scrub, with *Rhamnus cathartica* frequent, and that 30 plants of the rare plant *Potentilla fruticosa* were found throughout the *Rhamnus* scrub

BALLYVAGHAN

Salthill

St Joseph's Rd



Legend

Ballyvaughan Turlough SAC 000996

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Department of Housing, Local Government and Heritage

MAP 1:
BALLYVAUGHAN TURLOUGH SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION

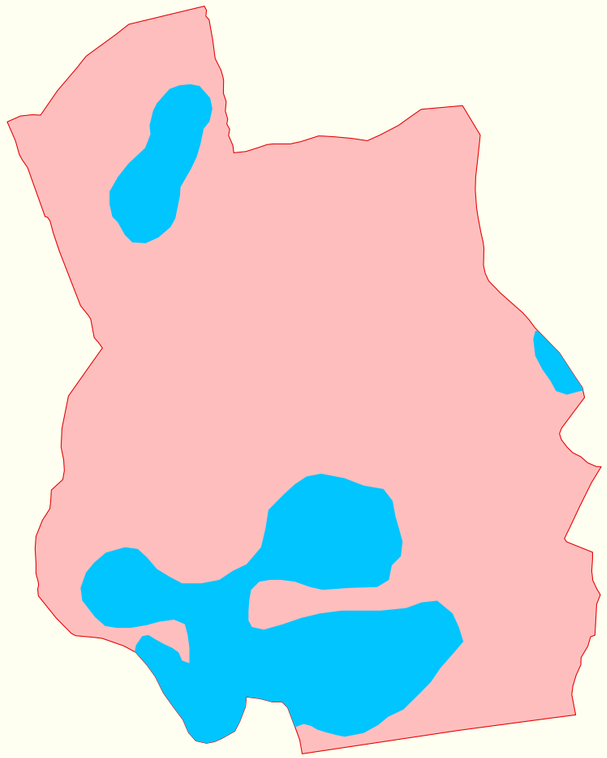
Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000996; version 3.01. CO. CLARE

0 25 50 75 100 Metres

N

Map Version 1
Date: November 2020



Legend

- 3180 Turloughs*
- Ballyvaughan Turlough SAC 000996

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Department of Housing, Local Government and Heritage

MAP 2:
BALLYVAUGHAN TURLOUGH SAC
CONSERVATION OBJECTIVES
TURLOUGHS

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

SITE CODE:
SAC 000996; version 3.01. CO. CLARE

0 25 50 75 100 Metres

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Map Version 1
Date: November 2020