

# National Parks and Wildlife Service

## *Conservation Objectives Series*

### Dooastle Turlough SAC 000492



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

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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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000492      Doocastle Turlough SAC

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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

<b>Year :</b>	1992
<b>Title :</b>	Turloughs over 10ha - Vegetation survey and evaluation
<b>Author :</b>	Goodwillie, R.N.
<b>Series :</b>	Unpublished report to NPWS
<hr/>	
<b>Year :</b>	2016
<b>Title :</b>	Ireland Red List No. 10: Vascular Plants
<b>Author :</b>	Wyse Jackson, M.; FitzPatrick, Ú.; Cole, E.; Jebb, M.; McFerran, D.; Sheehy Skeffington, M.; Wright, M.
<b>Series :</b>	Ireland Red List Series, NPWS
<hr/>	
<b>Year :</b>	2017
<b>Title :</b>	Conservation objectives supporting document: Turloughs* and Rivers with muddy banks with Chenopodium rubri p.p. and Bidenton p.p. vegetation
<b>Author :</b>	O Connor, Á.
<b>Series :</b>	Conservation objectives supporting document

### Other References

<b>Year :</b>	1986
<b>Title :</b>	A study of the geology, hydrology and geomorphology of turloughs
<b>Author :</b>	Coxon, C.
<b>Series :</b>	Unpublished Ph.D. Thesis, Trinity College Dublin
<hr/>	
<b>Year :</b>	2005
<b>Title :</b>	Guidance on the Pressures and Impacts on Groundwater Dependent Terrestrial Ecosystems. Risk Assessment Sheet GWDTERA2a - Turloughs
<b>Author :</b>	Working Group on Groundwater (Turlough sub-committee)
<b>Series :</b>	Water Framework Directive Pressures and Impact Assessment Methodology - Guidance Document No. GW9

## Spatial data sources

**Year :** 2020

**Title :** Goodwillie (1992) Turloughs over 10 hectares: Vegetation survey and evaluation

**GIS Operations :** Goodwillie 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)

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## Conservation Objectives for : Doocastle Turlough SAC [000492]

### 3180 Turloughs\*

**To maintain the favourable conservation condition of Turloughs in Doocastle 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	Doocastle Turlough was studied by Coxon (1986) and Goodwillie (1992). The turlough area in the SAC has been calculated as 47.2ha based on Goodwillie (1992). See map 2 for known extent. Goodwillie (1992) categorised Doocastle Turlough as being of national ecological importance. 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 Doocastle Turlough was studied by Coxon (1986) and Goodwillie (1992). Goodwillie (1992) recorded that a small intermittent stream flowed into the turlough from the east and seepage was recorded from a willow bed on the southern edge of the basin (Goodwillie,1992). Most of the ditch system within Doocastle Turlough was recorded as retaining water throughout the summer, and several dug-out ponds, particularly at the western end of the turlough, were recorded by Goodwillie (1992). Goodwillie (1992) also recorded a definite swallow hole (2m x 0.3m) on the south side of the turlough and it was also recorded that there was no external drainage, only the internal ditches
Soil type	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	The turlough habitat in the SAC has a range of soils. Coxon (1986) recorded 10cm of peaty soil over 20cm of organic clay, over 5cm of sand, over 45cm of grey plastic clay over silty sand. Goodwillie (1992) recorded that there was more peat accumulation in the south-east basin than elsewhere within the turlough. For further information on the soil types in Doocastle Turlough see Coxon (1986) and Goodwillie (1992)
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	Goodwillie (1992) recorded that the floodwater seemed moderately calcareous and therefore moderate calcium carbonate deposition rates could be expected
Active peat formation	Flood duration	Maintain active peat formation	Coxon (1986) recorded an upper layer of 10cm of peaty soil within the turlough basin and Goodwillie (1992) recorded that there was more peat accumulation in the south-east basin than elsewhere within the turlough

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. Doocastle Turlough should, typically, be naturally oligotrophic (Working Group on Groundwater (Turlough sub-committee), 2005). The targets for oligotrophic turloughs are $\leq 20\mu\text{g/l}$ total phosphorus and trace/absent epiphyton as algal mats (<2% cover), to reach favourable condition
Vegetation composition: area of vegetation communities	Hectares	Maintain area of sensitive and high conservation value vegetation communities/units	The vegetation of Doocastle Turlough is diverse and of the vegetation communities mapped by Goodwillie (1992), a wet <i>Carex nigra</i> community (6B) with <i>Carex panicea</i> and <i>Phalaris arundinacea</i> that covered the floor of the basin was the most common vegetation recorded. Goodwillie (1992) also recorded a relatively common tall herb community (3A) with <i>P. arundinacea</i> , <i>Filipendula ulmaria</i> and <i>Carex hirta</i> . In addition, Goodwillie (1992) recorded a poor grassland community (2B), and aquatic communities (9A) including charophytes. See Goodwillie (1992) for further information on vegetation communities in Doocastle Turlough
Vegetation composition: vegetation zonation	Distribution	Maintain vegetation zonation/mosaic characteristic of the turlough	Goodwillie (1992) recorded a mosaic of vegetation communities within the upper vegetation zone at Doocastle Turlough, including the tall herb community (3A) and areas of poor grassland (2B) with <i>Deschampsia cespitosa</i> and <i>Nardus stricta</i> . Moving down into the turlough Goodwillie (1992) recorded a wet <i>Carex nigra</i> community (6B) that covered the floor of the basin. The wettest parts of the turlough recorded by Goodwillie (1992) were the ditches and two shallow pools extending off them. <i>Equisetum fluviatile</i> occurred in the ditches with <i>Sparganium emersum</i> , <i>Sparganium erectum</i> , <i>Alisma plantago-aquatica</i> and <i>Potamogeton</i> species. In the pools Goodwillie (1992) recorded <i>Polygonum hydropiper</i> mixed with <i>Glyceria fluitans</i> , <i>Ranunculus trichophyllus</i> , <i>Apium inundatum</i> , <i>Rorippa palustris</i> and <i>Chara vulgaris</i> var. <i>vulgaris</i> . See Goodwillie (1992) for further information on vegetation communities in Doocastle Turlough
Vegetation structure: sward height	Centimetres	Maintain sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	Heavy cattle grazing and some sheep grazing was recorded within Doocastle Turlough by Goodwillie (1992). East of the castle Goodwillie (1992) recorded some cattle grazing, in addition to meadows mown for hay that were recorded along the south-eastern edge
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). One rare and notable plant species has been recorded within Doocastle Turlough. Goodwillie (1992) recorded <i>Stellaria palustris</i> within some of the ditches at the western end of the turlough, <i>S. palustris</i> is listed as Least Concern in Wyse Jackson et al. (2016). Small numbers of wintering Whooper Swan and Golden Plover, species listed on Annex I of the Birds Directive have been recorded in the turlough. Other wintering waterfowl that have been reported in reasonably high numbers, for a relatively isolated turlough, include Wigeon, Teal, Curlew and Lapwing (NPWS internal files)
Fringing habitats: area	Hectares	Maintain marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations	



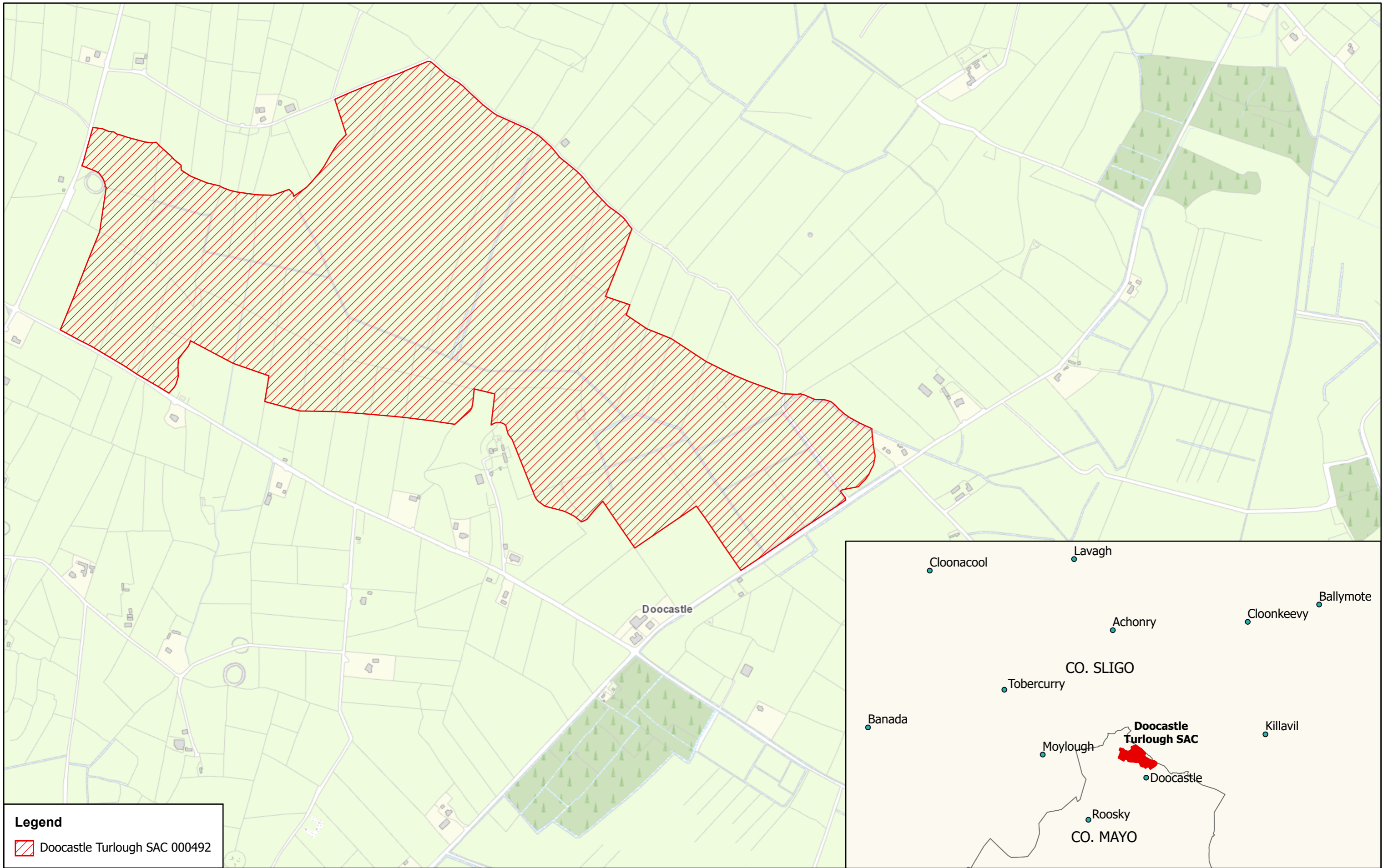
Vegetation structure: turlough woodland

Species diversity and woodland structure


Maintain appropriate turlough woodland diversity and structure

No turlough woodland was recorded for Doocastle Turlough by Goodwillie (1992). However, there are some hedgerows, treelines, and small groups of trees on the edges of the turlough that are visible on aerial photographs of the site

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**Legend**

 Doocastle Turlough SAC 000492



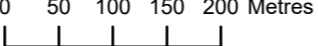
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**MAP 1:  
DOOCASTLE TURLOUGH SAC  
CONSERVATION OBJECTIVES  
SAC DESIGNATION**

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

**SITE CODE:  
SAC 000492; version 3. CO. MAYO**

0 50 100 150 200 Metres

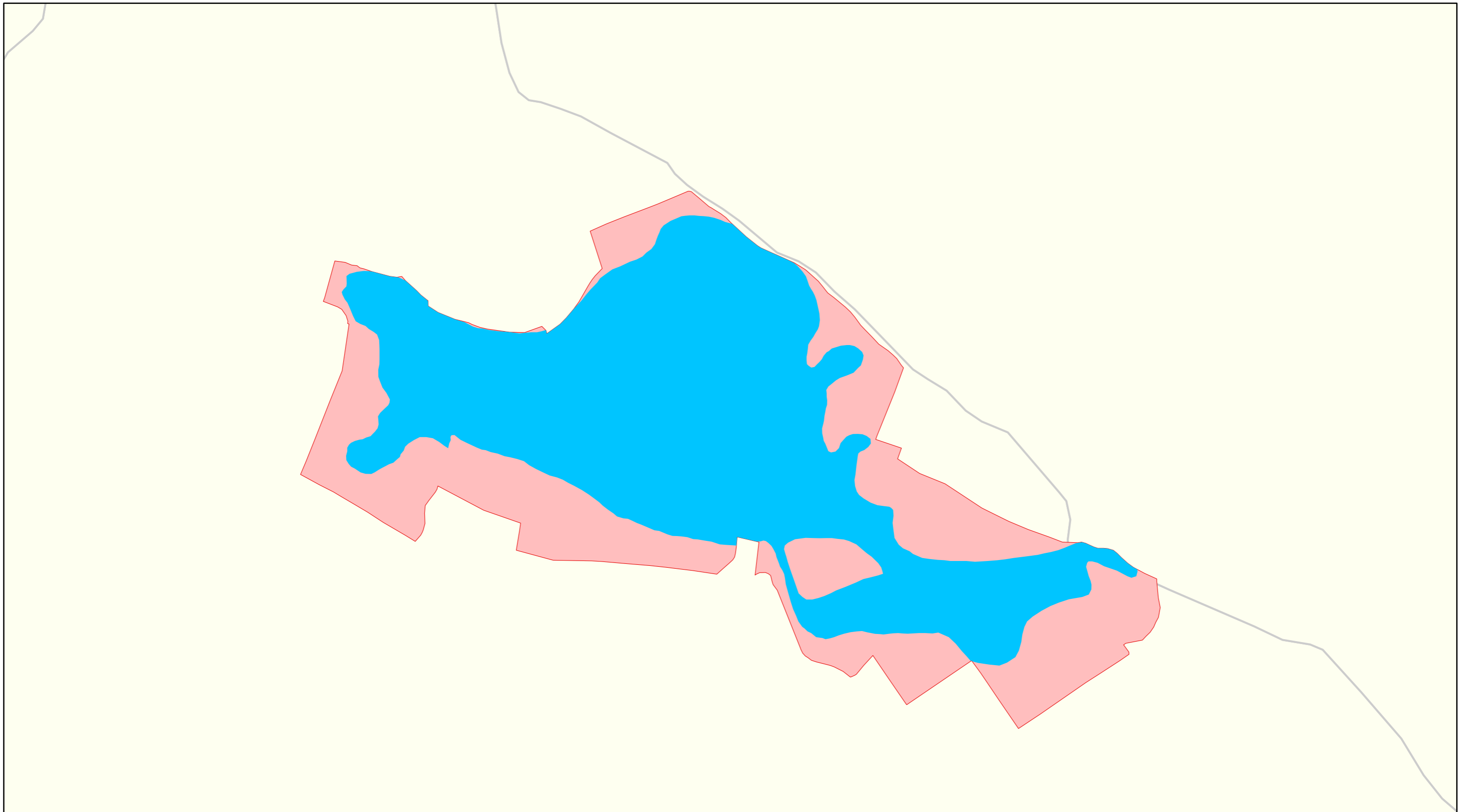


The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.  
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbheithnithe a déanamh ar theorainneacha 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



**Legend**

- 3180 Turloughs\*
- Doocastle Turlough SAC 000492