

# National Parks and Wildlife Service

## *Conservation Objectives Series*

Levally Lough SAC 000295



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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000295      Levally Lough 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>	1971
<b>Title :</b>	Provisional Survey of Areas of Scientific Interest in Co. Galway
<b>Author :</b>	Quinn, A.
<b>Series :</b>	Unpublished Report
<hr/>	
<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 <i>Chenopodium rubri</i> p.p. and <i>Bidenton</i> 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
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<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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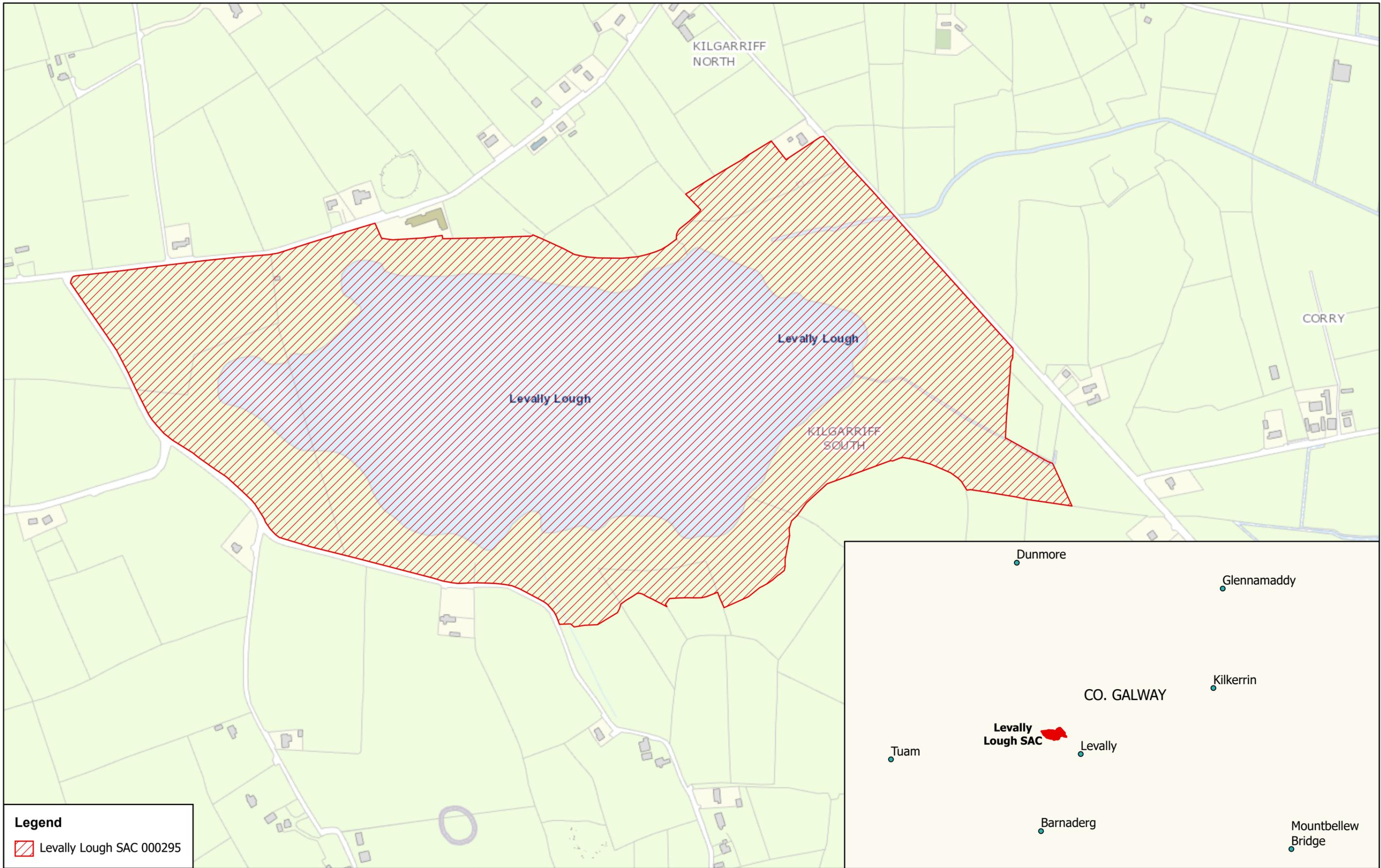
## Conservation Objectives for : Levally Lough SAC [000295]

### 3180 Turloughs\*

**To maintain the favourable conservation condition of Turloughs in Levally Lough 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	Levally Lough was studied by Coxon (1986) and Goodwillie (1992). The turlough area in the SAC has been calculated as 48.3ha based on Goodwillie (1992). See map 2 for known extent. Goodwillie (1992) categorised Levally Lough 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 Levally Lough was studied by Coxon (1986) and Goodwillie (1992). Goodwillie (1992) said Levally was a fluctuating lake and much of it was permanently flooded (marl pond and reedbed). He noted that water levels may have recently risen, and that the lake had not been dry for the previous three years (Goodwillie, 1992). An obvious swallow hole occurs in the north-east corner of Levally Lough in a large collapsed hollow of 10m diameter, and a number of smaller swallow holes surround it. An overground stream also enters the turlough in the north-east corner (Goodwillie, 1992). There was no evidence of drainage
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, notable amongst which are sand and gravel, which gives way to marl on the lake bed (Goodwillie, 1992). The marl depth varied from 25cm to more than 90cm deep, in areas it was rich in organic matter and shells (Coxon, 1986). The peat layer seemed quite thin, but this was not thoroughly investigated by Goodwillie (1992). For further information on soil type in Levally Lough 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	Soils in the turlough in the SAC generally had a high calcium carbonate content (Coxon, 1986)
Active peat formation	Flood duration	Maintain active peat formation	Peat is a feature of the turlough habitat in this SAC (Goodwillie, 1992)
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. This turlough should, typically, be naturally highly oligotrophic (Working Group on Groundwater (Turlough sub-committee), 2005) and requires a target of $\leq 10\mu\text{g/l}$ 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 Levally Lough is diverse, and of the mapped vegetation communities, a marl pond with abundant <i>Polygonum amphibium</i> (9C community) was the most extensive, with reed beds (11A community) also common (Goodwillie, 1992). Charophytes have been recorded within Levally Lough (Goodwillie, 1992). See Goodwillie (1992) for further information on vegetation communities in Levally Lough
Vegetation composition: vegetation zonation	Distribution	Maintain vegetation zonation/mosaic characteristic of the turlough	According to Goodwillie (1992), there was a mosaic of vegetation communities within the upper zones at Levally Lough, including areas of poor grassland (2B community) with <i>Schoenus</i> fen (4D community) in more peaty areas. At the lower levels of the turlough the <i>Polygonum amphibium</i> community was common. The main body of the lake was the largest marl pond and reedbed recorded in the 1992 survey. See Goodwillie (1992) for further information on vegetation communities in Levally Lough
Vegetation structure: sward height	Centimetres	Maintain sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	Grazing on the margins of Levally Lough was recorded by Goodwillie (1992)
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). Two rare and notable plant species have been recorded within Levally Lough. An unusual Speedwell ( <i>Veronica</i> sp.) hybrid, was found in the turlough by Goodwillie (1992); this hybrid is not listed in Wyse Jackson et al. (2016). Goodwillie (1992) also recorded the notable charophyte <i>Chara aculeolata</i> (under the synonym <i>Chara pedunculata</i> ) within the main body of Levally Lough. The site is well known for its wildfowl because of the permanence of the water, and wintering wildfowl recorded include Wigeon, Teal, Mallard, Pochard, Tufted Duck, Golden Plover, Lapwing and Curlew (NPWS internal files). Goodwillie (1992) also noted the presence of Lapwing and Black-headed Gull in summer
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 scrub or woodland was recorded for Levally Lough by Goodwillie (1992)



**Legend**

 Levally Lough SAC 000295



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**MAP 1:  
LEVALLY LOUGH SAC  
CONSERVATION OBJECTIVES  
SAC DESIGNATION**

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

**SITE CODE:  
SAC 000295; version 3.01. CO. GALWAY**

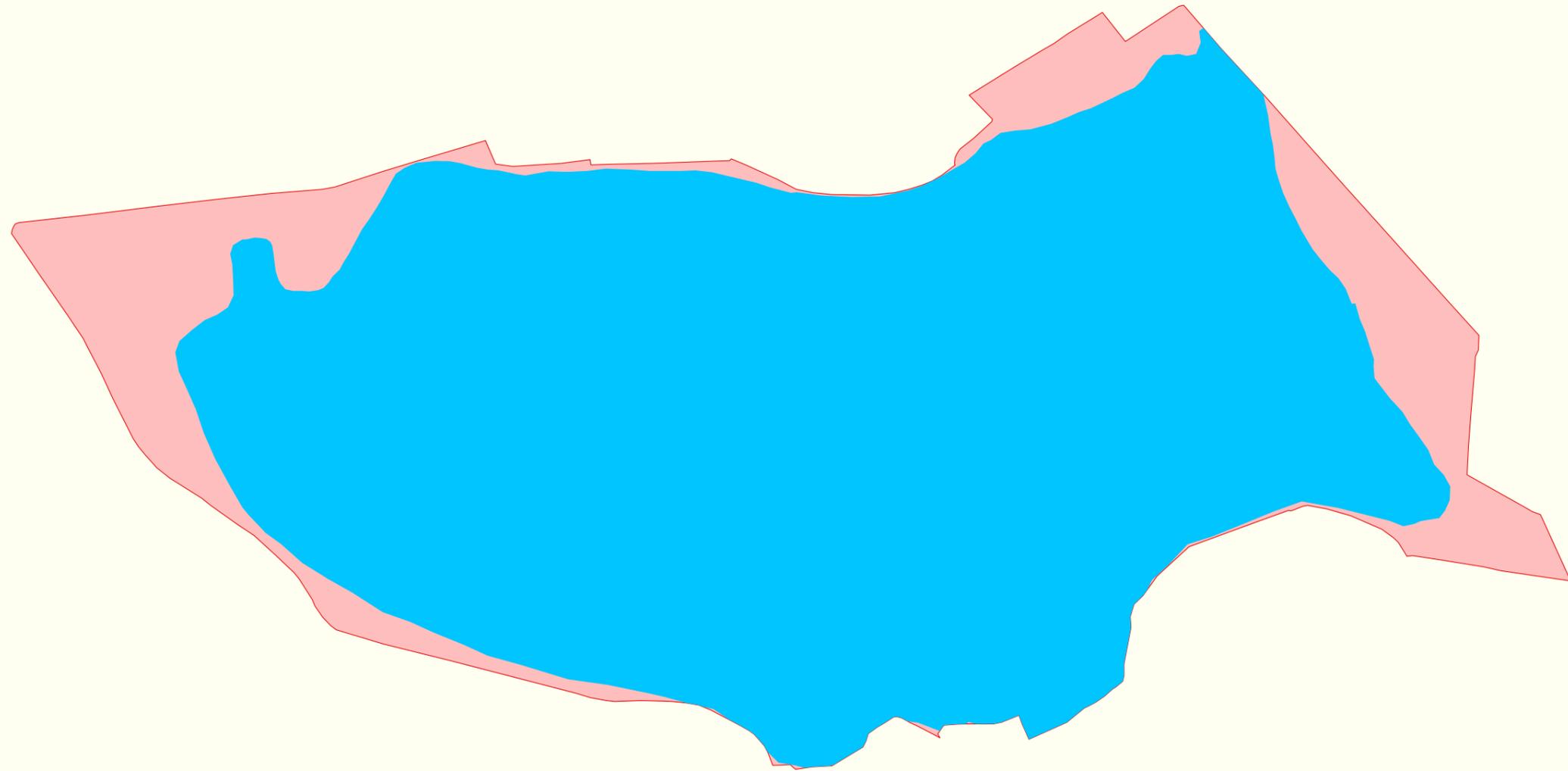
0 50 100 150 200 Metres

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**

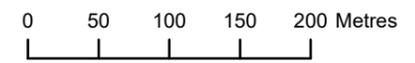
- 3180 Turloughs\*
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**MAP 2:  
LEVALLY LOUGH SAC  
CONSERVATION OBJECTIVES  
TURLOUGHS**

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

**SITE CODE:  
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**Map Version 1**  
**Date: November 2020**