

National Parks and Wildlife Service

Conservation Objectives Series

Skealaghan Turlough SAC 000541



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*

000541 Skealaghan 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 :	1992
Title :	Turloughs over 10ha - Vegetation survey and evaluation
Author :	Goodwillie, R.N.
Series :	Unpublished report to NPWS
Year :	2012
Title :	Ireland Red List No. 8: Bryophytes
Author :	Lockhart, N.; Hodgetts, N.; Holyoak, D.
Series :	Ireland Red List series, NPWS
Year :	2015
Title :	Turlough hydrology, ecology and conservation (Part 1)
Author :	Waldren, S. (ed.)
Series :	Unpublished report to NPWS
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 <i>Chenopodium rubri</i> p.p. and <i>Bidention</i> p.p. vegetation
Author :	O Connor, Á.
Series :	Conservation objectives supporting document

Other References

Year :	1986
Title :	A study of the geology, hydrology and geomorphology of turloughs
Author :	Coxon, C.
Series :	Unpublished Ph.D. Thesis, Trinity College Dublin
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 :	2003
Title :	Records of <i>Panagaeus crux-major</i> (Linnaeus) and <i>Pterostichus aterrimus</i> (Herbst) recorded on turloughs in Counties Clare and Mayo
Author :	Moran, J.; Gormally, M.J.; Sheehy Skeffington, M.
Series :	Irish Naturalists Journal 27 (8), 309–311
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 : Skealaghan Turlough, Co. Mayo: Implications of grazing and flooding regimes for plant and carabid beetle communities with reference to turlough farming systems in the region
Author : Moran, J.
Series : PhD Thesis, National University of Ireland, Galway

Year : 2011
Title : The hydrology and hydroecology of turloughs
Author : Naughton, O.
Series : Unpublished Ph.D. Thesis, Trinity College Dublin

Year : 2012
Title : Groundwater flooding in Irish karst: The hydrological characterisation of ephemeral lakes (turloughs)
Author : Naughton, O.; Johnston, P.M.; Gill, L.W.
Series : Journal of Hydrology, 470-471: 82-97

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 : 2015
Title : Turlough hydrology, ecology and conservation
GIS Operations : Dataset clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For : 3180 (map 2)

Conservation Objectives for : Skealaghan Turlough SAC [000541]

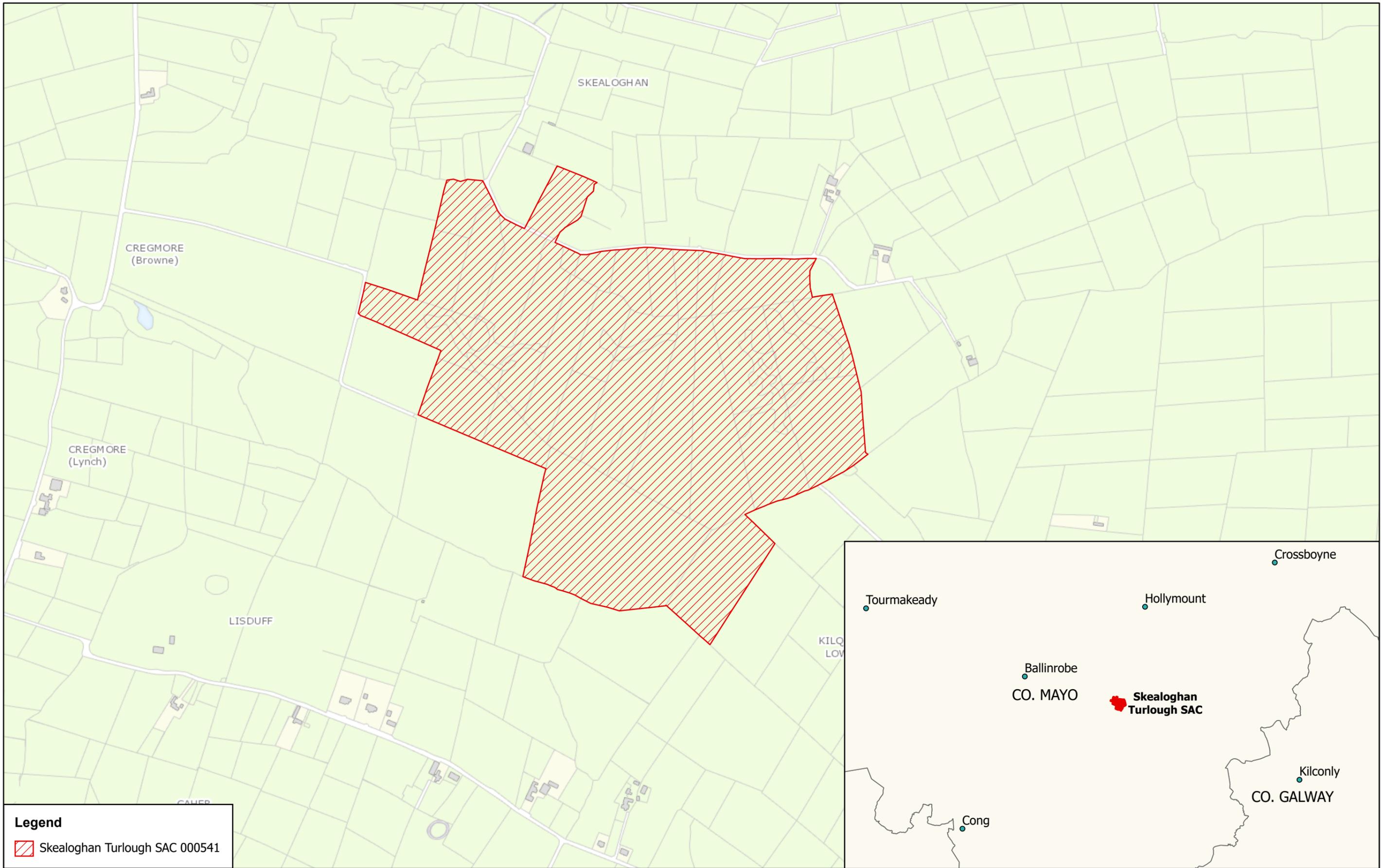
3180 Turloughs*

To restore the favourable conservation condition of Turloughs in Skealaghan 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	Skealaghan Turlough is a well-studied Irish turlough (Coxon, 1986; Goodwillie, 1992; Moran, 2005; Naughton, 2011; Waldren, 2015). The turlough area in the SAC has been calculated as 31.7ha based on Waldren (2015). See map 2 for known extent. Goodwillie (1992) categorised Skealaghan Turlough as being of regional, if not national, ecological importance. Skealaghan Turlough was assessed to be in unfavourable-inadequate (poor) conservation condition by Waldren (2015). 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 Skealaghan Turlough is well studied (Coxon, 1986; Goodwillie, 1992; Moran, 2005; Naughton, 2011; Naughton et al., 2012; Waldren, 2015). According to Waldren (2015), Skealaghan Turlough is hydrologically linked with Kilglassan and Ardkill turloughs; it typically has one major annual flood event but water level varies during the flooded period, and the drainage capacity of the turlough is very low. The hydroperiod measured by Waldren (2015) was 213 days. Goodwillie (1992) noted that water flow was from west to east in the basin, with two pools at the western end linked by a channel to the main waterbody. The largest swallow holes were in the west end, and small swallow holes existed in the north-east and south-east
Soil type	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	Waldren (2015) recorded that the soil of this turlough was circumneutral, two-thirds of the soil being fen peat, and the remainder, mainly on the upper slopes, comprising very shallow, well-drained organic soil
Soil nutrient status: nitrogen and phosphorus	N and P concentration in soil	Maintain/restore nutrient status appropriate to soil types and vegetation communities	Waldren (2015) recorded relatively high mean total nitrogen (TN) within the soils at Skealaghan Turlough of 22,383mg/kg TN and a mean total phosphorus (TP) of 1,059mg/kg TP, which was higher than the median figure for the turloughs reported on by Waldren (2015)
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 had a low calcium carbonate content of 6.72% (Waldren, 2015) at Skealaghan Turlough
Active peat formation	Flood duration	Maintain active peat formation	Skealaghan Turlough has extensive areas of fen peats, while very shallow, well-drained organic soils occupy the upper slopes (Waldren, 2015)

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. Waldren (2015) found a mean total phosphorus of 20.4µg/l, and mean total nitrogen of 0.9mg/l. Mean chlorophyll <i>a</i> was 6.9µg/l and the maximum was 11.8µg/l. Algal mats were observed in 2007 (extensive) and 2008 (visible but not extensive), but none in 2009. Waldren (2015) described the water quality overall as borderline good/intermediate. According to the Working Group on Groundwater (Turlough sub-committee) (2005), Skealaghan Turlough should, typically, be naturally highly oligotrophic and requires targets of ≤10µg/l total phosphorus and trace/absent epiphyton as algal mats (<2% cover) to reach favourable condition
Vegetation composition: area of vegetation communities	Hectares	Maintain/restore area of sensitive and high conservation value vegetation communities/units	The vegetation of Skealaghan Turlough is diverse. Of the vegetation communities mapped by Waldren (2015), the <i>Potentilla anserina-Carex nigra</i> community was the most extensive, with large amounts also of <i>Carex nigra-Carex panicea</i> and <i>Lolium</i> grassland. The <i>Molinia caerulea-Carex panicea</i> vegetation community, described as being of high conservation value, was also recorded (Waldren, 2015). These results are consistent with Moran's (2005) plot data, which were run through the ERICA Tool Version 4.0 (Perrin, 2018) to identify their best-fit Irish Vegetation Classification community. This analysis assigned two-thirds of plots to the GL1D <i>Carex nigra-Potentilla anserina</i> and FE3B <i>Molinia caerulea-Potentilla erecta-Agrostis stolonifera</i> communities, with the remainder mainly split between the GL2A <i>Agrostis stolonifera-Ranunculus repens</i> and GL1B <i>Agrostis stolonifera-Filipendula ulmaria</i> communities
Vegetation composition: vegetation zonation	Distribution	Maintain vegetation zonation/mosaic characteristic of the turlough	The vegetation map by Waldren (2015) shows a high degree of community diversity at Skealaghan Turlough, with a mosaic of communities evident rather than a simple transition of communities from turlough basin to edge. The most consistent feature is the <i>Potentilla anserina-Carex nigra</i> community in the basin but there is no clear pattern of zonation in the rest of the communities towards the upper levels of the turlough. Waldren (2015) also presented Goodwillie's (1992) vegetation community map and, even allowing for differences in vegetation community classification, there appears to have been considerable change in the intervening years. However, community diversity has been maintained
Vegetation structure: sward height	Centimetres	Maintain/restore sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	Waldren (2015) reported that almost all of the turlough was grazed by cattle, and that the level was relatively high

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 notable vascular plant species within Skealaghan Turlough is <i>Stellaria palustris</i> (NPWS internal files), formerly a red-listed species but now listed as Least Concern in Wyse Jackson et al. (2016). A notable moss species recorded in the turlough is <i>Drepanocladus sendtneri</i> , listed as Vulnerable in Lockhart et al. (2012). Waldren (2015) also noted the presence of the invertebrates <i>Alonella excisa</i> and <i>Eurycercus glacialis</i> in the turlough, and these were scored as "important aquatic invertebrates" in the structure and functions assessment. The ground beetle <i>Panagaeus crux-major</i> has also been reported from the site (Moran et al., 2003)
Fringing habitats: area	Hectares	Maintain/restore marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations	
Vegetation structure: turlough woodland	Species diversity and woodland structure	Maintain/restore appropriate turlough woodland diversity and structure	Goodwillie (1992) described a fringe of woodland with <i>Rhamnus cathartica</i> around the flat southern basin of the turlough. Some woodland has been cleared since then, but areas still remain



Legend

 Skealaghan Turlough SAC 000541



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

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

**SITE CODE:
SAC 000541; version 3.01. CO. MAYO**

0 50 100 150 200 Metres

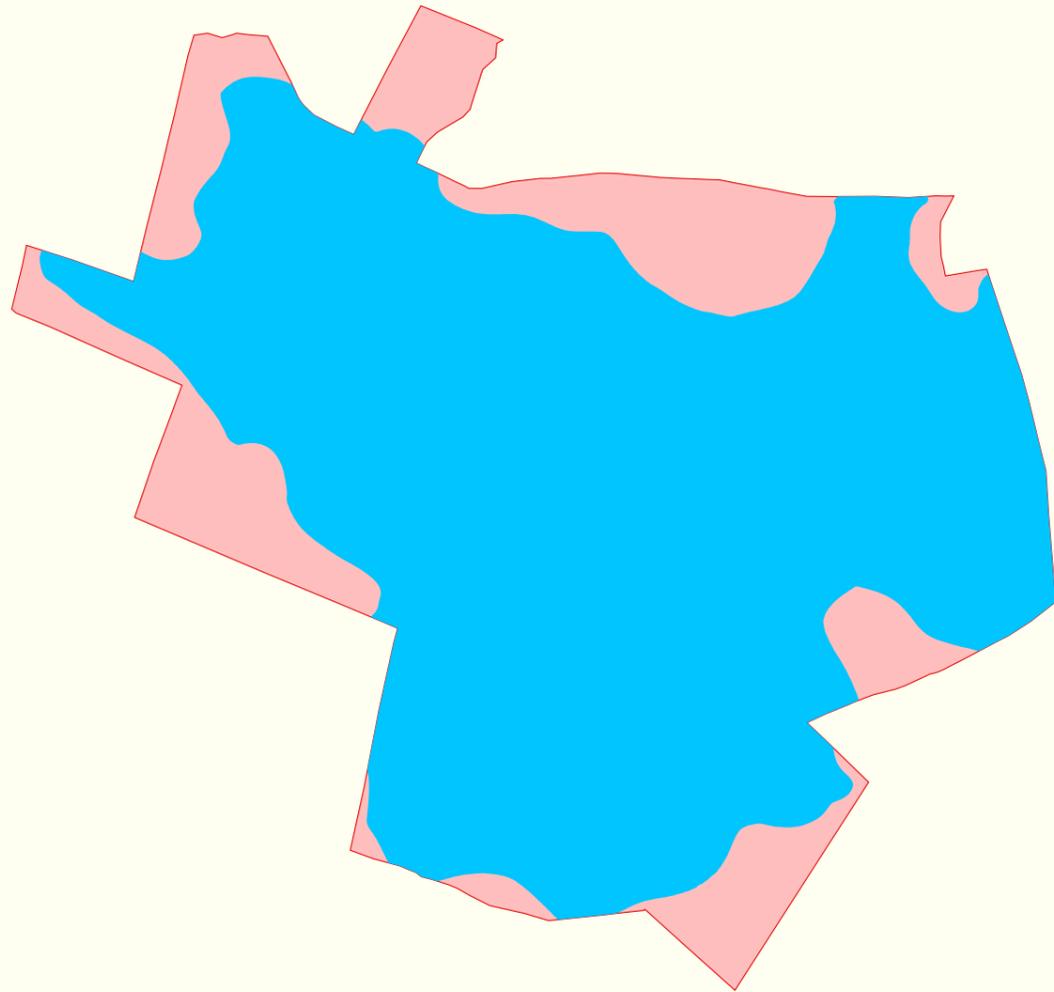


The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbheithnithe a déanamh ar theorainneacha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

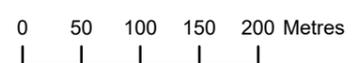
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**MAP 2:
SKEALOGHAN TURLOUGH SAC
CONSERVATION OBJECTIVES
TURLOUGHs**

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

**SITE CODE:
SAC 000541; version 3.01. CO. MAYO**



The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Map Version 1
Date: November 2020