

# National Parks and Wildlife Service

## *Conservation Objectives Series*

### Termon Lough SAC 001321



An Roinn Tithíochta,  
Rialtais Áitiúil agus Oidhreacht  
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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001321	Termon Lough SAC
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3180	Turloughs*
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**Please note that this SAC is adjacent to East Burren Complex SAC (001926). See map 2. The conservation objectives for this site should be used in conjunction with those for the adjacent site as appropriate**



## 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
<b>Year :</b>	2015
<b>Title :</b>	Turlough hydrology, ecology and conservation (Part 1)
<b>Author :</b>	Waldren, S. (ed.)
<b>Series :</b>	Unpublished report to NPWS
<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
<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
<b>Year :</b>	2019
<b>Title :</b>	The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments
<b>Author :</b>	NPWS
<b>Series :</b>	Conservation assessments

### 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
<b>Year :</b>	1987
<b>Title :</b>	<i>Eurycercus glacialis</i> , a chydorid cladoceran new to Ireland
<b>Author :</b>	Duigan, C.A.; Frey, D.G.
<b>Series :</b>	Irish Naturalists' Journal 22 (5), 180–183
<b>Year :</b>	2007
<b>Title :</b>	Water Framework Directive: Development of a methodology for the characterisation of a karstic groundwater body with particular emphasis on the linkage with associated ecosystems such as turlough ecosystems (2002-W-DS-8-M1) Final report
<b>Author :</b>	Tynan, S.; Gill, M.; Johnston, P.
<b>Series :</b>	Report for the EPA, Environmental RTDI Programme 2000–2006
<b>Year :</b>	2011
<b>Title :</b>	The hydrology and hydroecology of turloughs
<b>Author :</b>	Naughton, O.
<b>Series :</b>	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

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## Spatial data sources

<b>Year :</b>	2020
<b>Title :</b>	Goodwillie (1992) Turloughs over 10 hectares: Vegetation survey and evaluation
<b>GIS Operations :</b>	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
<b>Used For :</b>	3180 (map 3)
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<b>Year :</b>	2015
<b>Title :</b>	Turlough hydrology, ecology and conservation
<b>GIS Operations :</b>	Dataset clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
<b>Used For :</b>	3180 (map 3)
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## Conservation Objectives for : Termon Lough SAC [001321]

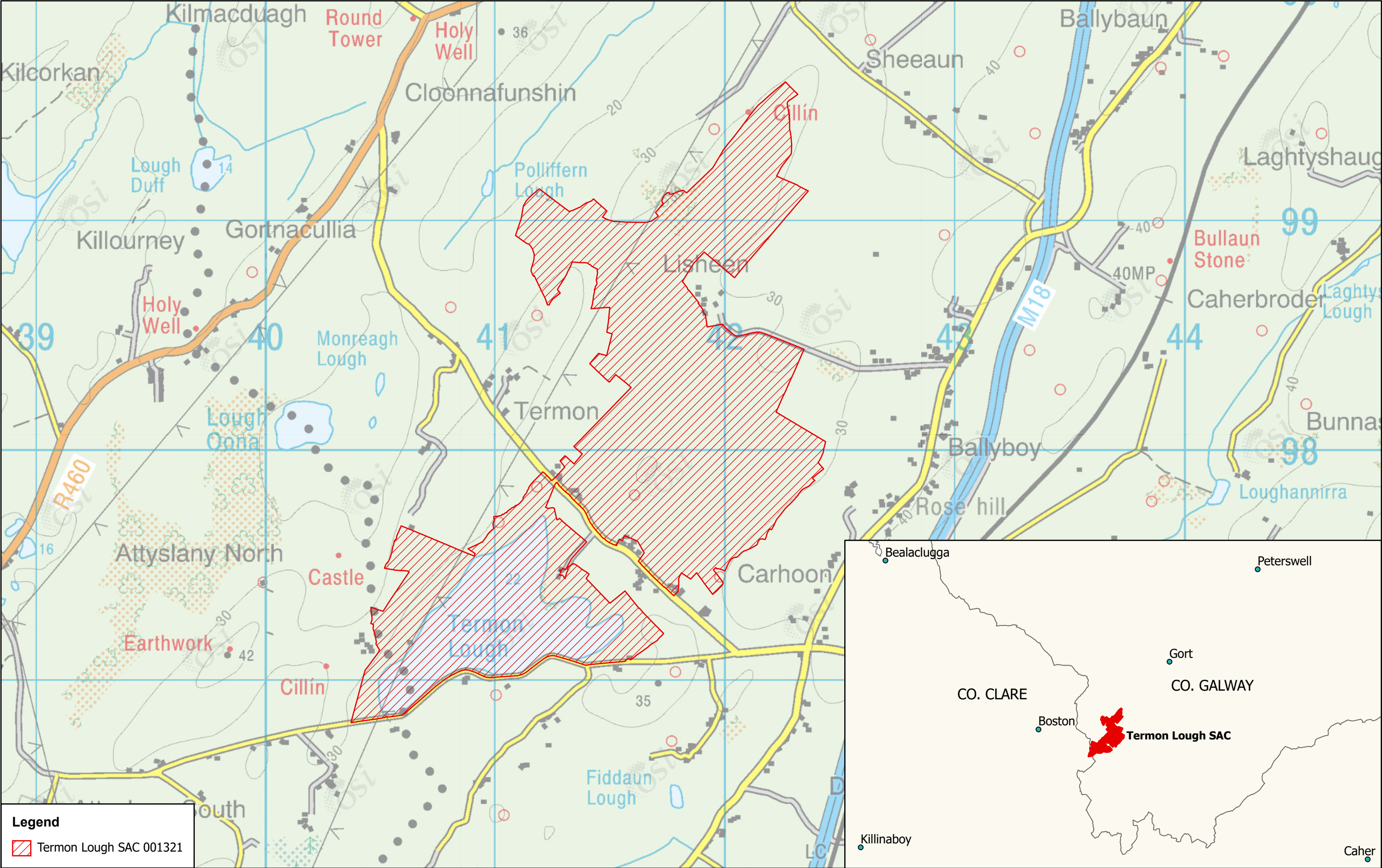
### 3180 Turloughs\*

**To restore the favourable conservation condition of Turloughs in Termon 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	There are two turloughs in Termon Lough SAC, Termon Lough itself, and Termon North. Termon Lough is well studied (Coxon, 1986; Goodwillie, 1992; Goodwillie et al., 1997; Tynan et al., 2007; Naughton, 2011; Waldren, 2015). The turlough area in the SAC has been calculated as 92.2ha based on Goodwillie (1992) for Termon North and Waldren (2015) for Termon Lough. See map 3 for known extent. Goodwillie (1992) described Termon Lough as being of regional ecological importance, while it was assessed as being borderline between unfavourable-inadequate (poor) conservation condition and favourable (good) 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	As mentioned above, there are two turloughs within the SAC. See map 3
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 Termon Lough is well studied (Coxon, 1986; Goodwillie, 1992; Goodwillie et al., 1997; Tynan et al., 2007; Naughton, 2011; Naughton et al., 2012; Waldren, 2015). This turlough was characterised by Waldren (2015) as a relatively flat basin that does not dry out, the hydrological data showing an annual peak in water levels over the winter months, with a gradual lowering of the water level until it starts to slowly rise again. The hydroperiod is 304 days. Waldren (2015) assessed the hydrological function at this turlough as Intermediate; there is a drain at the south-western end which likely had an effect on the hydrological functioning, but the resulting alteration to ecology has probably stabilised
Soil type	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	The main soil type at Termon Lough is alluvial marl, with a band of very shallow poorly drained organic soil around the edge of the basin (Waldren, 2015). For further information on soil type in Termon Lough see Waldren (2015)
Soil nutrient status: nitrogen and phosphorus	N and P concentration in soil	Maintain nutrient status appropriate to soil types and vegetation communities	Waldren (2015) recorded a relatively low mean total nitrogen (TN) within the soils at Termon Lough of 8,217mg/kg TN and a relatively low mean total phosphorus (TP) of 476mg/kg TP
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 at Termon Lough had a very high calcium carbonate content of 42.4.0% (Waldren, 2015), and Goodwillie (1992) noted considerable deposits on vegetation
Active peat formation	Flood duration	Maintain active peat formation	A small proportion of the soils at Termon Lough were mapped as very shallow, poorly drained organic soil by Waldren (2015). The overall mean organic matter content of soils at this site was just below the median for the 22 turloughs in Waldren's study (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. Termon Lough had high alkalinity, low colour, mean total phosphorus of 15.0µg/l, and mean total nitrogen of 0.6 mg/l (Waldren, 2015). Mean chlorophyll <i>a</i> was 3.1µg/l; maximum was 8.1µg/l. Algal mats were not extensive in 2008 (Waldren, 2015). According to the Working Group on Groundwater (Turlough sub-committee) (2005), Termon Lough should naturally be highly oligotrophic (the natural trophic status of Termon North is listed as unknown). Targets of ≤10µg/l total phosphorus and trace/absent epiphyton as algal mats (<2% cover) are required to reach favourable condition for highly oligotrophic turloughs
Vegetation composition: area of vegetation communities	Hectares	Restore area of sensitive and high conservation value vegetation communities/units	A diverse range of vegetation types were mapped in Termon Lough by Waldren (2015), by far the most dominant being the Reedbed community, dominated by <i>Phragmites australis</i> but with abundant <i>Schoenoplectus lacustris</i> . Other important communities included the <i>Eleocharis palustris</i> - <i>Ranunculus flammula</i> community. See Goodwillie (1992) and Waldren (2015) for further information on vegetation communities in Termon Lough
Vegetation composition: vegetation zonation	Distribution	Restore vegetation zonation/mosaic characteristic of the turlough	The upper vegetation zone at Termon Lough comprises mainly grassland and scrub, which grade into wetter communities towards the centre of the turlough. The widest band of zonation occurs in the east, where narrow bands of <i>Lolium perenne</i> or <i>Agrostis stolonifera</i> - <i>Glyceria fluitans</i> grassland at the edge of the turlough grade into a wetter <i>Polygonum amphibium</i> community. Towards the centre this changes to a swathe of <i>Eleocharis palustris</i> - <i>Ranunculus flammula</i> , and finally to a reedbed of <i>Phragmites australis</i> and <i>Schoenoplectus lacustris</i>
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 about 12% of Termon Lough as being grazed, with the whole central section of reedbed remaining ungrazed
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). NPWS internal files note that the rare annual <i>Alopecurus aequalis</i> was found at Termon North. This species is listed for protection in the Flora (Protection) Order, 2015 and is listed as Near Threatened in Wyse Jackson et al. (2016). Duigan and Frey (1987) recorded the water flea <i>Eurycerus glacialis</i> at a "lake near Termon House" possibly in the SAC. This species is confined in Ireland to the turloughs of east Galway and west Clare. The SAC has also been recorded as providing habitat for a good diversity of wintering wildfowl, including the Birds Directive Annex I species whooper swan (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	Waldren (2015) noted that there were areas of scrub and woodland on the edge of Termon Lough. According to NPWS internal files, scrub of <i>Crataegus monogyna</i> , <i>Rhamnus cathartica</i> and <i>Viburnum opulus</i> , with a little <i>Fraxinus excelsior</i> and <i>Corylus avellana</i> , occurs on the north-western edge of Termon North



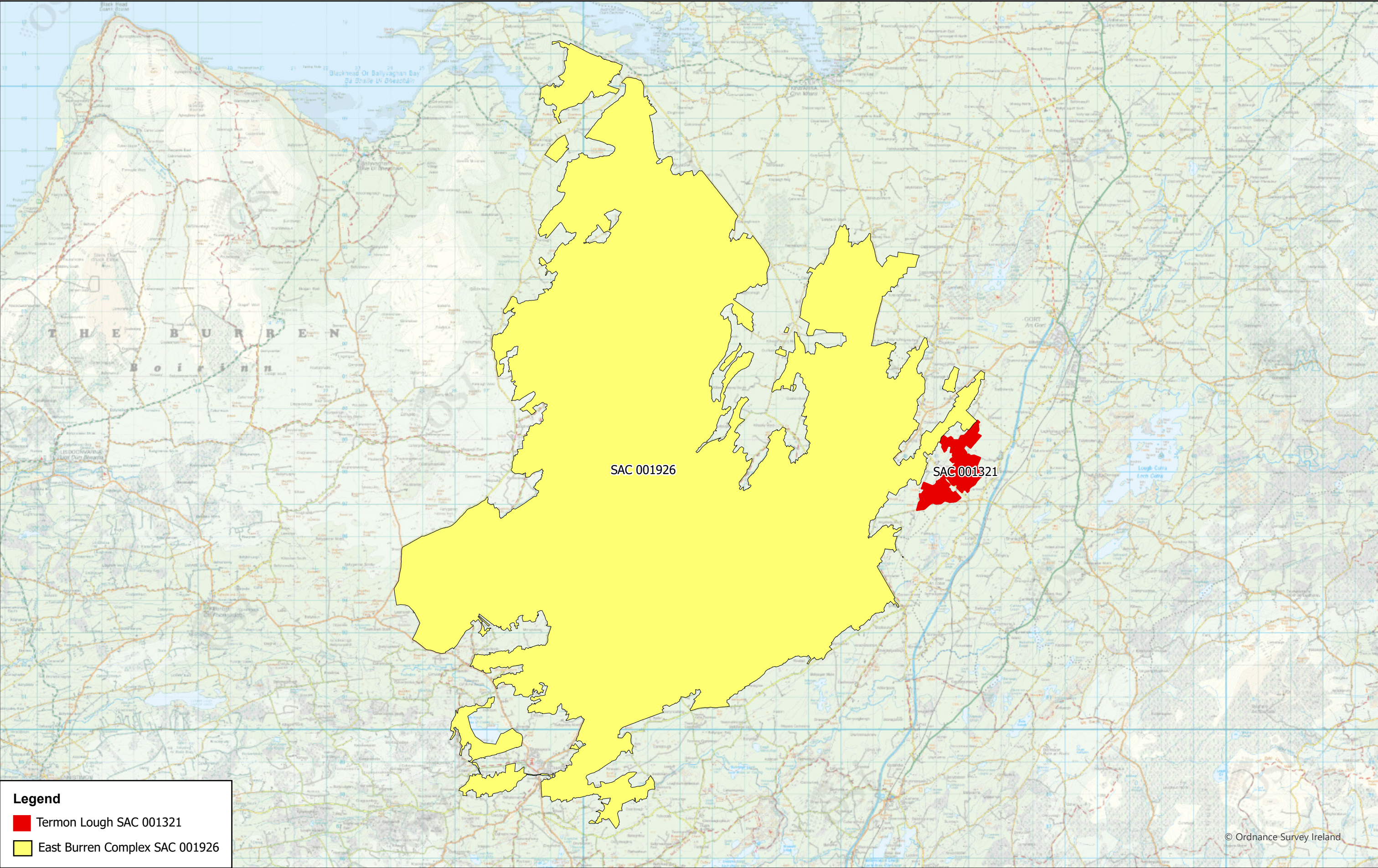


**Legend**

 Termon Lough SAC 001321





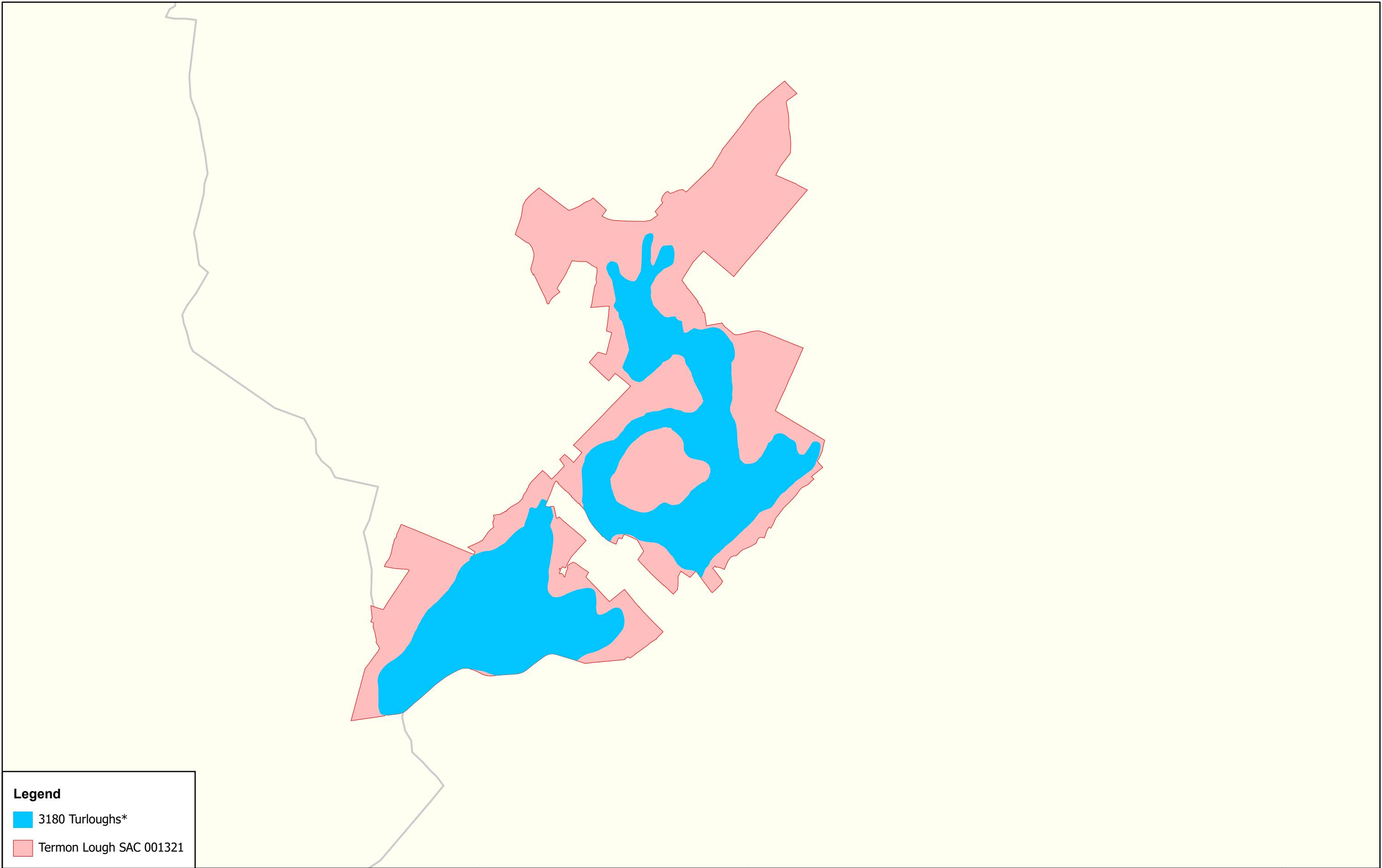


**Legend**

■ Termon Lough SAC 001321

■ East Burren Complex SAC 001926





**Legend**

3180 Turloughs\*

Termon Lough SAC 001321