

National Parks and Wildlife Service

Conservation Objectives Series

Williamstown Turloughs SAC 002296



An Roinn
Cultúir, Oidhreachta agus Gaeltachta

Department of
Culture, Heritage and the Gaeltacht



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Citation:

**NPWS (2018) Conservation Objectives: Williamstown Turloughs SAC 002296.
Version 1. National Parks and Wildlife Service, Department of Culture, Heritage
and the Gaeltacht.**

**Series Editor: Rebecca Jeffrey
ISSN 2009-4086**

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*

002296 Williamstown Turloughs SAC

3180 TurloughsE

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
<hr/>	
Year :	2017
Title :	Conservation objectives supporting document: Turloughs* and Rivers with muddy banks with Chenopodium rubri p.p. and Bidention p.p. vegetation
Author :	O Connor, Á.
Series :	Conservation objectives supporting document
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Other References

Year :	1997
Title :	Williamstown Environmental Study
Author :	ECS (Environmental Consultancy Services)
Series :	Unpublished report to the Office of Public Works
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Spatial data sources

Year : 2017

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 : Williamstown Turloughs SAC [002296]

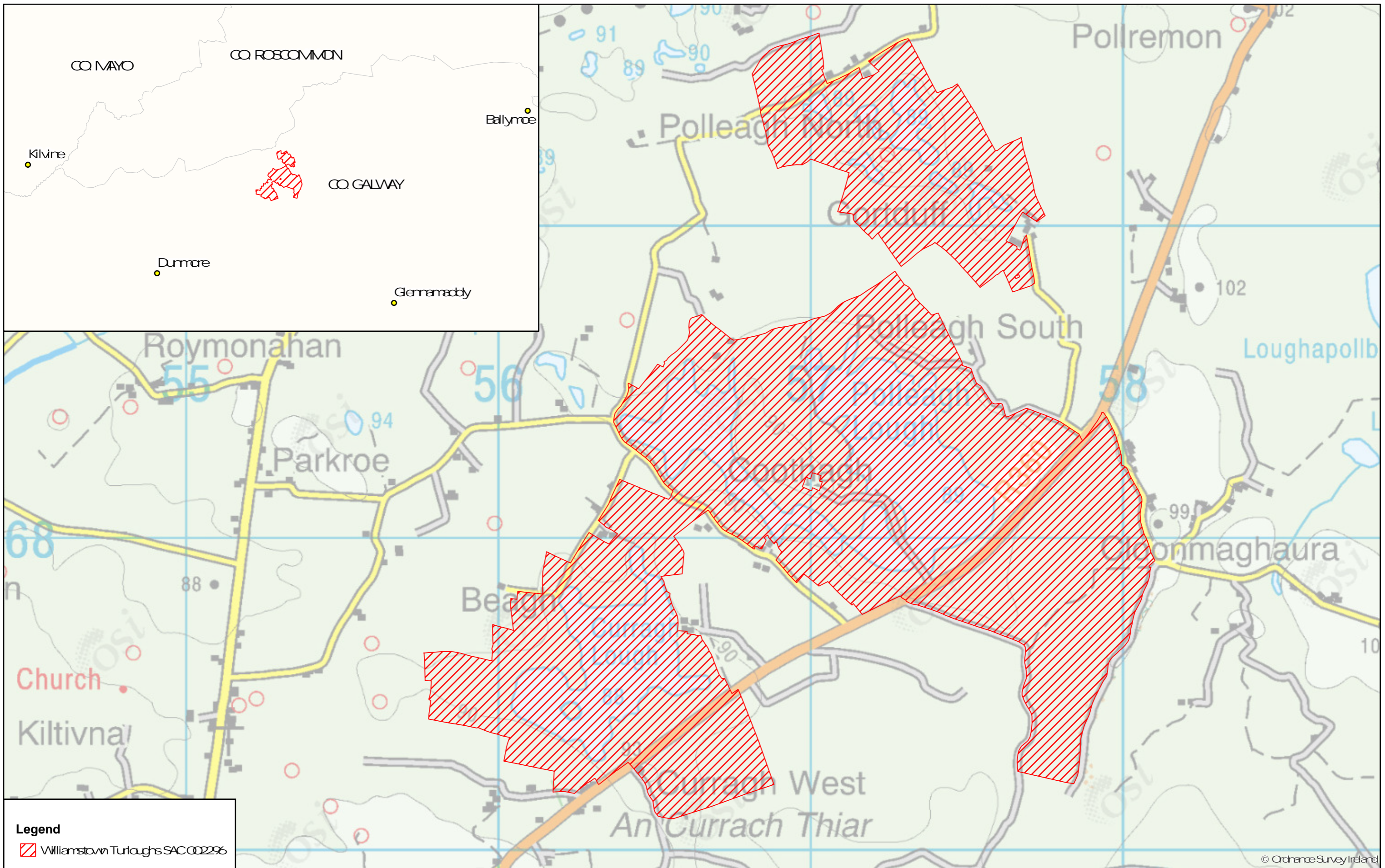
3180 Turloughs

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

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable at c.110ha or increasing, subject to natural processes. See map 2	Williamstown Turloughs SAC is a complex of three turlough basins: Curragh, Polleagh (including Polleagh West) and Gortduff (see map 2). The total area of turlough habitat in the SAC is estimated to be 109.5ha (based on NPWS internal files). In the 1990s, drainage damaged the SAC and the medium- to long-term impacts on turlough area have not been assessed. Restoration of turlough area may therefore be required. See O Connor (2017) for information on all attributes and targets
Habitat distribution	Occurrence	No decline, subject to natural processes	As noted above, Williamstown Turloughs SAC contains three turloughs: Curragh, Polleagh and Gortduff. See map 2
Hydrological regime: groundwater contribution; flood duration, frequency, area and depth; permanently flooded/wet areas	Various	Restore appropriate natural hydrological regime necessary to support the natural structure and functioning of the habitat	See O Connor (2017) for details on the sub-divided attributes and targets of hydrological regime. The hydrology of the Williamstown turloughs was investigated by ECS (1997). The turloughs are in hydraulic continuity, their zone of contribution is small and groundwater flow is to the west. Drainage works in 1995 and 1996 impacted the natural hydrological regime, including by reducing the flood extent, the contributing catchment by c.20% and, at Polleagh, water level fluctuations by c.37%. A pond was also infilled. Further drainage was observed in 2005 (NPWS internal files). All three turloughs have permanent water: an estimated 13ha at Polleagh Lough and 5.25ha at Curragh (ECS, 1997). Permanent water at Polleagh and Gortduff is likely dependent on a perched water table in summer. Polleagh Lough merges with Polleagh West at times of high flood, completely surrounding a hill of glacial drift. Sinkholes have been observed at Curragh and Gortduff
Soil type	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	ECS (1997) noted sub-soils of peat and glacial deposits and soils of peat, degraded grey brown podzolics, brown earths, gleys and podzols in the Williamstown study area. The Williamstown turloughs are dominated by wet soils, including peat and marl. ECS (1997) recorded peat, marl, mud and a stony shoreline at Polleagh turlough, and peat, soft mud and well-drained mineral soils at Curragh turlough
Soil nutrient status: nitrogen and phosphorus	N and P concentration in soil	Maintain/restore nutrient status appropriate to soil types and vegetation communities	Direct fertilisation and run-off of organic and chemical fertilisers may have artificially enriched soils in the Williamstown turloughs
Physical structure: bare ground	Presence	Maintain/restore sufficient wet bare ground, as appropriate	Bare soil was noted on the edge of Polleagh Lough during surveys in 1996 (ECS, 1997). A wet annual community, likely to be Annex I habitat 3270 (Rivers with muddy banks with <i>Chenopodium rubri</i> p.p. and <i>Bidentium</i> p.p. vegetation), was recorded to the north-west of Polleagh Lough (ECS, 1997). This community was associated with permanently damp, soft, fine mud
Chemical processes: calcium carbonate deposition and concentration	Calcium carbonate deposition rate/soil concentration	Maintain appropriate calcium carbonate deposition rate and concentration in soil	As noted above, the Williamstown turloughs are dominated by wet soils, including peat and marl. Marl deposition was recorded at Polleagh and there was some associated with stony bays at the lake margins at Curragh (ECS, 1997)


Water quality	Various	Maintain/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). The abundance of peaty substratum, marl, common sedge (<i>Carex nigra</i>) communities and species such as bulbous rush (<i>Juncus bulbosus</i>) and shoreweed (<i>Littorella uniflora</i>) at Polleagh and Curragh indicate highly calcareous, oligotrophic conditions and a requirement for high status/oligotrophic water. Limited water sampling in 1995/6 indicated generally oligotrophic conditions at Curragh and Polleagh; however, elevated chlorophyll <i>a</i> concentrations were measured in both (Curragh range <1-13.25µg/l; Polleagh <1-12.1µg/l), indicating enrichment. Organic and chemical agricultural fertilisation, animal housing, farmyards and domestic dwellings are potential nutrient sources
Active peat formation	Flood duration	Maintain active peat formation	As noted above, the Williamstown turloughs are dominated by wet soils, including peat and marl. Extensive peat development was noted to the south of Polleagh and at the south-eastern side of the basin at Curragh (ECS, 1997)
Vegetation composition: area of vegetation communities	Hectares	Maintain/restore area of sensitive and high conservation value vegetation communities/units	As noted, the impacts of drainage on the vegetation communities of the turloughs have not been monitored. The vegetation of Polleagh and Curragh was surveyed in detail (ECS, 1997) and classified in accordance with Goodwillie (1992). 13 Goodwillie (1992) turlough communities were recorded at Polleagh (P) and 8 at Curragh (C), a total of 15: Wet <i>Carex nigra</i> (P,C), Dry <i>C. nigra</i> (P,C), Peaty <i>C. nigra</i> (P), Reedbed (P), Marl pond (P), Peaty pond (C), Wet annuals (P), Open water (P), <i>Polygonum amphibium</i> (P,C), <i>P. amphibium</i> (grassy) (P,C), Tall herb (P), Peat grassland (P), <i>Potentilla reptans</i> (species-rich) (P), Poor grassland (C) and <i>Lolium</i> grassland (P,C) (ECS, 1997). A <i>Juncus</i> grassland community was also found at both turloughs (ECS, 1997). <i>Polygonum amphibium</i> , <i>P. amphibium</i> (grassy), Wet <i>Carex nigra</i> , Dry <i>C. nigra</i> and <i>Lolium</i> grassland were noted at Gortduff (ECS, 1997)
Vegetation composition: vegetation zonation	Distribution	Maintain/restore vegetation zonation/mosaic characteristic of the site	As detailed above, the vegetation of the turloughs in the SAC was surveyed and classified in accordance with Goodwillie (1992) (ECS, 1997). Good vegetation zonation was associated with the steep-sided Gortduff. Drainage works are likely to have impacted vegetation zonation through both direct vegetation removal/reclamation and in-filling, and hydrological change
Vegetation structure: sward height	Centimetres	Maintain/restore sward heights appropriate to the vegetation unit, and a variety of sward heights across the turloughs	It was noted that Curragh was more intensively grazed than Polleagh in 1996 (ECS, 1997)
Typical species	Presence	Maintain/restore typical species within and across the turloughs	Typical species is sub-divided into more detailed attributes (terrestrial, wetland and aquatic plants, invertebrates and birds) and targets in O Connor (2017). As noted above, the impacts of drainage on the species of the Williamstown turloughs have not been monitored. 112 vascular plant species have been recorded in the Williamstown turloughs, including northern yellow-cross (<i>Rorippa islandica</i>) and red goosefoot (<i>Chenopodium rubrum</i>) at Polleagh (ECS, 1997). The wet annuals community recorded at Polleagh requires further study to determine if it is Annex I habitat 3270 (Rivers with muddy banks with <i>Chenopodium rubri</i> p.p. and <i>Bidention</i> p.p. vegetation). Wintering waterfowl at Polleagh and Curragh include wigeon, mallard, teal, tufted duck, shoveler, whooper swan, lapwing, golden plover, curlew and dunlin (ECS, 1997). Breeding waterfowl included snipe, lapwing, redshank and ringed plover. Curragh has fish, including pike

Fringing habitats: area	Hectares	Maintain/restore marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations	NPWS site files show much of the land surrounding the Williamstown turloughs was 'improved' grassland in 2001 (NPWS internal files). Some lowland dry grassland occurred at all three turloughs, and also lowland wet grassland around Polleagh and Curragh. Cutover bog is widespread in the catchment
Vegetation structure: turlough woodland	Species diversity and woodland structure	Maintain appropriate turlough woodland diversity and structure	No turlough woodland or scrub has been recorded in Williamstown Turloughs SAC



Legend

 Williamstown Turloughs SAC 002296



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**MAP 1:
WILLIAMSTOWN TURLOUGHES SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION**

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

**SITE CODE:
SAC 002296; version 3.02. CO. GALWAY**

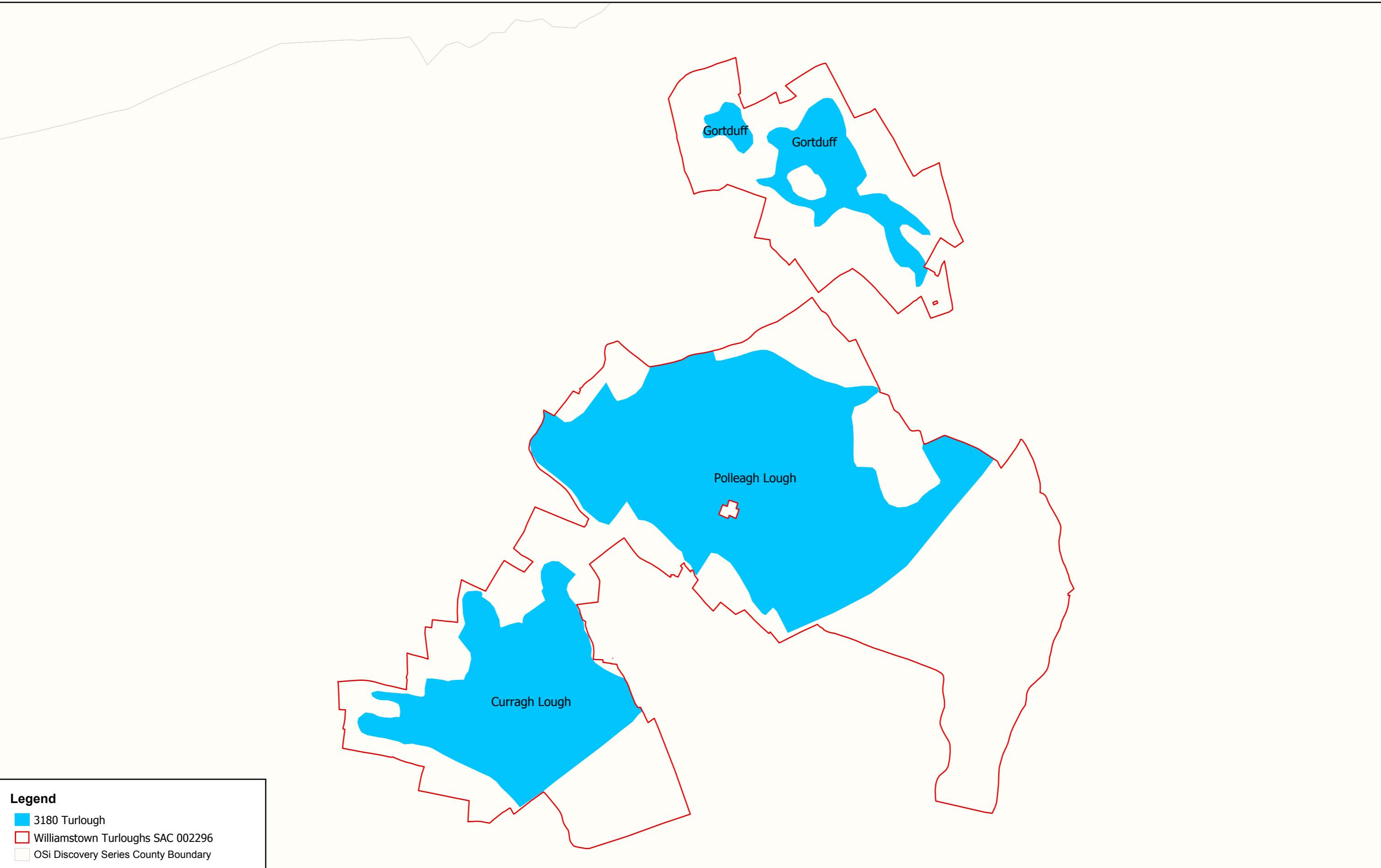
0 140 280 420 560 Meters

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 athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh EN 0059216. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann



**Map Version 1
Date: Dec 2017**



Legend

- 3180 Turlough
- Williamstown Turloughs SAC 002296
- OSi Discovery Series County Boundary