

National Parks and Wildlife Service

Conservation Objectives Series

Dunmuckrum Turloughs SAC 002303



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

**National Parks and Wildlife Service,
Department of Housing, Local Government and Heritage,
90 King Street North, Dublin 7, D07 N7CV, Ireland.
Web: www.npws.ie
E-mail: nature.conservation@chg.gov.ie**

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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*

002303 Dunmuckrum Turloughs 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 : 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

Other References

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 : 2009
Title : Teagasc EPA soil and subsoils mapping project-final report. Volume II
Author : Fealy, R. M.; Green, S.; Loftus, M.; Meehan, R.; Radford, T.; Cronin, C.; Bulfin, M.
Series : Teagasc, Dublin

Year : 2014
Title : Interim classification, harmonisation and generalisation of county soil maps of Ireland. Irish soil information system final technical report 1
Author : Jones, R.J.A.; Hannam, J.A.; Palmer, R.C.; Truckell, I.G.; Creamer, R.E.; McDonald, E.
Series : Report for the EPA prepared by Teagasc and Cranfield University

Year : 2017
Title : The draft seven strategic towns local area plan 2018-2024 Natura Impact Statement
Author : Donegal County Council
Series : Unpublished report

Spatial data sources

Year : 2020

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)

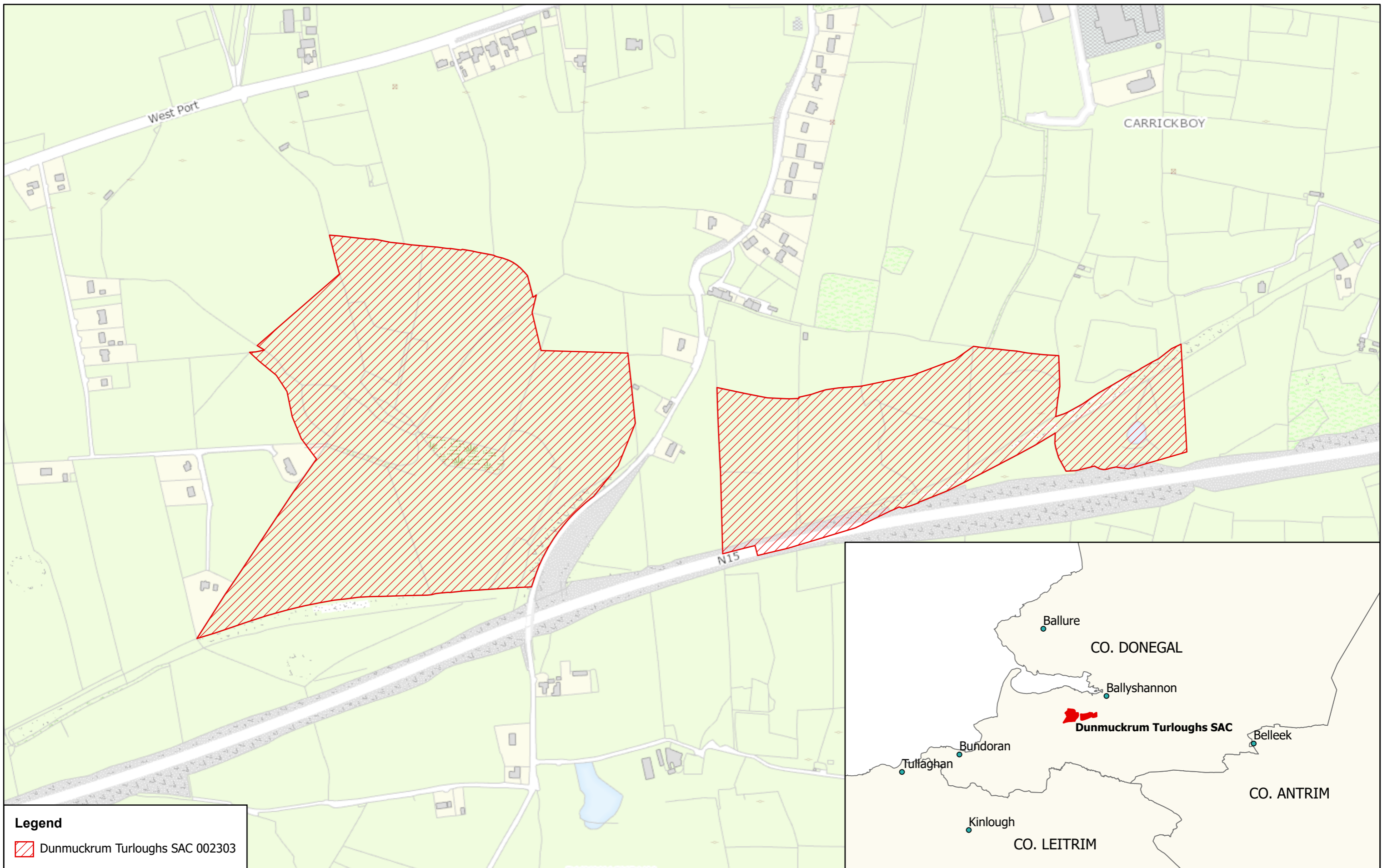
Conservation Objectives for : Dunmuckrum Turloughs SAC [002303]

3180 Turloughs*


To maintain the favourable conservation condition of Dunmuckrum Turloughs 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	The turloughs in this SAC are the most northerly known in the country. The turlough area in the SAC has been calculated as 6.1ha, based on internal NPWS files. See map 2 for known extent. See O Connor (2017) for information on all attributes and targets
Habitat distribution	Occurrence	No decline, subject to natural processes	There are at least four small turloughs within the SAC. 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). NPWS internal files describe Dunmuckrum Turloughs as a series of four low-lying winter-flooded depressions set in an undulating landscape of limestone hills. Donegal County Council (2017) states that the area around Dunmuckrum Turloughs is an area of extreme groundwater vulnerability, in terms of both quality and quantity
Soil type	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	The Teagasc/EPA soils map by Fealy et al. (2009) classified the soils in the most flooded part of the turloughs as acidic mineral soil over metamorphic tills, mostly deep and well-drained but with some areas poorly drained, whereas areas outside the main flood zone were predominantly shallow, well-drained, basic mineral soil over calcareous rock. Jones et al. (2014) classified the soils in the locality of the turloughs as poorly drained, coarse loamy drift with igneous and metamorphic stones
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	NPWS internal files note an exposed mud community behind areas of wet vegetation at the lowest part of the basin, where <i>Rorippa palustris</i> and <i>Gnaphalium uliginosum</i> had established
Chemical processes: calcium carbonate deposition and concentration	Calcium carbonate deposition rate/soil concentration	Maintain appropriate calcium carbonate deposition rate and concentration in soil	
Active peat formation	Flood duration	Maintain active peat formation	
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. According to the Working Group on Groundwater (Turlough sub-committee) (2005), the Dunmuckrum turloughs are currently oligotrophic, which is their natural trophic status. To remain in favourable condition they must meet targets of $\leq 20\mu\text{g/l}$ total phosphorus and should maintain trace/absent epiphyton as algal mats (<2% cover)

Vegetation composition: area of vegetation communities	Hectares	Maintain area of sensitive and high conservation value vegetation communities/units	NPWS internal files note the presence of a number of vegetation communities in the main (most westerly) basin: a scraw community at the lowest level, dominated by <i>Carex rostrata</i> , <i>Menyanthes trifoliata</i> and <i>Eleocharis palustris</i> ; a wet, sedge-dominated community, with <i>Carex nigra</i> , <i>C. disticha</i> and a wide range of wetland herbs; an exposed mud community behind these wet areas, with <i>Rorippa palustris</i> and <i>Gnaphalium uliginosum</i> . At the upper levels of flooding the vegetation grades into limestone grassland, and <i>Crataegus monogyna-Prunus spinosa</i> scrub woodland. The small turlough basin further east supports permanent marsh, mostly dominated by sedges (<i>Carex nigra</i> and <i>C. rostrata</i>) and <i>Filipendula ulmaria</i> , surrounded by grazed grassland with <i>Agrostis stolonifera</i> , <i>Juncus articulatus</i> and <i>Leontodon autumnalis</i>
Vegetation composition: vegetation zonation	Distribution	Maintain vegetation zonation/mosaic characteristic of the turlough	NPWS internal files describe the zonation in the most westerly turlough: a permanently wet area at the lowest part of the basin with stoneworts (<i>Chara</i> sp.) and other aquatic species is surrounded by marsh, which then grades into a wet, sedge-dominated sward. A different community occupies the exposed muds behind these wet areas, with <i>Rorippa palustris</i> and <i>Gnaphalium uliginosum</i> present. At the upper levels the vegetation graded into limestone grassland and scrub woodland. The smaller turlough basin further east has a permanent marsh at the base, surrounded by shorter grazed grassland
Vegetation structure: sward height	Centimetres	Maintain sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	NPWS internal files note grazing in the turlough grasslands
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). The turlough was surveyed during a Botanical Society of Britain and Ireland (BSBI) field trip in August 2016 and species characteristic of very wet habitats, such as <i>Comarum palustre</i> and <i>Hydrocotyle vulgare</i> , and dry calcareous habitats, such as <i>Briza media</i> and <i>Galium verum</i> , were recorded (Oisin Duffy, pers. comm.). Internal NPWS files note <i>Ophioglossum vulgatum</i> , <i>Parnassia palustris</i> and an abundance of the moss <i>Cinclidotus fontinaloides</i> on all the inundated rocky surfaces
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	Scrub is present at the upper edges of the turlough basins. This is visible on recent aerial imagery of the site. NPWS internal files note that <i>Crataegus monogyna</i> and <i>Prunus spinosa</i> are present



Legend

 Dunmuckrum Turloughs SAC 002303




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

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

**SITE CODE:
SAC 002303; version 3. CO. DONEGAL**

0 50 100 150 200 Metres

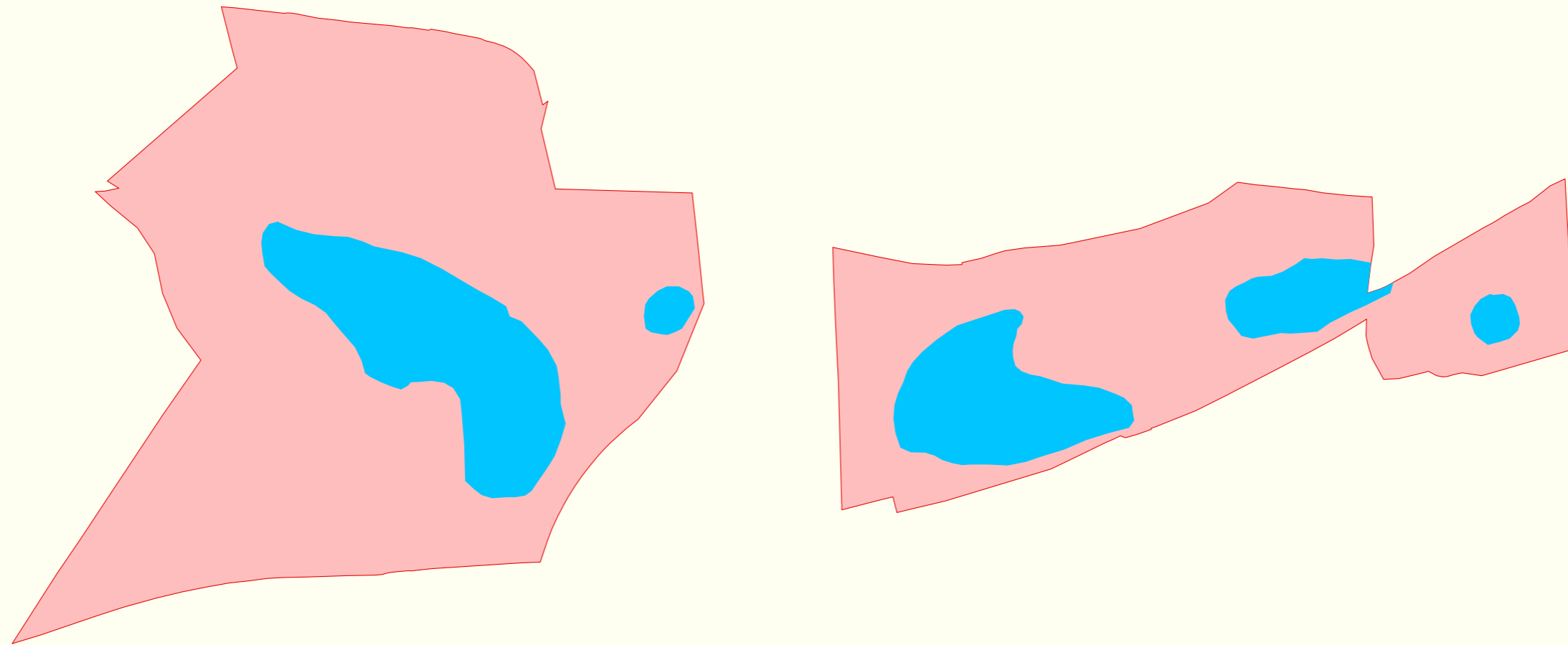


The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Map Version 1
Date: November 2020



Legend

- 3180 Turloughs*
- Dunmuckrum Turloughs SAC 002303

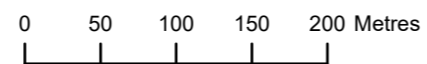


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**MAP 2
DUNMUCKRUM TURLOUGHES SAC
CONSERVATION OBJECTIVES
TURLOUGHES**

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

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