

National Parks and Wildlife Service

Conservation Objectives Series

Castlesampson Esker SAC 001625



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*

001625 Castlesampson Esker SAC

3180 Turloughs*

6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates
(Festuco-Brometalia) (* important orchid sites)

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	2007
Title :	Grasslands monitoring project 2006
Author :	Dwyer, R.; Crowley, W.; Wilson, F.
Series :	Unpublished report to NPWS
Year :	2013
Title :	Irish semi-natural grasslands survey 2007-2012
Author :	O'Neill, F.H.; Martin, J.R.; Devaney, F.M.; Perrin, P.M.
Series :	Irish Wildlife Manuals, No. 78
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
Year :	2018
Title :	The monitoring and assessment of three EU Habitats Directive Annex I grassland habitats
Author :	Martin, J.R.; O'Neill, F.H.; Daly, O.H.
Series :	Irish Wildlife Manuals, No. 102

Other References

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 :	Orchid Ireland Survey 2014
Author :	Curtis, T.; Wilson, F.
Series :	Report to National Museums Northern Ireland
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

Spatial data sources

Year : 2021
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)

Year : 2006
Title : Grassland Monitoring Project 2006
GIS Operations : Dataset clipped to the SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For : 6210 (map 3)

Conservation Objectives for : Castlesampson Esker SAC [001625]

3180 Turloughs*

To restore the favourable conservation condition of Turloughs* in Castlesampson Esker 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. See map 2	The western section of Castlesampson Esker SAC comprises an undulating area of glacially-derived mounds and the seasonally flooded basins of Corraree Turlough. The area of turlough habitat in the SAC has been calculated as 80.7ha from mapping contained in NPWS internal files. Information provided in the notes for this and the following attributes was taken from NPWS internal files, particularly surveys conducted on behalf on NPWS by R. Goodwillie in 2003/4 and 2011 (NPWS internal files). See O Connor (2017) for information on all attributes and targets
Habitat distribution	Occurrence	No decline, subject to natural processes	See map 2. The main turlough basin extends southwards into two arms that are separated by higher ground of glacial sediments. A few small hollows to the north-east of this turlough also flood, but are not connected overground to the main turlough basin. The areas liable to flooding are surrounded by low mounds with dry grassland that has been agriculturally improved to a greater or lesser extent. The glacial mounds lead to an unusual topography, particularly in the northern part of the SAC (NPWS internal files)
Hydrological regime	Various	Maintain/restore 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 turlough basin in Castlesampson Esker SAC has a sinuous shape, and complex topography and shoreline owing to undulating glacial drift. There is a series of five or more possible estavelles in the basin north of the road, and one to the south. Several additional hollows to the north-east of the turlough fill with groundwater but do not connect overground to the turlough. (Semi-)permanent ponds are found to the north of the SAC and on an eastern limb near the quarry. There is a permanent stream from a rising/spring at the south-east. Drainage works were noted in 2003/4, including deepening of a drain from the northern basin to the road (NPWS internal files)
Soil type	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	The Teagasc/EPA soil maps of Fealy et al. (2009) classified the soils in the vicinity of the wettest areas of the turlough as lacustrine in origin, with the remainder predominantly deep, well-drained basic mineral soils over limestone tills. Jones et al. (2014) classified the whole area as fine loamy drift with limestones but showed an east-west split in terms of drainage, with soils on the east described as moderately drained, and those to the west, which includes the greater proportion of the turlough, as imperfectly drained
Soil nutrient status: nitrogen and phosphorus	N and P concentration in soil	Restore nutrient status appropriate to soil types and vegetation communities	The turlough is naturally at the oligotrophic end of the scale, but most areas have become mesotrophic because of agricultural use, which includes fertilisation and re-seeding. Spreading of farmyard manure and/or slurry was noted in 2003/4. An area at Esker townland still had oligotrophic vegetation and soil, which was notably stonier and poorer in nutrients than elsewhere at the time of survey (NPWS internal files)
Physical structure: bare ground	Presence	Maintain sufficient wet bare ground, as appropriate	See O Connor (2017) for further details on this and all attributes

Chemical processes: calcium carbonate deposition and concentration	Calcium carbonate deposition rate/soil concentration	Maintain appropriate calcium carbonate deposition rate and concentration in soil	See O Connor (2017) for further details on this and all attributes
Active peat formation	Flood duration	Maintain active peat formation, where appropriate	See O Connor (2017) for further details on this and all attributes
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. Corraee Turlough is considered to have been naturally oligotrophic, but is now enriched as a result of high densities of grazing animals (mainly sheep, some cattle) and fertilisation. An interim target of $\leq 20\mu\text{g/l}$ total phosphorus (TP) is suggested for this SAC; however, given the presence of fen communities, it may be necessary to achieve a target of $\leq 10\mu\text{g/l}$ TP to reach favourable condition. Maintaining trace/absent epiphyton as algal mats (<2% cover) should also be met for favourable condition
Vegetation composition: area of vegetation communities	Hectares	Restore area of sensitive and high conservation value vegetation communities/units	In 2003/04, the turlough was noted as having high overall diversity owing to its size, with a broad range of turlough and grassland communities. Oligotrophic communities, extensive beds of <i>Schoenus nigricans</i> , <i>Carex hostiana</i> , <i>C. panicea</i> and <i>Molinia caerulea</i> , with some <i>Nardus stricta</i> , were considered to have become restricted to an area at Esker townland. Other species that occurred in this fen vegetation included <i>C. viridula</i> , <i>Cirsium dissectum</i> and <i>Parnassia palustris</i> , while lower down the slope had <i>Deschampsia cespitosa</i> , <i>Scorzonerooides autumnalis</i> , <i>Potentilla anserina</i> , <i>Filipendula ulmaria</i> , <i>C. hirta</i> and <i>Mentha aquatica</i> (NPWS internal files). By 2011, quarrying had destroyed the turlough vegetation in part of the north-eastern arm of the turlough basin and excavation had created areas of standing water
Vegetation composition: vegetation zonation	Distribution	Maintain/restore vegetation zonation/mosaic characteristic of the turlough	The vegetation communities of Corraee Turlough and their zonation have not been mapped or described in detail
Vegetation structure: sward height	Centimetres	Maintain sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	In 2003/4, the contrast between grazed and ungrazed areas of the turlough was noted to be of high conservation value (NPWS internal files)
Typical species	Presence	Maintain/restore typical species within and across 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). In addition to the typical species listed above, common turlough species that have been recorded at Corraee Turlough include: <i>Agrostis stolonifera</i> , <i>Cardamine pratensis</i> , <i>Carex disticha</i> , <i>C. flacca</i> , <i>C. nigra</i> , <i>Eleocharis palustris</i> , <i>Equisetum fluviatile</i> , <i>Glyceria fluitans</i> , <i>Myosotis scorpioides</i> , <i>Oenanthe aquatica</i> , <i>Persicaria amphibia</i> , <i>Phalaris arundinacea</i> , <i>Ranunculus repens</i> , <i>Rumex crispus</i> (NPWS internal files)
Fringing habitats: area	Hectares	Maintain marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations	Dry calcareous grassland supporting esker species was noted in places along the margins of Corraee Turlough, some of which may correspond to the Annex I grassland habitat 6210 (NPWS internal files). See also the conservation objective for 6210 in this volume

Vegetation structure: turlough woodland

Species diversity and woodland structure

Maintain appropriate turlough woodland diversity and structure

From an examination of aerial imagery of the turlough, woodland does not appear to be a significant feature of this turlough. Scattered hawthorn (*Crataegus monogyna*) trees occur throughout the turlough, sometimes merging to form lengths of hedgerow, but these do not coalesce into areas of woodland. The only exception is a broader line of scrub that has established along part of the western edge of the south-western arm of the turlough. This may represent turlough woodland establishing at the upper levels of the turlough

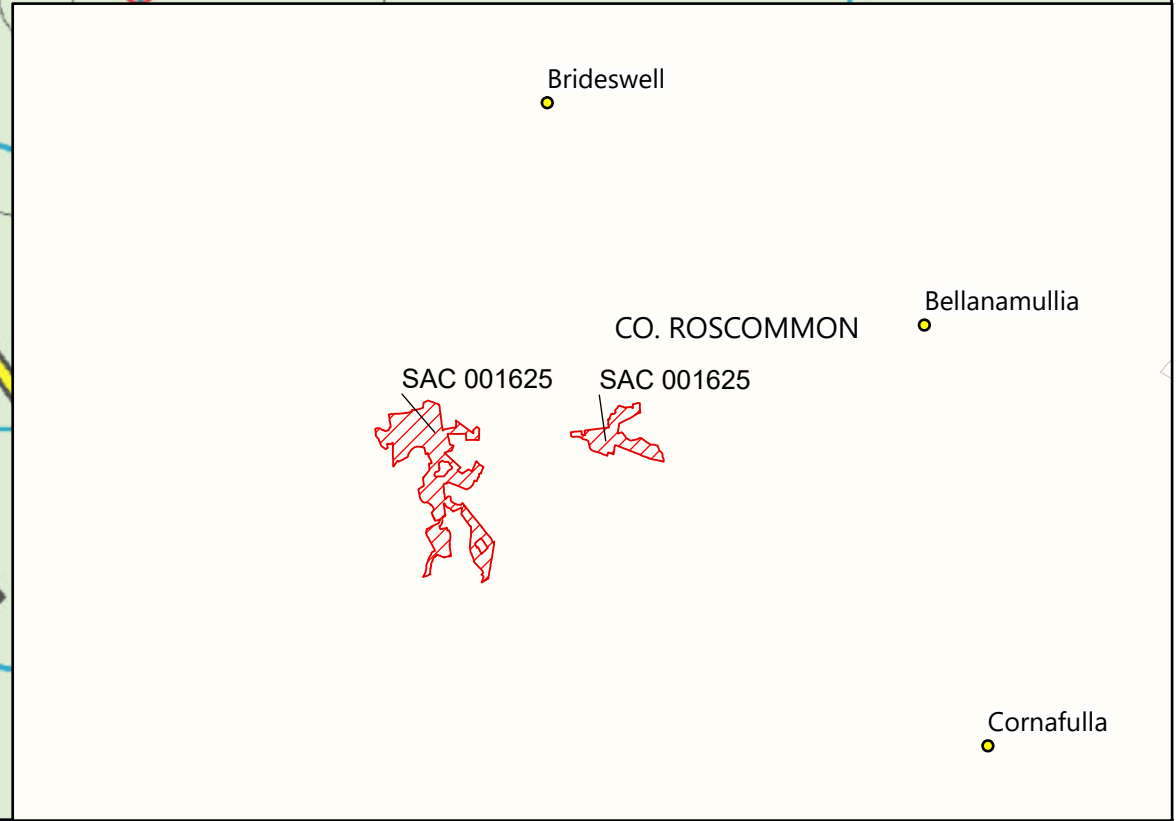
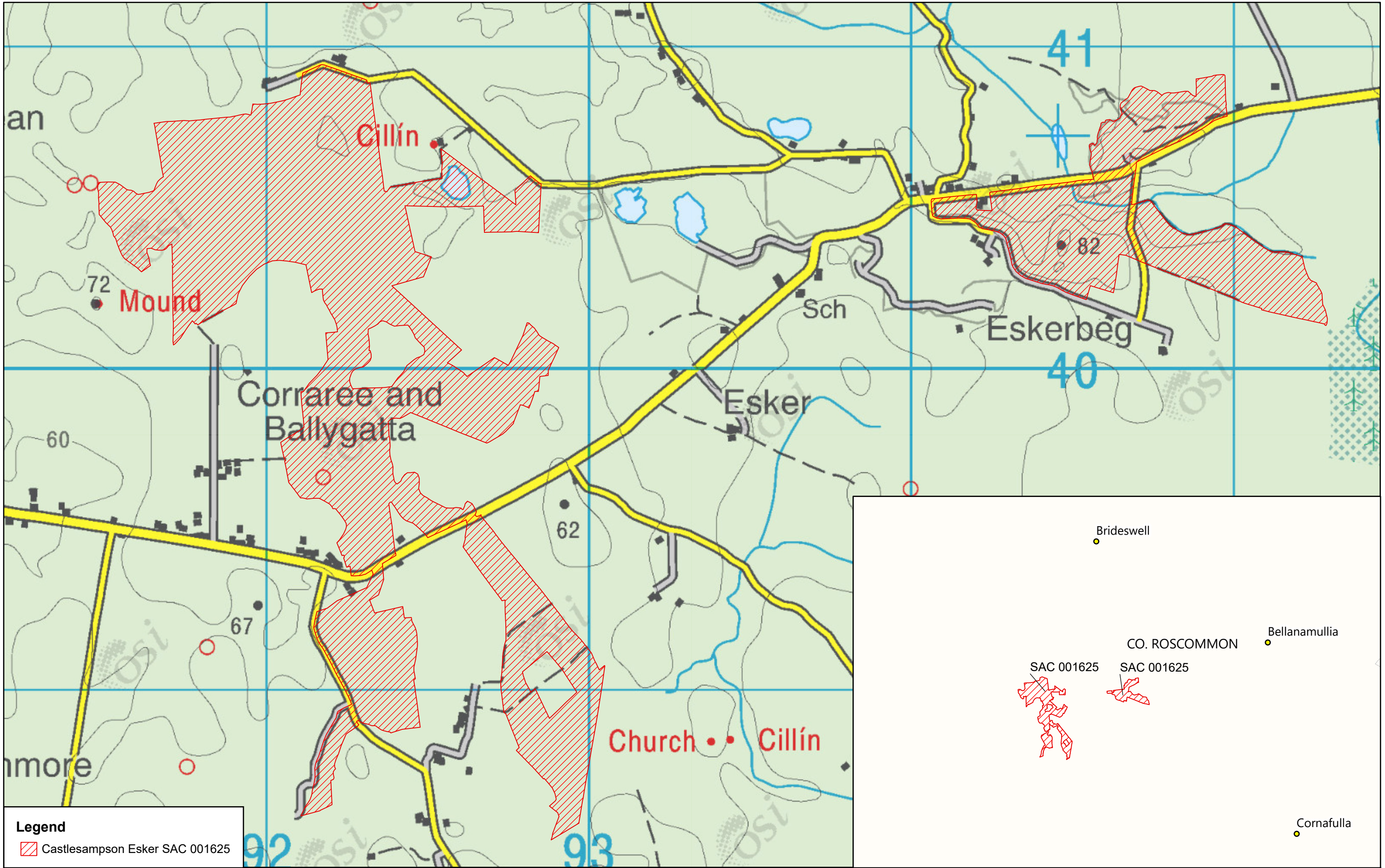
Conservation Objectives for : Castlesampson Esker SAC [001625]

6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)

To restore the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) in Castlesampson Esker 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	As part of the Grassland Monitoring Project 2006, Dwyer et al. (2007) surveyed the habitat in Castlesampson Esker SAC and stated that it was concentrated on both the north- and south-facing slopes of the well-formed, steep-sided esker in the eastern section of the SAC, and on the hilly landscape directly east of the main esker. An area of the habitat occurring in the low-lying fields at the south-east corner of the main esker was also recorded (Dwyer et al., 2007). The area of the habitat recorded by Dwyer et al. (2007) in the SAC is 9.7ha (see map 2). It is important to note that further unsurveyed areas of the habitat may be present within the SAC
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 2 for the habitat surveyed by Dwyer et al. (2007)	Distribution based on Dwyer et al. (2007). Note that further unsurveyed areas of the habitat may be present within the SAC
Vegetation composition: positive indicator species	Number at a representative number of 2m x 2m monitoring stops; within 20m surrounding area of monitoring stops	At least 7 positive indicator species present in monitoring stop or, if 5–6 present in stop, additional species within 20m of stop; this includes at least two 'high quality' indicator species present in stop or within 20m of stop	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018), where the lists of positive indicator species, including high quality indicators, are also presented. High quality indicators recorded in the habitat in the SAC include mountain everlasting (<i>Antennaria dioica</i>), fairy flax (<i>Linum catharticum</i>), kidney vetch (<i>Anthyllis vulneraria</i>), field scabious (<i>Knautia arvensis</i>), cowslip (<i>Primula veris</i>) and quaking-grass (<i>Briza media</i>) and a variety of orchids, including early-purple orchid (<i>Orchis mascula</i>), pyramidal orchid (<i>Anacamptis pyramidalis</i>), fragrant orchid (<i>Gymnadenia conopsea</i>), common spotted-orchid (<i>Dactylorhiza fuchsii</i>), heath spotted-orchid (<i>D. maculata</i> subsp. <i>ericetorum</i>), common twayblade (<i>Neottia ovata</i>) and lesser butterfly orchid (<i>Platanthera bifolia</i>) (Dwyer et al., 2007; Curtis and Wilson, 2014)
Vegetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Negative indicator species collectively not more than 20% cover, with cover of an individual species not more than 10%	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018), where the lists of negative indicator species are presented
Vegetation composition: non-native species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of non-native species not more than 1%	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018). The non-native species cotoneaster (<i>Cotoneaster</i> sp.), and also Wilson's honeysuckle (<i>Lonicera nitida</i>), are encroaching on some parts of the habitat in the SAC, particularly on the south- and west-facing slopes of the esker (Dwyer et al., 2007; Curtis and Wilson, 2014). More recent fieldwork confirms that <i>C. cf. integrifolius</i> is an extensive issue on the esker (NPWS internal files)

Vegetation composition: woody species and bracken	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of woody species (except certain listed species) and bracken (<i>Pteridium aquilinum</i>) not more than 5%	Woody species that can occur above 5% cover are juniper (<i>Juniperus communis</i>), burnet rose (<i>Rosa spinosissima</i>), mountain avens (<i>Dryas octopetala</i>) and hoary rock-rose (<i>Helianthemum oelandicum</i>). However, cover of these species above 25% may indicate transition to another Annex I habitat such as Alpine and Boreal heaths (4060) or <i>Juniperus communis</i> formations (5130). Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018). Encroachment by blackthorn (<i>Prunus spinosa</i>), hawthorn (<i>Crataegus monogyna</i>), bramble (<i>Rubus fruticosus</i> agg.) and bracken has been reported in some areas of the habitat in the SAC (Dwyer et al., 2007; NPWS internal files)
Vegetation structure: broadleaf herb:grass ratio	Percentage at a representative number of 2m x 2m monitoring stops	Broadleaf herb component of vegetation between 40% and 90%	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018). Broadleaf herb component of vegetation between 30% and 40% may be allowed to pass on expert judgement (Martin et al., 2018)
Vegetation structure: sward height	Percentage at a representative number of 2m x 2m monitoring stops	At least 30% of sward between 5cm and 40cm tall	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018)
Vegetation structure: litter	Percentage cover at a representative number of 2m x 2m monitoring stops	Litter cover not more than 25%	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018). High litter cover was reported in some parts of the habitat in the SAC by Dwyer et al. (2007)
Physical structure: bare soil	Percentage cover at a representative number of 2m x 2m monitoring stops	Not more than 10% bare soil	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018)
Physical structure: grazing or disturbance	Area in local vicinity of a representative number of monitoring stops	Area of the habitat showing signs of serious grazing or disturbance less than 20m ²	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018)



Legend
 Castlesampson Esker SAC 001625

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MAP 1:
CASTLESAMPSON ESKER SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION
 Map to be read in conjunction with the NPWS Conservation Objectives Document.

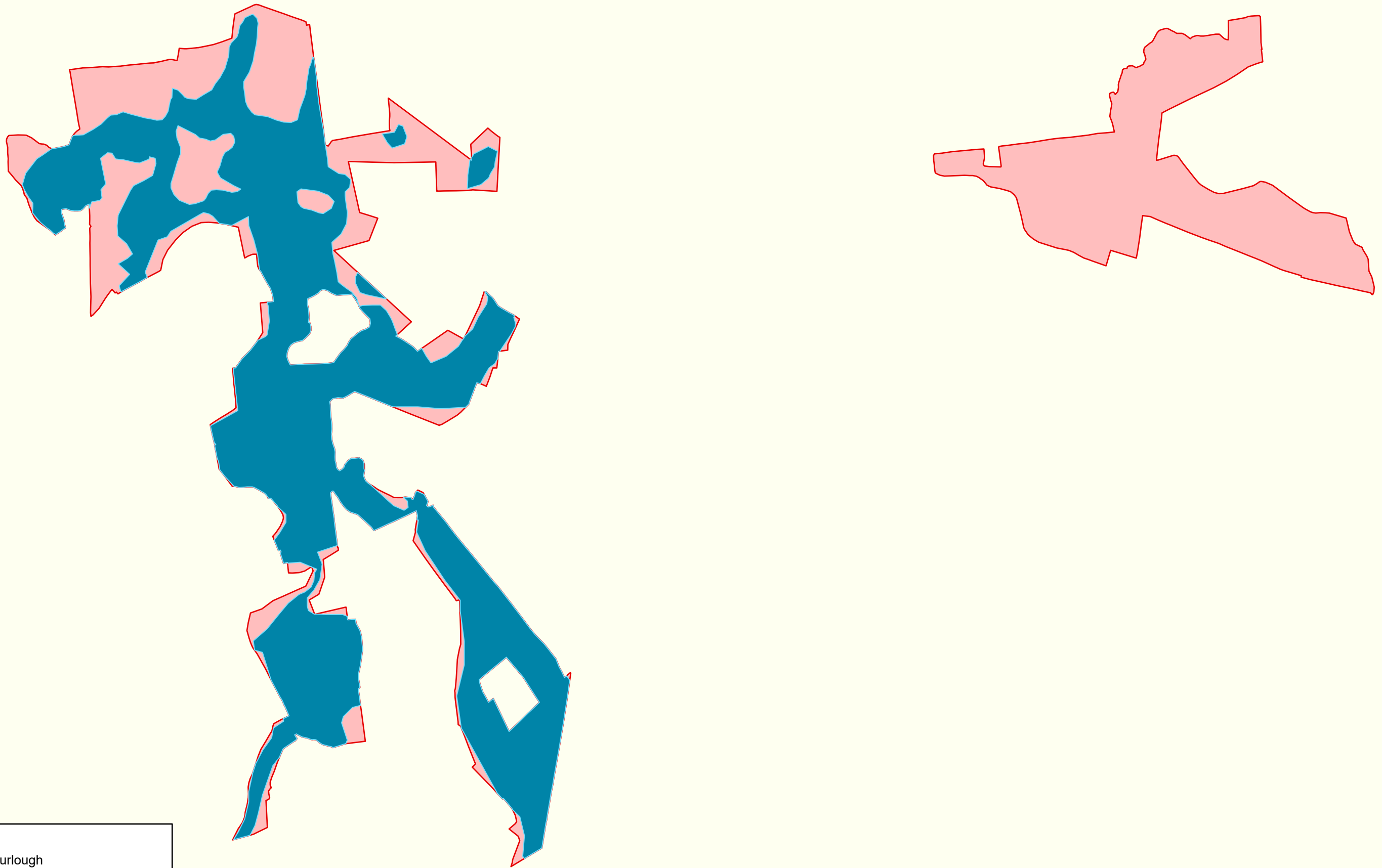
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The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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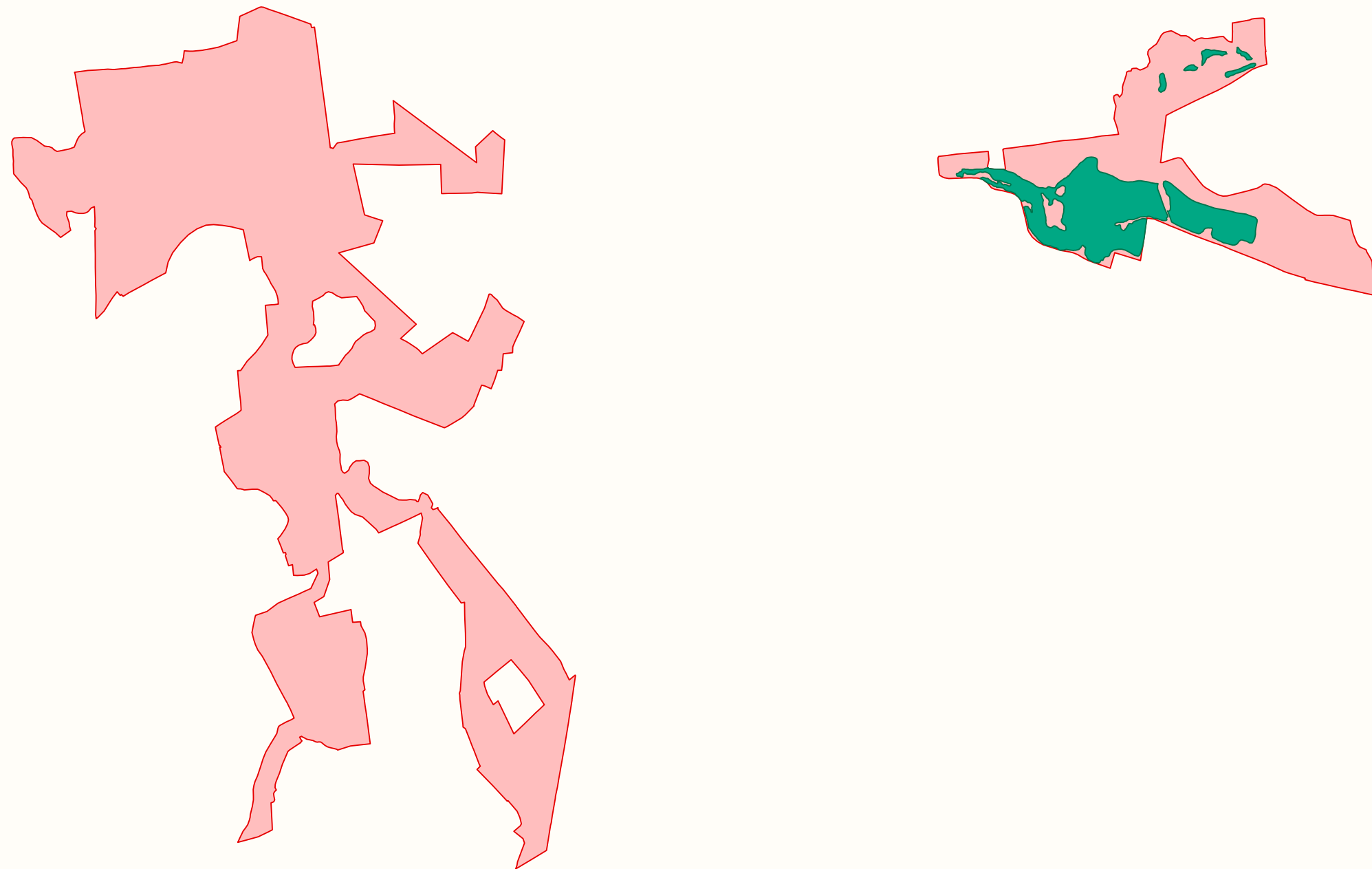
Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbhreithniú a déanamh ar theorainneacha na gceantar comharthaíthe. Suirbhéarachtá Ordonáis na hÉireann Ceadúnas Uimh EN 0059216. © Suirbhéarachtá Ordonáis na hÉireann Rialtas na hÉireann


Map Version 1
Date: September 2021



Legend

- 3180 Turlough
- OSi Discovery Series Boundary
- Castlesampson Esker SAC 001625



Legend

- 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*)
- Castlesampson Esker SAC 001625
- OSi Discovery Series County Boundary

