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Conservation Objectives Series

Cloonakillina Lough SAC 001899

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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***

001899	Cloonakillina Lough SAC

7140	Transition mires and quaking bogs

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 :	Owenmore River Catchment. Proposed Arterial Drainage Environmental Impact Assessment - Botanical and Ornithological Surveys.
Author :	Goodwillie, R.N.; Buckley, P.; Douglas, C.
Series :	Unpublished report
Year :	2009
Title :	Ireland Red List No. 2: Non-marine molluscs
Author :	Byrne, A.; Moorkens, E.A.; Anderson, R.; Killeen, I.J.; Regan, E.C.
Series :	Ireland Red List series, NPWS
Year :	2010
Title :	Ireland Red List No. 4: Butterflies
Author :	Regan, E.C.; Nelson, B.; Aldwell, B.; Bertrand, C.; Bond, K.; Harding, J.; Nash, D.; Nixon, D.; Wilson, C.J.
Series :	Ireland Red List series, NPWS
Year :	2012
Title :	Ireland Red List No. 8: Bryophytes
Author :	Lockhart, N.; Hodgetts, N.; Holyoak, D.
Series :	Ireland Red List series, NPWS
Year :	2013
Title :	The status of EU protected habitats and species in Ireland. Volume 2. Habitats assessments
Author :	NPWS
Series :	Conservation assessments
Year :	2013
Title :	Conservation status assessments for three fen habitat types - 7230 – Alkaline fens, 7210 – Calcareous fens with *Cladium mariscus* and species of Caricion davallianae and 7140 – Transition mires and quaking bogs
Author :	Kimberley, S.
Series :	Unpublished report to NPWS
Year :	2014
Title :	Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland, Version 2.0
Author :	Perrin, P.M.; Barron, S.J.; Roche, J.R.; O'Hanrahan, B.
Series :	Irish Wildlife Manuals, No. 79
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 :	2018
Title :	Backing document – National Conservation Status Assessments (NCAs) for three fen habitat types: 7140 – Transition mires and quaking bogs, 7210 – Calcareous fens with *Cladium mariscus* and species of Caricion davallianae, 7230 – Alkaline fens
Author :	Long, M.P.; Crowe, O.; Kimberley, S.; Denyer, J.
Series :	Unpublished report to NPWS

Year :	in prep.
Title :	The Status of EU Protected Habitats and Species in Ireland (2013-2018). Habitat Assessments
Author :	NPWS
Series :	Conservation assessments

Other References

Year :	1993
Title :	Notes on the flora of the Owenmore Catchment Cos Sligo (H28) and East Mayo (H26)
Author :	Douglas, C.; Goodwillie, R.; Mooney, E.
Series :	Irish Naturalists' Journal, 24(5): 218-220
Year :	2004
Title :	Common Standards Monitoring guidance for lowland wetland habitats
Author :	JNCC
Series :	Joint Nature Conservation Committee, Peterborough
Year :	2011
Title :	Review and revision of empirical critical loads and dose-response relationships. Proceedings of an expert workshop, Noordwijkerhout, 23-25 June 2010
Author :	Bobbink, R.; Hettelingh, J.P.
Series :	RIVM report 680359002, Coordination Centre for Effects, National Institute for Public Health and the Environment (RIVM)
Year :	2018
Title :	Irish Vegetation Classification: Technical Progress Report No. 4
Author :	Perrin, P.
Series :	Report submitted to National Biodiversity Data Centre

Conservation Objectives for : Cloonakillina Lough SAC [001899]

7140 Transition mires and quaking bogs

To maintain the favourable conservation condition of Transition mires and quaking bogs in Cloonakillina 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	Transition mires and quaking bogs have not been mapped in detail for Cloonakillina Lough SAC and thus the total current area of the qualifying habitat in the SAC is unknown. The habitat occurs as a scraw (floating vegetation), with some open pools, covering the western half of the Cloonakillina Lough basin. Cloonakillina Lough has undergone rapid succession from open water to transition mire since it was mapped in 1915, most likely due to drainage and lowering of the water table in the area (NPWS internal files). The SAC contains an interesting variety of stages in mire development, and transition mire occurs in association with areas of open water, fen grassland, reed swamp and wet woodland (NPWS internal files). See also Goodwillie et al. (1992)
Habitat distribution	Occurrence	No decline, subject to natural processes	See the notes for Habitat area above
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil pH and nutrient status within natural ranges	Relevant nutrients and their natural ranges are yet to be defined. However, nitrogen deposition is noted as being relevant to this habitat in NPWS (2013). See also Bobbink and Hettelingh (2011)
Ecosystem function: peat formation	Percentage cover of peat-forming vegetation and water table levels	Maintain active peat formation, where appropriate	In order for peat to form, water levels need to be slightly below or above the soil surface for c.90% of the time
Ecosystem function: hydrology - water levels	Centimetres; duration of water levels	Maintain appropriate water levels necessary to support the natural structure and functioning of the habitat	Maintenance of a permanently high water level, remaining close to the peat surface all year, with water level fluctuations within natural ranges, is required for this wetland habitat. See Kimberley (2013) and Long et al. (2018)
Ecosystem function: hydrology - flow patterns	Flow direction	Maintain appropriate topography and water movement regime necessary to support the natural structure and functioning of the habitat	Maintenance, both within and surrounding the habitat, of topography and flow patterns within natural ranges is essential in order to ensure the hydrological integrity of this wetland habitat
Ecosystem function: water quality	Water chemistry measures	Maintain appropriate water quality to support the natural structure and functioning of the habitat	The surface water conditions necessary to maintain transition mires range from acidic to slightly base-rich. The vegetation typically has intimate mixtures of species considered to be acidophile and others considered calciphile. In other cases, these intermediate properties may reflect the actual process of succession, as peat accumulates in groundwater-fed fen or open water to produce rainwater-fed bog isolated from groundwater influence
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	The entire diversity of transition mire vegetation communities present in the SAC is currently unknown. Information on vegetation communities associated with this habitat in the uplands is presented in Perrin et al. (2014). See also the Irish Vegetation Classification (Perrin, 2018; www.biodiversityireland.ie/projects/national-vegetation-database/irish-vegetation-classification)

Vegetation composition: typical vascular plants and bryophytes	Percentage cover at a representative number of 2m x 2m monitoring stops	Maintain adequate cover of typical vascular plant and bryophyte species	For lists of typical vascular plant and bryophyte species, including high quality indicators, see the Article 17 conservation status assessment for transition mires and quaking bogs (NPWS, in prep.) and the fen habitats supporting document (Long et al., 2018). See also Perrin et al. (2014) and JNCC (2004). In this SAC, the habitat is species-rich with typical species recorded including bog myrtle (*Myrica gale*), bogbean (*Menyanthes trifoliata*), marsh pennywort (*Hydrocotyle vulgaris*), marsh lousewort (*Pedicularis palustris*) marsh cinquefoil (*Comarum palustre*), *Sphagnum contortum* and *S. squarrosum* and a diverse range of sedges including slender sedge (*Carex lasiocarpa*), lesser tussock-sedge (*C. diandra*), bottle sedge (*C. rostrata*), common sedge (*C. nigra*), bog sedge (*C. limosa*) and bog cotton (*Eriophorum angustifolium*) (Goodwillie et al., 1992; NPWS internal files)
Vegetation composition: native negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Native negative indicator species at insignificant levels	Negative indicators include species not characteristic of the habitat and species indicative of undesirable activities such as overgrazing, undergrazing, nutrient enrichment, agricultural improvement or impacts on hydrology. Native negative indicator species that could suggest drying out include ling (*Calluna vulgaris*) and birch (*Betula pubescens*)
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%	Attribute and target based on Perrin et al. (2014). Non-native species can be invasive and have deleterious effects on native vegetation. A low target is set as non-native species can spread rapidly and are most easily dealt with when still at lower abundances
Physical structure: drainage	Percentage area in local vicinity of a representative number of monitoring stops	Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%	Attribute and target based on Perrin et al. (2014). Drainage can result in loss of characteristic species and transition to drier habitats. Cloonakillina Lough SAC contains a dynamic hydrological and ecological system susceptible to drainage (NPWS internal files)
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%	Attribute and target based on Perrin et al. (2014). Disturbance can include hoof marks, wallows, human footprints, vehicle and machinery tracks. Excessive disturbance can result in loss of characteristic species and presage erosion for peatlands
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes	This includes species on the Flora (Protection) Order, 2015 and/or Red Lists (Byrne et al., 2009; Regan et al., 2010; Lockhart et al., 2012; Wyse Jackson et al., 2016, etc.). The Near Threatened slender tufted-sedge (*Carex acuta*) (Wyse Jackson et al., 2016) has been recorded in the habitat in the SAC (Goodwillie et al., 1992; Douglas et al., 1993)

CLOONAKILLINA

Cloonakillina Lough

Cloonakillina Lough

Cloonakillina Lough

Killavil

Doocastle

CO. SLIGO

CO. MAYO

SAC 001899

Roosky

Legend

Cloonakillina Lough SAC 001899

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Department of Culture, Heritage and the Gaeltacht

MAP 1:
CLOONAKILLINA LOUGH SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION

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

SITE CODE:
SAC 001899; version 3.01. CO. MAYO

0 100 200 300 400 Meters

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
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