

National Parks and Wildlife Service

Conservation Objectives Series

Carrowbaun, Newhall and Ballylee Turloughs SAC
002293



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*

002293 Carrowbaun, Newhall and Ballylee 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 <i>Chenopodium rubri</i> p.p. and <i>Bidention</i> p.p. vegetation
Author :	O Connor, Á.
Series :	Conservation objectives supporting document
Year :	2019
Title :	The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments
Author :	NPWS
Series :	Conservation assessments

Other References

Year :	1997
Title :	An Investigation of the Flooding Problems in the Gort–Ardrahan Area of South Galway. Ecology Baseline Study. Vols I and II.
Author :	Southern Water Global and Jennings O'Donovan and Partners (eds)
Series :	The Office of Public Works, Dublin
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

Spatial data sources

Year : 2020

Title : Goodwillie et al. (1997) Land vegetation in the Gort lowlands

GIS Operations : Goodwillie et al. 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

Used For : 3180 (map 2)

Conservation Objectives for : Carrowbaun, Newhall and Ballylee Turloughs SAC [002293]

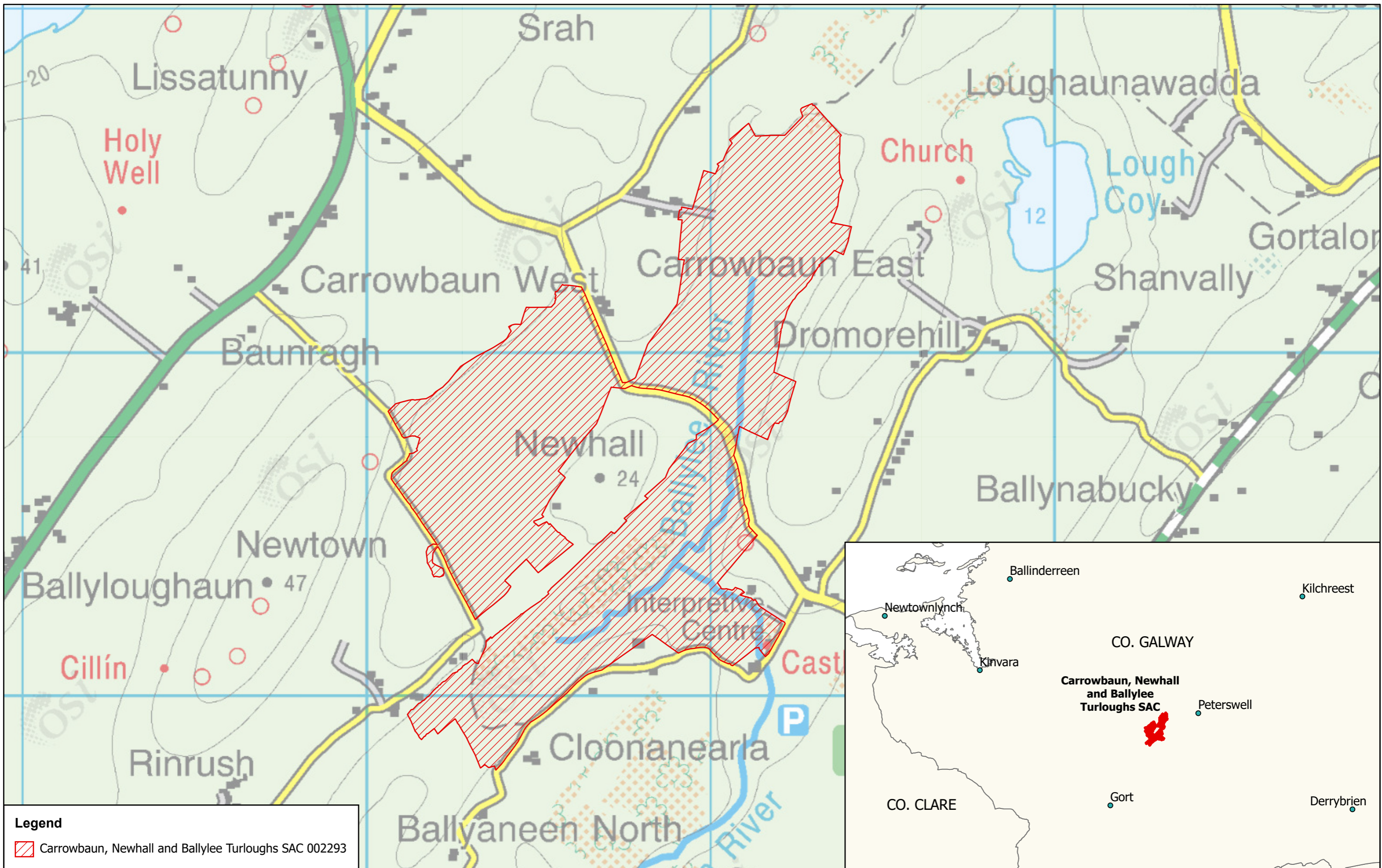
3180 Turloughs*


To restore the favourable conservation condition of Carrowbaun, Newhall and Ballylee Turloughs SAC, which is defined by the following list of attributes and targets:

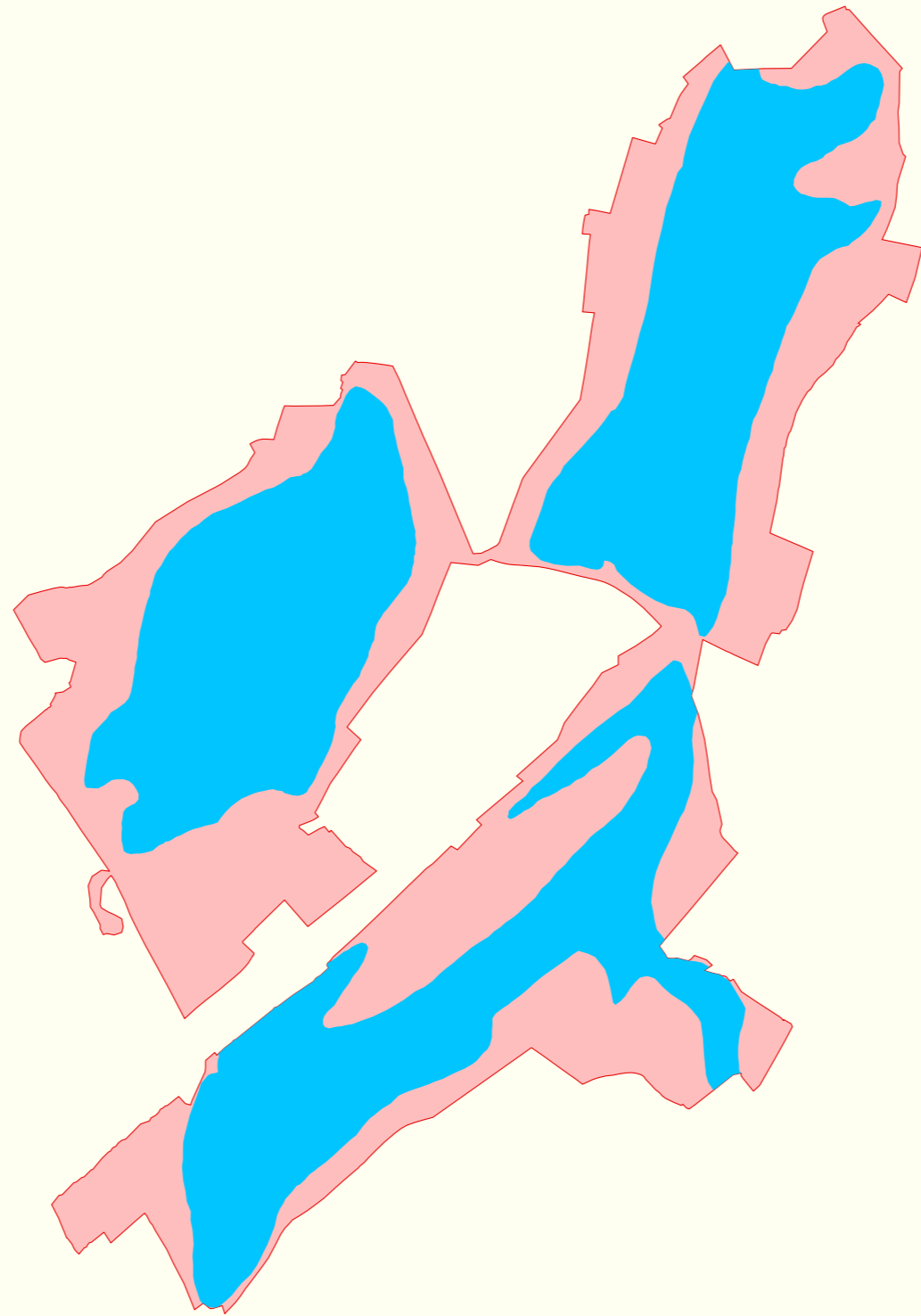
Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	Carrowbaun, Newhall and Ballylee Turloughs SAC was studied as part of the Gort Flood Relief Scheme (Goodwillie et al., 1997). The SAC comprises three separate elements- fluctuating turlough-type marshes in Carrowbaun East and Newhall, and the channel between Ballylee Castle and Pollanoween in which the Streamstown and Ballylee Rivers sink. Carrowbaun is the furthest north, Newhall lies towards the centre, and Ballylee to the south. The turlough area in the SAC has been calculated as 55.7ha based on Goodwillie et al. (1997). 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	As mentioned above, this SAC contains three turloughs. 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). The hydrology was studied as part of the Gort Flood Relief Scheme (SWG and Jennings O'Donovan and Partners, 1997). These turloughs are connected above ground at high flood and are at the southern end of a larger complex, which includes Lough Coy and Peterswell Turlough SACs, and is usually the last in the series to flood. At high-water levels, Newhall floods into Carrowbaun West. Carrowbaun is lowest to the north and an artificial channel links the marsh with the Ballylee River. Goodwillie et al. (1997) found that vegetation at Carrowbaun and Newhall was altered through drainage. A swallowhole the north end of Ballylee introduces water from Lough Coy. Swallowholes also occur at Carrowbaun. The Ballylee River is joined by the Streamstown River and water sinks into the channel floor
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) classifies the soils of the central flooded turlough basins of Carrowbaun and Newhall as lacustrine, with Ballylee Turlough and the areas between the turloughs mostly classed as deep, well-drained, basic mineral soils over limestone tills. Small areas of shallow, well-drained, basic mineral soils over calcareous bedrock also occur. Jones et al. (2014) classify all the soils in the vicinity of the turloughs as well-drained, fine loamy drift with limestones. Goodwillie et al. (1997) describes Newhall Turlough as lying in a broad peaty depression with gravel deposits at the southern end
Soil nutrient status: nitrogen and phosphorus	N and P concentration in soil	Maintain/restore nutrient status appropriate to soil types and vegetation communities	Goodwillie et al. (1997) recorded fertilisation at Carrowbaun East
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	

Active peat formation	Flood duration	Maintain active peat formation	There is no indication from the soil maps of Fealy et al. (2009) or Jones et al. (2014) of any peat formation in this turlough complex. However, Goodwillie et al. (1997) states that Newhall Turlough lies in a broad peaty depression, with gravel deposits at the southern end
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. According to the Working Group on Groundwater (Turlough sub-committee) (2005), Ballylee and Carrowbaun turloughs are currently classed as having a medium trophic sensitivity (i.e. mesotrophic), while Newhall is classed as having a high trophic sensitivity (i.e. oligotrophic). Ballylee is considered to be naturally mesotrophic, whereas Carrowbaun and Newhall are both considered to be naturally oligotrophic. All three turloughs therefore have targets of $\leq 20\mu\text{g/l}$ for total phosphorus and should maintain trace/absent epiphyton as algal mats (<2% cover) to be in favourable condition
Vegetation composition: area of vegetation communities	Hectares	Maintain/restore area of sensitive and high conservation value vegetation communities/units	The north end of Carrowbaun supports a permanently wet <i>Carex nigra</i> community that includes <i>C. rostrata</i> , <i>Menyanthes trifoliata</i> , <i>Comarum palustre</i> , <i>Equisetum fluviatile</i> and <i>Caltha palustris</i> . A drier community of <i>C. disticha</i> , <i>Filipendula ulmaria</i> and <i>Senecio aquaticus</i> also occurs. The southern end of Carrowbaun contains a community of <i>C. hirta</i> , <i>Rumex acetosa</i> and <i>Leontodon autumnalis</i> . Newhall has more peaty soil and tussocks of a drier <i>C. panicea</i> - <i>C. flacca</i> community occurs among a wetter <i>Glyceria fluitans</i> - <i>Callitriche</i> spp. one. At Ballylee and Carrowbaun, turlough scrub features <i>Rhamnus cathartica</i> , <i>Prunus spinosa</i> , <i>Corylus avellana</i> and <i>Fraxinus excelsior</i> . Much of the rest of Ballylee is uniform wet <i>Agrostis stolonifera</i> - <i>Cynosurus cristatus</i> grassland, with species such as <i>Lolium perenne</i> and <i>Trifolium repens</i> indicating agricultural improvement (Goodwillie et al., 1997)
Vegetation composition: vegetation zonation	Distribution	Maintain/restore vegetation zonation/mosaic characteristic of the turlough	According to Goodwillie et al. (1997), despite the vegetation in Newhall and Carrowbaun having been modified by drainage works and heavy grazing, there are places where good zonation of communities occur, including stands of conservation value. At Carrowbaun, a permanently wet <i>Carex nigra</i> community grades into a drier <i>C. disticha</i> - <i>Filipendula ulmaria</i> community, and turlough scrub at the northern end with <i>Rhamnus cathartica</i> and <i>Prunus spinosa</i> grading into dry, rocky <i>Corylus avellana</i> scrub. Ballylee contains more turlough scrub than the other two areas, with <i>R. cathartica</i> , <i>P. spinosa</i> , <i>Viburnum opulus</i> and <i>Euonymus europaeus</i> , but much of the rest of Ballylee is uniform wet grassland that shows signs agricultural improvement in places
Vegetation structure: sward height	Centimetres	Maintain/restore sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	Goodwillie et al. (1997) reported heavy grazing at the southern end of Carrowbaun Turlough and signs of damage from poaching at Newhall Turlough
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 turloughs are of local to regional importance for a range of wintering waterfowl, including Bewick's swan and whooper swan, both on Annex I of the Birds Directiveesting . Nesting snipe have also been recorded (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	Ballylee Turlough contains the most turlough woodland/scrub of the three turloughs but scrub woodland also occurs at the northern end of Carrowbaun. Both areas contain <i>Rhamnus cathartica</i> , <i>Corylus avellana</i> and <i>Fraxinus excelsior</i> . <i>Viburnum opulus</i> and <i>Euonymus europaeus</i> are also present at Ballylee



Legend
 Carrowbaun, Newhall and Ballylee Turloughs SAC 002293



Legend

- 3180 Turloughs*
- Carrowbaun, Newhall and Ballylee Turloughs SAC 002293

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**MAP 2:
CARROWBAUN, NEWHALL
AND BALLYLEE TURLOUGHES SAC
CONSERVATION OBJECTIVES
TURLOUGHES**

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

**SITE CODE:
SAC 002293; version 3.01. CO. GALWAY**



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 athbheithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh OSI-NMA-014. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann

Map Version 1
Date: November 2020