

National Parks and Wildlife Service

Conservation Objectives Series

Rahasane Turlough SAC 000322



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**

Citation:

NPWS (2020) Conservation Objectives: Rahasane Turlough SAC 000322. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

**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*

000322 Rahasane Turlough SAC

3180 Turloughs*

Please note that this SAC overlaps with Rahasane Turlough SPA (004089). See map 2. The conservation objective for this site should be used in conjunction with those for the overlapping site as appropriate.

Supporting documents, relevant reports & publications

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

NPWS Documents

Year :	1985
Title :	An assessment of the impacts of arterial drainage on wetland vegetation in the Dunkellin/Lavally catchments, Co. Galway
Author :	Lockhart, N.D.
Series :	Unpublished Report
Year :	1992
Title :	Turloughs over 10ha - Vegetation survey and evaluation
Author :	Goodwillie, R.N.
Series :	Unpublished report to NPWS
Year :	2009
Title :	Irish Red List No. 1 - Water beetles
Author :	Foster, G.N.; Nelson, B.H.; O Connor, Á.
Series :	Ireland Red List Series, NPWS
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 :	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

Other References

Year :	1976
Title :	<i>Tanymastix stagnalis</i> (Linn.) in County Galway, new to Britain and Ireland
Author :	Young, R.
Series :	Proc. R. Ir. Acad. 76B, 369-378
Year :	1985
Title :	Phytosociological and ecological studies on turloughs in the west of Ireland
Author :	MacGowran, B.
Series :	Unpublished Ph.D. Thesis, National University of Ireland, Galway
Year :	1985
Title :	Vegetation productivity in Rahasane turlough County Galway
Author :	Sheehy Skeffington, M.J.
Series :	British Ecological Society Bulletin XVI, 20–23
Year :	1986
Title :	A study of the geology, hydrology and geomorphology of turloughs
Author :	Coxon, C.
Series :	Unpublished Ph.D. Thesis, Trinity College Dublin

- Year :** 1991
Title : Further records of aquatic Coleoptera from Ireland
Author : Bilton, D.T.; Lott, D.A.
Series : The Irish Naturalists' Journal, 23(10): 389-397
-
- Year :** 1992
Title : A review of the scarce and threatened Coleoptera of Great Britain. Part 1. UK. Nature Conservation: 3
Author : Hyman, P. S.; Parsons, M. S.
Series : Joint Nature Conservation Committee, Peterborough, UK
-
- Year :** 1993
Title : The bird communities and general ecology of Rahasane Turlough and the Dunkellin/Lavally river system
Author : Buckley, P.
Series : PhD Thesis, Department of Zoology, University College Galway
-
- 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 :** 2005
Title : An investigation of the plant, carabid, and staphylinid communities of turloughs in southeast Galway/north Clare, Ireland
Author : Regan, E.C.
Series : Unpublished Ph.D. Thesis, National University of Ireland, Galway
-
- Year :** 2005
Title : Further records of carabid beetles from turloughs
Author : Regan, E.C.
Series : Irish Naturalists' Journal, 28(2): 59-61
-

Spatial data sources

Year : 2020

Title : Goodwillie (1992) Turloughs over 10 hectares: Vegetation survey and evaluation

GIS Operations : Goodwillie 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 3)

Conservation Objectives for : Rahasane Turlough SAC [000322]

3180 Turloughs*

To maintain the favourable conservation condition of Turloughs in Rahasane Turlough 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	Rahasane Turlough was studied by MacGowran (1985), Lockhart (1985), Sheehy Skeffington (1985), Coxon (1986), Goodwillie (1992), Buckley (1993) and Regan (2005a, b). The turlough area in the SAC has been calculated as 257.2ha based on Goodwillie (1992). See map 3 for known extent. Goodwillie (1992) categorised Rahasane Turlough as being of international ecological importance. See O Connor (2017) for information on all attributes and targets
Habitat distribution	Occurrence	No decline, subject to natural processes	See map 3
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 of Rahasane Turlough was studied by Coxon (1986) and Goodwillie (1992). The turlough consists of three main parts, a large northern basin, a smaller western basin, and an isolated southern turlough separated even at times of high water by a short channel. The main swallow holes within the turlough can be up to 5m wide and 2-3m deep (Goodwillie, 1992). Goodwillie (1992) recorded that the turlough was formerly the natural sink of the Dunkellin River. He noted several permanent pools within the turlough and observed that the northern side of the main basin could remain wet throughout the year. At that time there had been no successful drainage to date, with the artificial river channel that was dug having little effect on the hydrology of the turlough
Soil type	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	The turlough habitat in the SAC has a range of soils. In most places there is silty clay with shell fragments up to, or more than, 3m in thickness (Coxon, 1986). Locally, in the main basin there are signs of marl but peat is absent from the turlough. For further information on soil type in Rahasane Turlough see Coxon (1986) and Goodwillie (1992)
Soil nutrient status: nitrogen and phosphorus	N and P concentration in soil	Maintain nutrient status appropriate to soil types and vegetation communities See O Connor (2017) for information on this and all attributes and targets	
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 The areas with marl and shell deposits reported by Goodwillie (1992) will have a high calcium carbonate content	The areas with marl and shell deposits reported by Goodwillie (1992) will have a high calcium carbonate content
Active peat formation	Flood duration	Maintain active peat formation	Peat is not a feature of the turlough habitat in this SAC (Goodwillie, 1992)

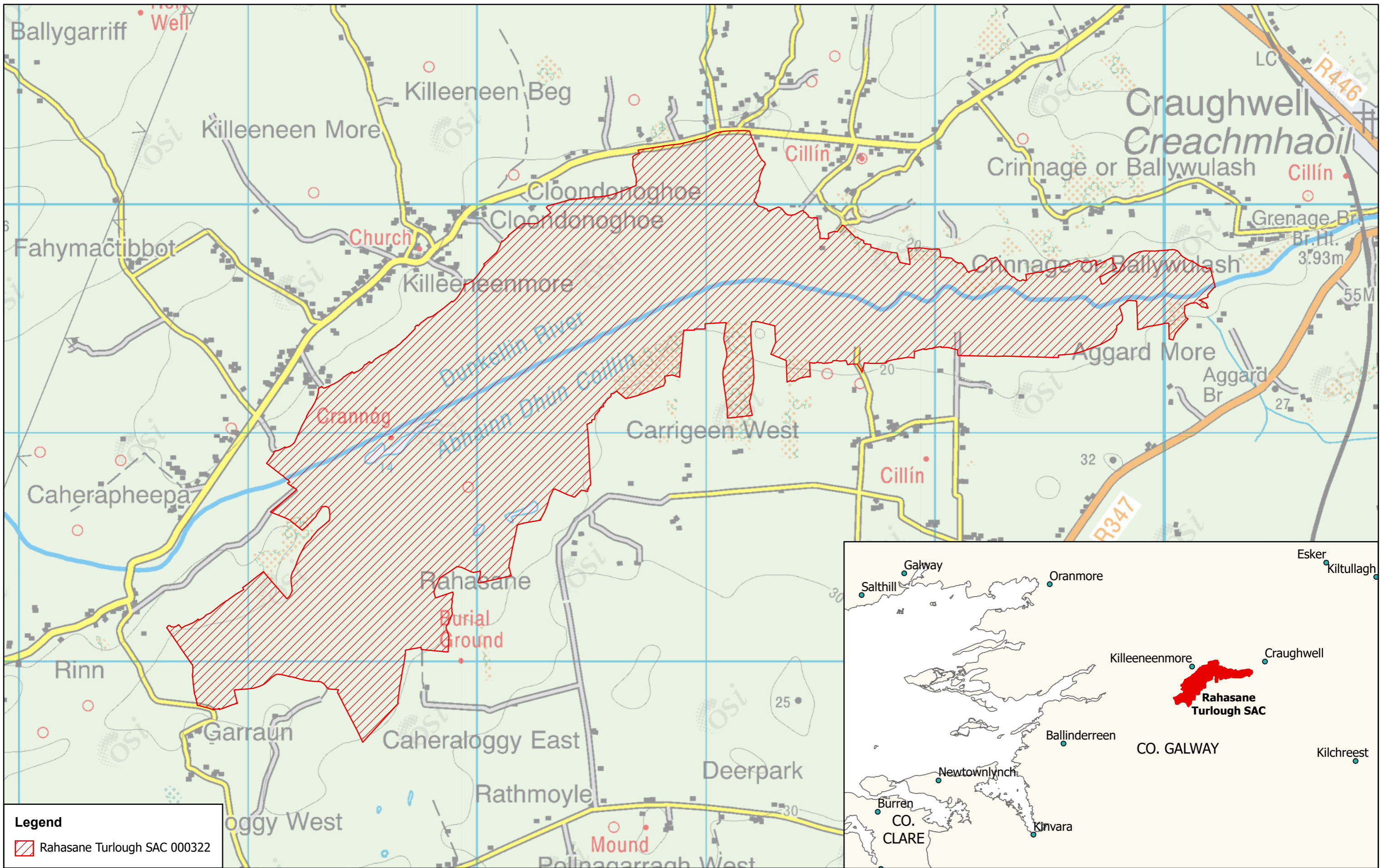
Water quality	Various	Maintain appropriate water quality to support the natural structure and functioning of the habitat	Water quality is sub-divided into more detailed attributes (nutrients, colour, phytoplankton and epiphyton biomass) and targets in O Connor (2017). See also The European Communities Environmental Objectives (Surface Waters) (Amendment) Regulations 2019. Rahasane Turlough was considered to be moderately sensitive to enrichment (Working Group on Groundwater (Turlough sub-committee), 2005). A target of $\leq 20\mu\text{g/l}$ total phosphorus may therefore be sufficient to support the natural structure and functioning of the turlough habitat at Rahasane
Vegetation composition: area of vegetation communities	Hectares	Maintain area of sensitive and high conservation value vegetation communities/units	The vegetation of Rahasane Turlough is diverse and of the vegetation communities mapped by Goodwillie (1992), the <i>Potentilla reptans</i> type (5B community) was the most abundant, occurring in large expanses at both ends of the turlough. Other common vegetation types included areas of temporary ponds (9A community) with <i>Rorippa sylvestris</i> , and <i>Polygonum amphibium</i> grassland (7A community) (Goodwillie, 1992). Charophytes, including <i>Chara vulgaris</i> , have been recorded within Rahasane Turlough (Goodwillie, 1992). See MacGowran (1985), Lockhart (1985), Goodwillie (1992) and Regan (2005a) for further information on vegetation communities in Rahasane Turlough
Vegetation composition: vegetation zonation	Distribution	Maintain vegetation zonation/mosaic characteristic of the turlough	When mapped by Goodwillie (1992), there was a mosaic of vegetation communities within the upper vegetation zone at Rahasane Turlough, including areas of poor grassland (2B community), limestone grassland (2C community), and scrub (3W community). At the lower levels of the turlough the <i>Polygonum amphibium</i> community was common, with temporary ponds with <i>Rorippa sylvestris</i> also characteristic. The main channel of the river had bands of ditch-like vegetation (10B community) along each side, sometimes with a deeper central section of pondweeds. See MacGowran (1985), Lockhart (1985), Goodwillie (1992) and Regan (2005a) for further information on vegetation communities in Rahasane Turlough
Vegetation structure: sward height	Centimetres	Maintain sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	According to Goodwillie (1992), Rahasane Turlough was closely grazed by cattle, sheep and horses, with the shortness of most of the vegetation being one of its chief features. Sheep were largely confined to the southern basin and the northern shore but the other animals ranged everywhere (Goodwillie, 1992)
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). Two notable vascular plant species were recorded within Rahasane Turlough by Goodwillie (1992), <i>Viola persicifolia</i> listed as Near Threatened in Wyse Jackson et al. (2016), and <i>Rorippa islandica</i> listed as Least Concern in Wyse Jackson et al. (2016). Regan (2005b) recorded the carabid <i>Bembidion bipunctatum</i> , listed in the British Red Data Book (Hyman and Parsons, 1992). Nine aquatic beetle species, all listed as Least Concern by Foster et al., (2009), were recorded here by Bilton and Lott (1991). The crustacean <i>Tanymastix stagnalis</i> was first recorded in Ireland at Rahasane Turlough (Young, 1976). This turlough is renowned for its wintering wildfowl populations, and is designated as a Special Protection Area (SPA) for a number of species. Breeding waders are also reported (NPWS internal files)
Fringing habitats: area	Hectares	Maintain marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations	Rahasane Turlough is of high conservation importance for its mosaic of Annex I and other habitats, particularly the transitions and gradations between habitats, e.g. between turloughs and limestone grassland, scrub and woodland

Vegetation structure: turlough woodland


Species diversity and woodland structure

Maintain appropriate turlough woodland diversity and structure

Areas of scrub and woodland were noted on the edge of Rahasane Turlough by Goodwillie (1992), particularly on the southern and north-western shores. The area of woodland that flooded was small and was characterised as *Rhamnus cathartica* woodland (3W community) by Goodwillie (1992), with larger areas of ash/hazel woodland just above the flood zone



Legend

 Rahasane Turlough SAC 000322

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

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

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

**SITE CODE:
SAC 000322; version 3.01. CO. GALWAY**

0 125 250 375 500 Metres

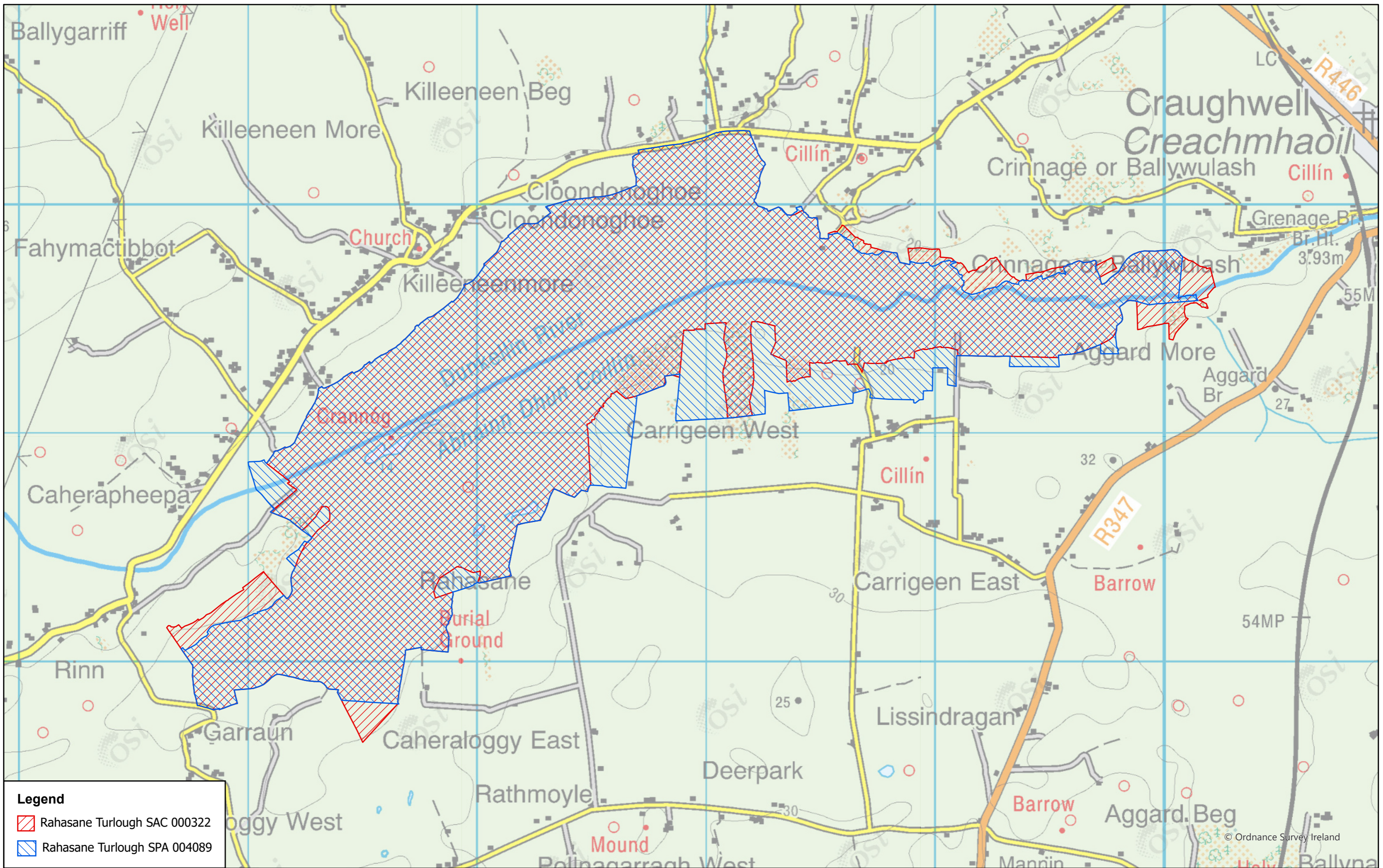
The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
Ordnance Survey of Ireland Licence No OSI-NMA-014. © Ordnance Survey of Ireland Government of Ireland

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

N

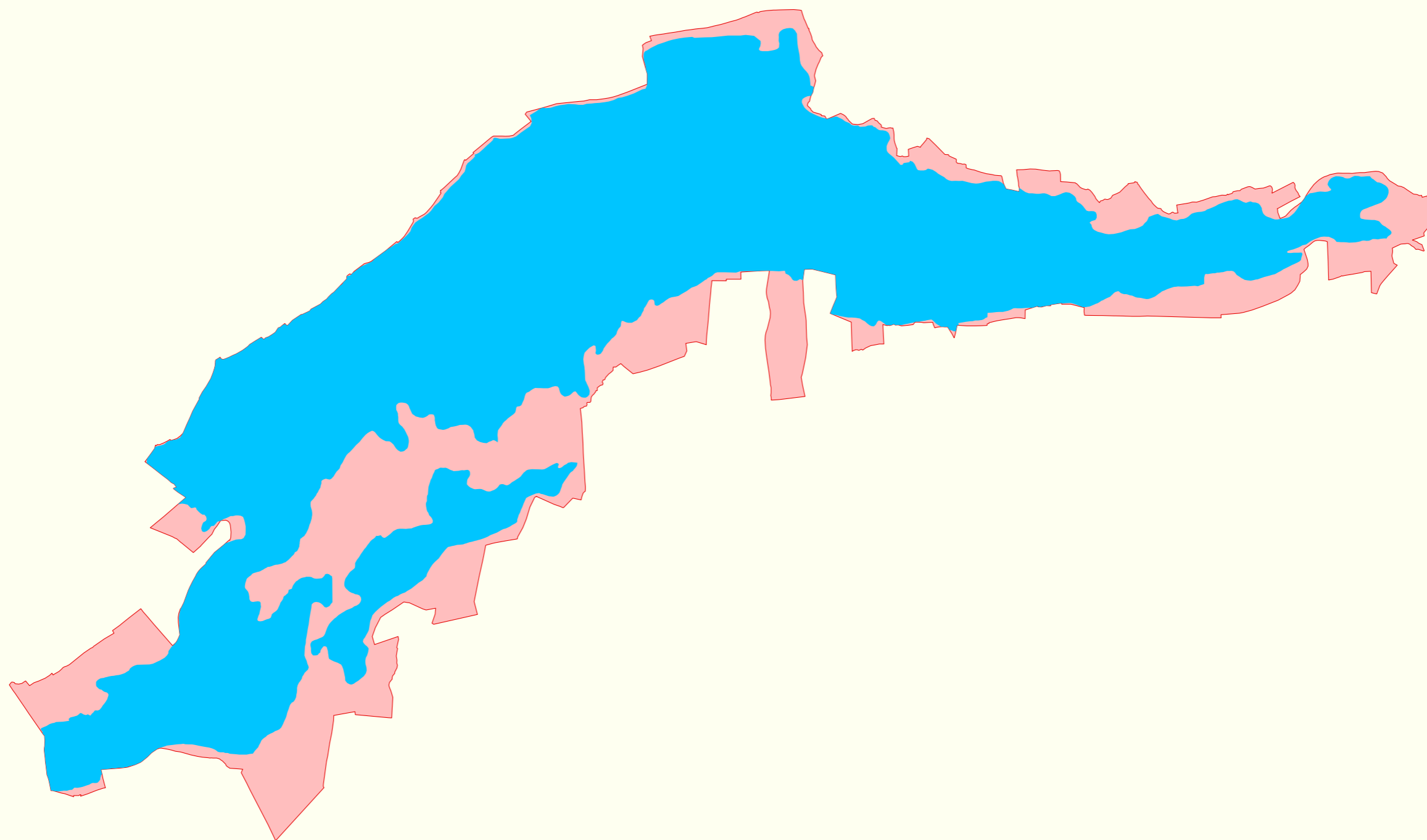


Map Version 1
Date: November 2020





Legend

- Rahasane Turlough SAC 000322
- Rahasane Turlough SPA 004089



Legend

 3180 Turloughs*

 Rahasane Turlough SAC 000322

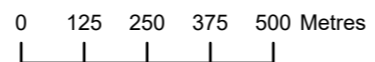


An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

**MAP 3:
RAHASANE TURLOUGH SAC
CONSERVATION OBJECTIVES
TURLOUGHs**

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

**SITE CODE:
SAC 000322; version 3.01. CO. GALWAY**



The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
Ordnance Survey of Ireland Licence No OSI-NMA-014. © Ordnance Survey of Ireland Government of Ireland

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 OSI-NMA-014. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann



Map Version 1
Date: November 2020