

# National Parks and Wildlife Service

## *Conservation Objectives Series*

### Lough Funshinagh SAC 000611



An Roinn  
Cultúir, Oidhreachta agus Gaeltachta  

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Department of  
Culture, Heritage and the Gaeltacht



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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*

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000611 Lough Funshinagh SAC

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3180 TurloughsE

3270 Rivers with muddy banks with *Chenopodium rubri* p.p. and *Bidenton* p.p. vegetation

## Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: [www.npws.ie/Publications](http://www.npws.ie/Publications)

### NPWS Documents

<b>Year :</b>	1974
<b>Title :</b>	A Preliminary Report on Areas of Scientific Interest in Co. Roscommon
<b>Author :</b>	Goodwillie, R.N.; Fahy, E.
<b>Series :</b>	Unpublished report
<b>Year :</b>	2007
<b>Title :</b>	Supporting documentation for the Habitats Directive Conservation Status Assessment - backing documents. Article 17 forms and supporting maps
<b>Author :</b>	NPWS
<b>Series :</b>	Unpublished report to NPWS
<b>Year :</b>	2009
<b>Title :</b>	Irish Red List No. 1 - Water beetles
<b>Author :</b>	Foster, G.N.; Nelson, B.H.; O Connor, Á.
<b>Series :</b>	Ireland Red List No. 1
<b>Year :</b>	2016
<b>Title :</b>	Ireland Red List No. 10: Vascular Plants
<b>Author :</b>	Wyse Jackson, M.; FitzPatrick, Ú.; Cole, E.; Jebb, M.; McFerran, D.; Sheehy Skeffington, M.; Wright, M.
<b>Series :</b>	Ireland Red Lists series, NPWS
<b>Year :</b>	2017
<b>Title :</b>	Conservation objectives supporting document: Turloughs* and Rivers with muddy banks with <i>Chenopodium rubri</i> p.p. and <i>Bidention</i> p.p. vegetation
<b>Author :</b>	O Connor, Á.
<b>Series :</b>	Conservation objectives supporting document

### Other References

<b>Year :</b>	1985
<b>Title :</b>	A report on the ecological and botanical interest of Lough Funshinagh, Co. Roscommon
<b>Author :</b>	Wyse Jackson, P.
<b>Series :</b>	An Taisce report
<b>Year :</b>	1988
<b>Title :</b>	The Cladocera (Crustacea) of Lough Ree and neighbouring waterbodies in Ireland
<b>Author :</b>	Duigan, C.
<b>Series :</b>	Bulletin of the Irish Biogeographical Society, 11: 100-113
<b>Year :</b>	1996
<b>Title :</b>	The disappearance of Lough Funshinagh, Co. Roscommon
<b>Author :</b>	Drew D.; Burke M.
<b>Series :</b>	Irish Groundwater Newsletter No. 30
<b>Year :</b>	2005
<b>Title :</b>	Guidance on the Pressures and Impacts on Groundwater Dependent Terrestrial Ecosystems. Risk Assessment Sheet GWDTERA2a - Turloughs
<b>Author :</b>	Working Group on Groundwater (Turlough sub-committee)
<b>Series :</b>	Water Framework Directive Pressures and Impact Assessment Methodology - Guidance Document No. GW9

**Year :** 2012  
**Title :** Bird Habitats in Ireland  
**Author :** Nairn, R.; O'Halloran, J. (eds)  
**Series :** The Collins Press, Cork

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**Year :** 2017  
**Title :** Groundwater flood hazards and mechanisms in lowland karst terrains  
**Author :** Naughton, O.; McCormack, T.; Gill, L.; Johnston, P.  
**Series :** Geological Society, London, Special Publications, 466

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## Spatial data sources

**Year :** 2008

**Title :** OSi 1:5000 IG vector dataset

**GIS Operations :** WaterPolygons feature class clipped to the SAC boundary. Expert opinion used to identify Annex I habitat and to resolve any issues arising

**Used For :** 3180 (map 2)

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## Conservation Objectives for : Lough Funshinagh SAC [000611]

### 3180 Turloughs

**To maintain the favourable conservation condition of Turloughs\* in Lough Funshinagh SAC, which is defined by the following list of attributes and targets:**

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable at c.378.3ha or increasing, subject to natural processes. See map 2	Estimated area of 378.3ha (3.78km <sup>2</sup> ) based on Ordnance Survey Ireland (OSI) 1:5,000 lake polygon. Drew and Burke (1996) estimated the area of the lake when full as c.2.5km <sup>2</sup> . Naughton et al. (2017) stated that Lough Funshinagh covered an area of 4.6km <sup>2</sup> in 2015-16, when water levels were the highest in living memory. See O Connor (2017) for information on all attributes and targets
Habitat distribution	Occurrence	No decline, subject to natural processes	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). Drew and Burke (1996) described Lough Funshinagh as 'an intermittent turlough', becoming 'nearly' dry every 3-4 years and completely dry (with the exception of a few pools) at longer intervals. It emptied in 1984 and 1996; the cause was unclear, but was not through collapse of plugged material in swallow holes (Drew and Burke, 1996). The basin is flat, shallow (maximum depth is 2m), has 2 inflowing streams, no surface outflow and an enlarged sinkhole in the south-eastern corner (Drew and Burke, 1996). Tracing demonstrated a connection between the Lough Funshinagh sink and a spring at Atteagh Corn Mill, 5km to the south-east (Drew and Burke, 1996). Naughton et al. (2017) stated that 2015-16 water levels were the highest in living memory with a peak volume of over 16,000,000m <sup>3</sup>
Soil type	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	See O Connor (2017) for further details on this and all attributes
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 further details on this and all attributes
Physical structure: bare ground	Presence	Maintain sufficient wet bare ground, as appropriate	Wet bare ground is critical to the structure and functioning of Rivers with muddy banks with <i>Chenopodium rubri</i> p.p. and <i>Bidention</i> p.p. vegetation (3270) in Lough Funshinagh. See also the conservation objective for habitat 3270 in this volume
Chemical processes: calcium carbonate deposition and concentration	Calcium carbonate deposition rate/soil calcium carbonate concentration	Maintain appropriate calcium carbonate deposition rate and concentration in soil	There is some marl precipitation at Lough Funshinagh (NPWS internal files)
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). Lough Funshinagh is considered to be naturally mesotrophic and a highly sensitive receptor requiring mesotrophic water quality (good ecological status) (Working Group on Groundwater, 2005; NPWS internal files). A target of ≤20µg/l total phosphorus (TP) may be sufficient to support the natural structure and functioning of the turlough habitat at Lough Funshinagh



Active peat formation	Flood duration	Maintain active peat formation	Drew and Burke (1996) noted that in early September 1996 the only water remaining in Lough Funshinagh was in isolated pools, some of them old peat cuttings
Vegetation composition: area of vegetation communities	Hectares	Maintain area of sensitive and high conservation value vegetation communities/units	Goodwillie and Fahy (1974) provide some information on vegetation communities at Lough Funshinagh, including marginal/shoreline areas that have a 'typical turlough flora'. Common species included sharp-flowered rush ( <i>Juncus acutiflorus</i> ), carnation sedge ( <i>Carex panicea</i> ), common sedge ( <i>C. nigra</i> ), lesser spearwort ( <i>Ranunculus flammula</i> ), water mint ( <i>Mentha aquatica</i> ), marsh ragwort ( <i>Senecio aquaticus</i> ), common marsh-bedstraw ( <i>Galium palustre</i> ), amphibious bistort ( <i>Persicaria amphibia</i> ) and tufted forget-me-not ( <i>Myosotis laxa</i> ) (Goodwillie and Fahy, 1974; NPWS internal files). The open water was dominated by reedbeds of common club-rush ( <i>Schoenoplectus lacustris</i> ), with more localised common reed ( <i>Phragmites australis</i> ) and reedswamp of tufted-sedge ( <i>Carex elata</i> ), slender sedge ( <i>C. lasiocarpa</i> ) and bottle sedge ( <i>C. rostrata</i> )
Vegetation composition: vegetation zonation	Distribution	Maintain vegetation zonation/mosaic characteristic of the site	As noted above, Goodwillie and Fahy (1974) provide some information on vegetation communities at Lough Funshinagh. Wyse Jackson (1985) divided the communities at Lough Funshinagh into open water, marginal pools, lake margins and shores, and wet grassland
Vegetation structure: sward height	Centimetres	Maintain sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	See O Connor (2017) for further details on this and all attributes
Typical species	Presence	Maintain 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). R. Goodwillie (pers. comm.) recorded northern yellow-cross ( <i>Rorippa islandica</i> ) and the Near Threatened orange foxtail ( <i>Alopecurus aequalis</i> ) (Wyse Jackson et al., 2016) at Lough Funshinagh. Wyse Jackson (1985) collated records from J. Earley, BSBI Roscommon VC recorder, and Goodwillie and Fahy (1974). See Duigan (1988) for information on Cladocera. Characteristic turlough water beetles recorded at Lough Funshinagh include the Near Threatened <i>Agabus labiatus</i> (Foster et al., 2009); also <i>Haliphus obliquus</i> , <i>Helophorus minutus</i> , <i>Laccobius colon</i> and <i>Ochthebius minimus</i> (Irish water beetle database). Goodwillie and Fahy (1974) stated Lough Funshinagh was important for breeding birds and wintering wildfowl, which included a now-extinct colony of black-necked grebes (Nairn and O'Halloran, 2012)
Fringing habitats: area	Hectares	Maintain marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations	Lough Funshinagh is fringed by wet grassland, which in turn grades into pasture. A number of islands with gorse ( <i>Ulex europaeus</i> ) scrub occur on the eastern side
Vegetation structure: turlough woodland	Species diversity and woodland structure	Maintain appropriate turlough woodland diversity and structure	See O Connor (2017) for further details on this and all attributes

## Conservation Objectives for : Lough Funshinagh SAC [000611]

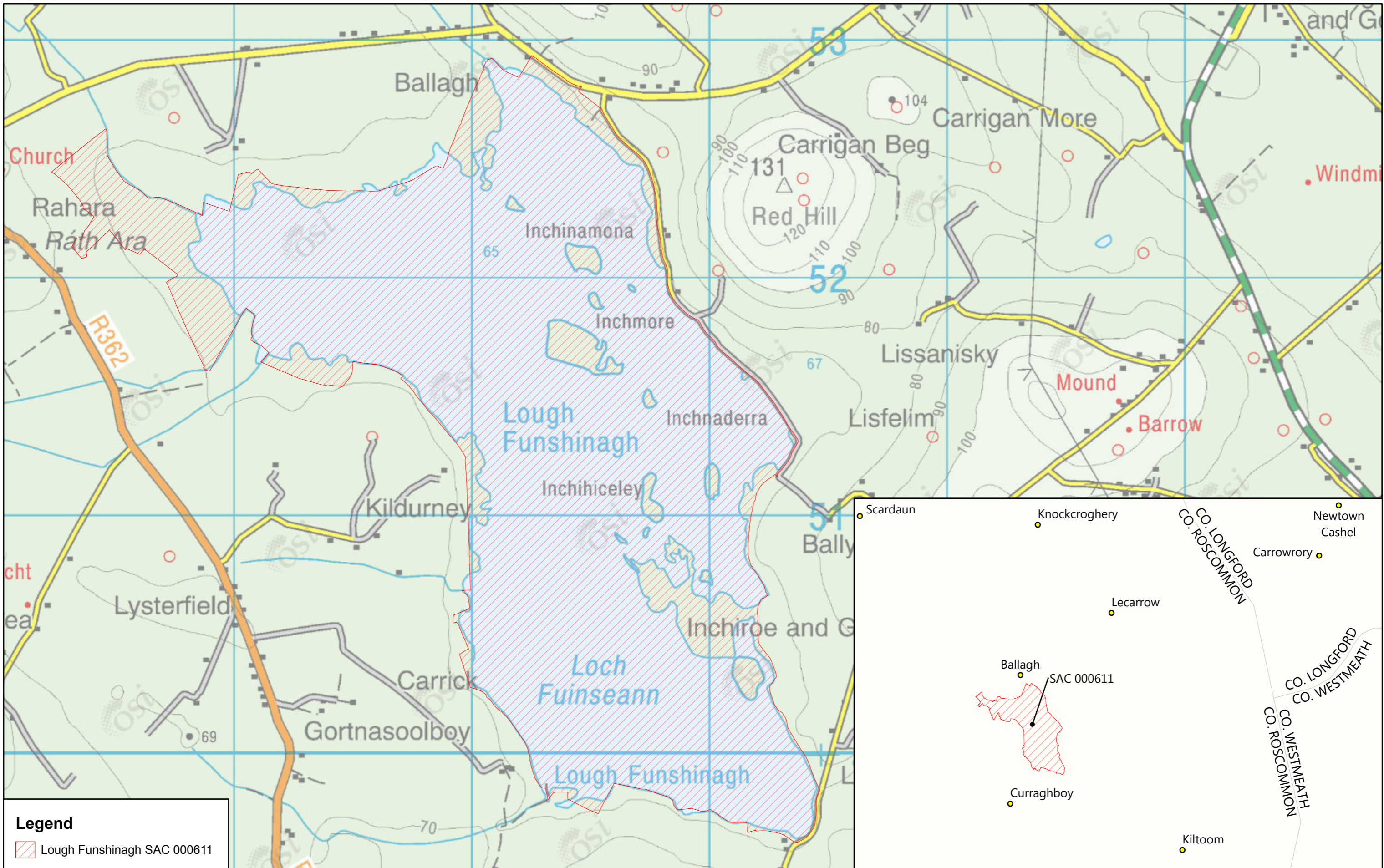
### 3270 Rivers with muddy banks with *Chenopodium rubri p.p.* and *Bidention p.p.* vegetation

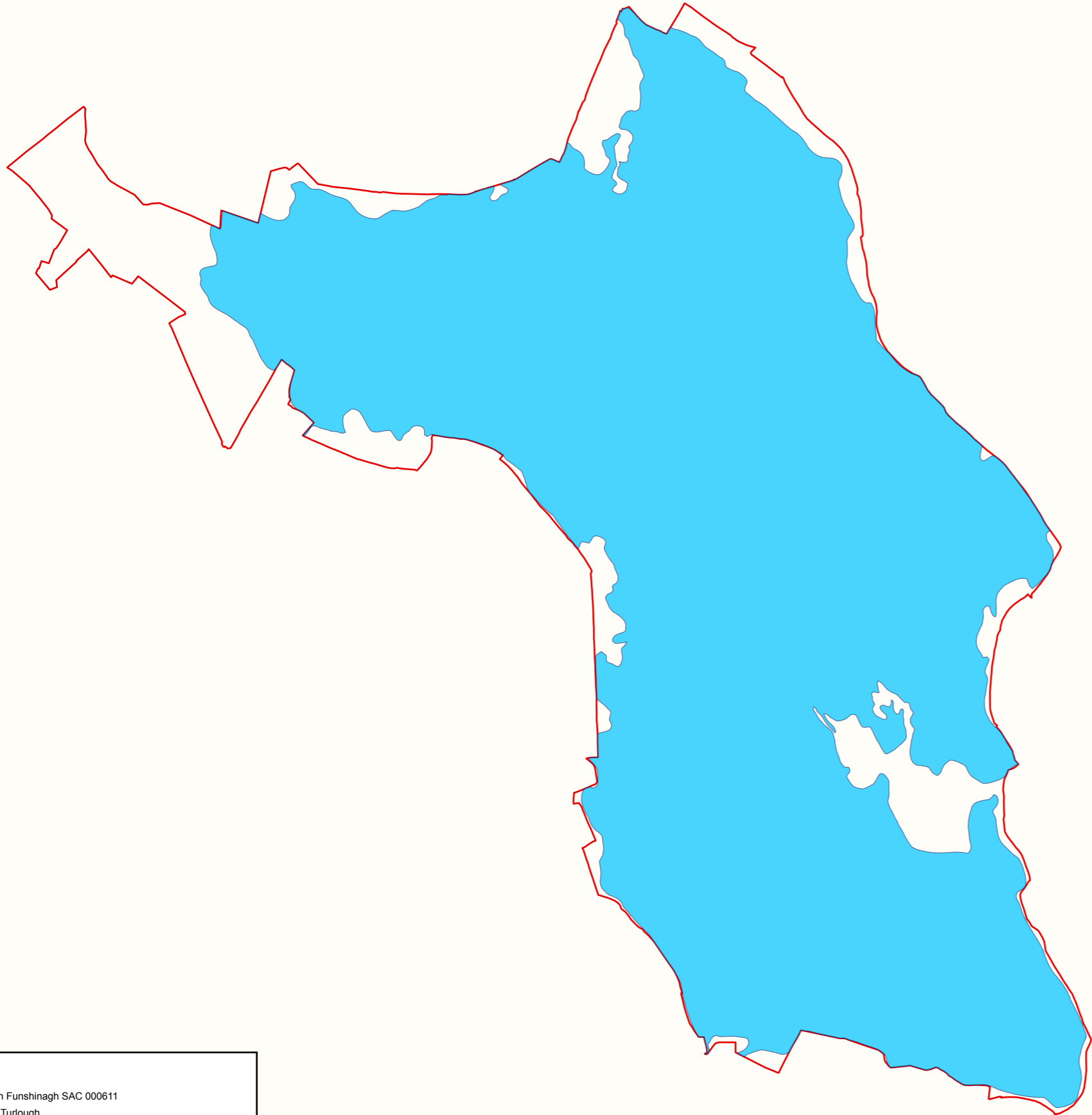
To maintain the favourable conservation condition of Rivers with muddy banks with *Chenopodium rubri p.p.* and *Bidention p.p.* vegetation in Lough Funshinagh SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable, subject to natural fluctuations	NPWS (2007) reports the extent of the habitat at Lough Funshinagh as 33ha in September 2004. There is significant natural variation in the area of habitat 3270 among years; however, as Lough Funshinagh, like the Gearagh, does not dry out every summer, the habitat may be almost non-existent in some years (NPWS, 2007). See O Connor (2017) for information on all attributes and targets
Habitat distribution	Occurrence	No decline, subject to natural processes	The habitat can occur along the entire shoreline of Lough Funshinagh and in marginal pools
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). Drew and Burke (1996) described Lough Funshinagh as 'an intermittent turlough'; becoming 'nearly' dry every 3 or 4 years and completely dry (with the exception of a few pools) at longer intervals. Lough Funshinagh emptied in 1984 and 1996; the cause was unclear, but was not through collapse of plugged material in swallow holes (Drew and Burke, 1996). The basin is flat and shallow (maximum depth is 2m) (Drew and Burke, 1996). Late drying and flat morphology are key to the area and to the structure and functioning of the habitat at Lough Funshinagh
Soil type	Hectares	Maintain area and extent of soil types necessary to support the habitat	See O Connor (2017) for further details on this and all attributes
Soil nutrient status: nitrogen and phosphorus	N and P concentration in soil	Maintain nutrient status appropriate to soil types and vegetation communities/units	See O Connor (2017) for further details on this and all attributes
Physical structure: bare ground	Presence	Maintain sufficient wet bare ground	Bare ground results from drying out of Lough Funshinagh
Chemical processes: calcium carbonate deposition and concentration	Calcium carbonate deposition rate/soil concentration	Maintain appropriate calcium carbonate deposition rate and concentration in soil	There is some marl precipitation at Lough Funshinagh (NPWS internal files)
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). Lough Funshinagh is considered to be naturally mesotrophic and a highly sensitive receptor requiring mesotrophic water quality (good ecological status) (Working Group on Groundwater, 2005; NPWS internal files)
Vegetation composition: area of vegetation communities	Hectares	Maintain area of sensitive and high conservation value vegetation communities/units	According to NPWS (2007) a large area of the habitat was recorded at Lough Funshinagh in September 2004, including abundant northern yellow-cross ( <i>Rorippa islandica</i> )
Vegetation composition: vegetation zonation	Distribution	Maintain vegetation zonation/mosaic characteristic of the site	NPWS (2007) states that at wetter sites, such as Lough Funshinagh, perennial aquatic species are scattered over the surface, particularly fine-leaved water-dropwort ( <i>Oenanthe aquatica</i> ) and water mint ( <i>Mentha aquatica</i> )

Typical species: plants	Presence	Maintain typical species	Typical plant species and targets are provided in O Connor (2017). R. Goodwillie (pers. comm.) recorded northern yellow-cross ( <i>Rorippa islandica</i> ) on visits to Lough Funshinagh in 1996 and 2004, and the Near Threatened orange foxtail ( <i>Alopecurus aequalis</i> ) (Wyse Jackson et al., 2016) in 2004. He has also recorded marsh cudweed ( <i>Gnaphalium uliginosum</i> ) and marsh yellow-cress ( <i>Rorippa palustris</i> ) at Lough Funshinagh (NPWS internal files)
Fringing habitats: area	Hectares	Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of habitat 3270	See O Connor (2017) for further details on this and all attributes







**Legend**

- Lough Funshinagh SAC 000611
- 3180 Turlough
- OSi Discovery Series County Boundary

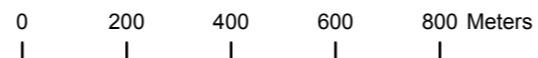


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**MAP 2:  
LOUGH FUNSHINAGH SAC  
CONSERVATION OBJECTIVES  
TURLOUGH**

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

**SITE CODE:  
SAC 000611; version 3.01. CO. ROSCOMMON**



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: Jan 2018**