



APPENDIX 9

NPWS EUROPEAN SITE DOCUMENTS

National Parks and Wildlife Service

Conservation Objectives Series

Ballynamona Bog and Corkip Lough SAC 002339



An Roinn Ealaíon, Oidhreachta,
Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

Department of Arts, Heritage,
Regional, Rural and Gaeltacht Affairs



**National Parks and Wildlife Service,
Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs,
7 Ely Place, Dublin 2, Ireland.
Web: www.npws.ie
E-mail: nature.conservation@ahg.gov.ie**

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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*

002339	Ballynamona Bog and Corkip Lough SAC
3180	TurloughsE
7110	Active raised bogsE
7120	Degraded raised bogs still capable of natural regeneration
7150	Depressions on peat substrates of the Rhynchosporion
91D0	Bog woodlandE

Supporting documents, relevant reports & publications

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

NPWS Documents

Year :	2000
Title :	Raised bog restoration project. A continuation of the investigation into the conservation and restoration of selected raised bog sites in Ireland
Author :	Derwin, J.; Mac Gowan, F.
Series :	Unpublished report to Duchas, the Heritage Service
Year :	2013
Title :	Results of a monitoring survey of bog woodland
Author :	Cross, J.; Lynn, D.
Series :	Irish Wildlife Manual No. 69
Year :	2014
Title :	Raised Bog Monitoring and Assessment Survey 2013
Author :	Fernandez, F.; Connolly K.; Crowley W.; Denyer J.; Duff K.; Smith G.
Series :	Irish Wildlife Manual No. 81
Year :	2014
Title :	National raised bog SAC management plan
Author :	Department of Arts, Heritage and the Gaeltacht
Series :	Draft for consultation. 15 January 2014
Year :	2016
Title :	Ballynamona Bog and Corkip Lough SAC (site code: 2339) Conservation objectives supporting document- raised bog habitats V1
Author :	NPWS
Series :	Conservation objectives supporting document
Year :	2016
Title :	Ballynamona Bog and Corkip Lough SAC (site code: 2339) Conservation objectives supporting document- turloughs V1
Author :	NPWS
Series :	Conservation objectives supporting document

Other References

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 :	2014
Title :	Nitrogen deposition and exceedance of critical loads for nutrient nitrogen in Irish grasslands
Author :	Henry, J.; Aherne, J.
Series :	Science of the Total Environment 470–471: 216–223

Spatial data sources

Year :	2013
Title :	Turloughs Database 2013
GIS Operations :	Site identified; clipped to SAC boundary
Used For :	3180 (map 2)
<hr/>	
Year :	2014
Title :	Scientific Basis for Raised Bog Conservation in Ireland
GIS Operations :	RBSB13_SACs_ARB_DRB dataset, RBSB13_SACs_2012_HB dataset, RBSB13_SACs_DrainagePatterns_5k dataset and RBSB13_SAC_LIDAR_DTMs dataset clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	potential 7110; digital elevation model; drainage patterns (maps 3 and 5)
<hr/>	
Year :	Digitised 2003
Title :	Raised Bog Restoration Project 1999
GIS Operations :	Ecotope dataset clipped to SAC boundary. Appropriate ecotopes selected and exported to new dataset. Expert opinion used as necessary to resolve any issues arising
Used For :	7110 ecotopes; 91D0 (map 4)
<hr/>	

Conservation Objectives for : Ballynamona Bog and Corkip Lough SAC [002339]

3180 Turloughs

To restore the favourable conservation condition of Turloughs in Ballynamona Bog and Corkip 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	The full extent of flooding and wetland vegetation within Corkip Lough turlough is currently unknown. See turloughs supporting document for further details
Habitat distribution	Occurrence	No decline, subject to natural processes	The approximate centre of Corkip Lough turlough is indicated on map 2. See turloughs supporting document for further details
Hydrological regime: flood duration, frequency, area, depth; permanently flooded area	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 in the turloughs supporting document
Soil type: area	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	See turloughs supporting document for further details
Soil nutrient status: nitrogen and phosphorus	N and P concentration in soil	Maintain/restore nutrient status appropriate to soil types	See turloughs supporting document for further details
Physical structure: bare ground	Presence	Maintain sufficient wet bare ground, as appropriate	See turloughs supporting document for further details
Chemical processes: calcium carbonate deposition and concentration	Calcium carbonate deposition rates/soil concentration	Maintain calcium carbonate deposition rate and/or soil concentration	See turloughs supporting document for further details
Water quality: nutrients; colour; phytoplankton; epiphyton	Various	Maintain appropriate water quality to support the natural structure and functioning of the habitat	Water quality is sub-divided into more detailed attributes in the turloughs supporting document
Active peat formation	Flood duration	Restore active peat formation, where appropriate	See turloughs supporting document for further details
Vegetation composition: area of vegetation communities	Hectares	Maintain area of sensitive and high conservation value vegetation communities/units	See turloughs supporting document for further details
Vegetation composition: vegetation zonation	Distribution	Maintain vegetation zonation/mosaic characteristic of the site	See turloughs supporting document for further details
Vegetation structure: sward height	Centimetres	Maintain sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	See turloughs supporting document for further details
Typical species: terrestrial, wetland and aquatic plants, invertebrates and birds	Presence	Maintain typical species	Typical species is sub-divided into more detailed attributes in the turloughs supporting document

Fringing habitats: area	Hectares	Maintain marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations	See turloughs supporting document for further details. See also the conservation objective for Active raised bogs (7110)
Vegetation structure: turlough woodland	Species diversity and woodland structure	Maintain appropriate turlough woodland diversity and structure	See turloughs supporting document for further details

Conservation Objectives for : Ballynamona Bog and Corkip Lough SAC [002339]

7110 Active raised bogs

To restore the favourable conservation condition of Active raised bogs in Ballynamona Bog and Corkip Lough SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Restore area of active raised bog to 18.9ha, subject to natural processes	Active Raised Bog (ARB) habitat has been estimated to be 12.0ha. Area of Degraded Raised Bog (DRB) on the High Bog (HB) has been modelled as 1.1ha. See map 3. It is estimated that this entire area is potentially restorable to ARB by drain blocking. The total potential ARB on the HB is therefore estimated to be 13.1ha. Eco-hydrological assessments of the cutover estimates that an additional 5.8ha of bog forming habitats could be restored. The long term target for ARB is therefore 18.9ha. See raised bog supporting document for further details on this and following attributes
Habitat distribution	Occurrence	Restore the distribution and variability of active raised bog across the SAC. See map 4 for mapped distribution in 2000	The ARB habitat at Ballynamona Bog is an active flush system that includes areas of bog woodland. DRB also occurs in parts of this flush system. There is also potential for ARB restoration on cutover areas of the bog (see area target above). Note that map 4 is likely to over-estimate the areas of active flush and bog woodland
High bog area	Hectares	No decline in extent of high bog necessary to support the maintenance and development of active raised bog. See map 3	The area of high bog within Ballynamona Bog and Corkip Lough SAC in 2012 (latest figure available) was 60.9ha (DAHG 2014)
Hydrological regime: water levels	Centimetres	Restore appropriate water levels throughout the site	For ARB, mean water level needs to be near or above the surface of the bog lawns for most of the year. Seasonal fluctuations should not exceed 20cm, and should only be 10cm below the surface, except for very short periods of time. Open water is often characteristic of soak systems
Hydrological regime: flow patterns	Flow direction; slope	Restore, where possible, appropriate high bog topography, flow directions and slopes. See map 5 for current situation	ARB depends on mean water levels being near or above the surface of bog lawns for most of the year. Long and gentle slopes are the most favourable to achieve these conditions. Changes to flow directions due to subsidence of bogs can radically change water regimes and cause drying out of high quality ARB areas and soak systems
Transitional areas between high bog and adjacent mineral soils (including cutover areas)	Hectares; distribution	Restore adequate transitional areas to support/protect active raised bog and the services it provides	ARB is threatened due to effects of burning, past drainage and peat-cutting around the margins of Ballynamona Bog. There is a very small area of natural transitional habitat remaining. Eco-hydrological assessments have evaluated the potential for ARB restoration on cutover areas (see note for habitat area attribute above). See also the conservation objective for Turloughs (3180)
Vegetation quality: central ecotope, active flush, soaks, bog woodland	Hectares	Maintain at least 12.0ha of central ecotope/active flush/soaks/bog woodland as appropriate	At least 50% of ARB habitat should comprise high quality ARB habitat such as central ecotope, active flush, soaks and bog woodland. All of the ARB that currently occurs at Ballynamona Bog corresponds with bog woodland and active flush. Target area of active raised bog for the site has been set at 18.9ha (see area target above)
Vegetation quality: microtopographical features	Hectares	Restore adequate cover of high quality microtopographical features	The hummock and hollow topography typical of raised bogs is largely absent from Ballynamona Bog
Vegetation quality: bog moss (<i>Sphagnum</i>) species	Percentage cover	Restore adequate cover of bog moss (<i>Sphagnum</i>) species to ensure peat-forming capacity	<i>Sphagnum</i> cover varies naturally across Ireland with relatively high cover in the east to lower cover in the west. Hummock forming species such as <i>Sphagnum austini</i> are particularly good peat formers. <i>Sphagnum</i> cover and distribution also varies naturally across a site

Typical ARB species: flora	Occurrence	Restore, where appropriate, typical active raised bog flora	Typical flora species include widespread species, as well as those with more restricted distributions but typical of the habitat's subtypes or geographical range
Typical ARB species: fauna	Occurrence	Restore, where appropriate, typical active raised bog fauna	Typical fauna species include widespread species, as well as those with more restricted distributions but typical of the habitat's subtypes or geographical range
Elements of local distinctiveness	Occurrence	Maintain features of local distinctiveness, subject to natural processes	Ballynamona Bog and Corkip Lough SAC has the distinctive feature of a turlough occurring alongside a midlands raised bog
Negative physical indicators	Percentage cover	Negative physical features absent or insignificant	Negative physical indicators include: bare peat, algae dominated pools and hollows, marginal cracks, tear patterns, subsidence features such as dry mineral mounds /ridges emerging or expanding and evidence of burning
Vegetation composition: native negative indicator species	Percentage cover	Native negative indicator species at insignificant levels	Disturbance indicators include species indicative of conditions drying out such as abundant bog asphodel (<i>Narthecium ossifragum</i>), deergrass (<i>Trichophorum germanicum</i>) and harestail cotton-grass (<i>Eriophorum vaginatum</i>) forming tussocks; abundant magellanic bog-moss (<i>Sphagnum magellanicum</i>) in pools previously dominated by <i>Sphagnum</i> species typical of very wet conditions (e.g. feathery bog-moss (<i>S. cuspidatum</i>)); and indicators of frequent burning events such as abundant <i>Cladonia floerkeana</i> and high cover of carnation sedge (<i>Carex panicea</i>) (particularly in true midlands raised bogs)
Vegetation composition: non-native invasive species	Percentage cover	Non-native invasive species at insignificant levels and not more than 1% cover	Most common non-native invasive species include lodgepole pine (<i>Pinus contorta</i>), rhododendron (<i>Rhododendron ponticum</i>) and pitcherplant (<i>Sarracenia purpurea</i>)
Air quality: nitrogen deposition	kg N/ha/year	Air quality surrounding bog close to natural reference conditions. The total N deposition should not exceed 5kg N/ha/yr	Change in air quality can result from fertiliser drift; adjacent quarry activities; or other atmospheric inputs. The critical load range for ombrotrophic bogs has been set as between 5 and 10kg N/ha/yr (Bobbink and Hettelingh, 2011). The latest N deposition figures for the area around Ballynamona Bog suggests that the current level is approximately 13.7kg N/ha/yr (Henry and Ahern, 2014)
Water quality	Hydrochemical measures	Water quality on the high bog and in transitional areas close to natural reference conditions	Water chemistry within raised bogs is influenced by atmospheric inputs (rainwater). However, within soak systems, water chemistry is influenced by other inputs such as focused flow or interaction with underlying substrates. Water chemistry in areas surrounding the high bog varies due to influences of different water types (bog water, regional groundwater and run-off from surrounding mineral lands)

Conservation Objectives for : Ballynamona Bog and Corkip Lough SAC [002339]

7120 Degraded raised bogs still capable of natural regeneration

The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Ballynamona Bog and Corkip Lough SAC

Attribute	Measure	Target	Notes
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Conservation Objectives for : Ballynamona Bog and Corkip Lough SAC [002339]

7150 Depressions on peat substrates of the Rhynchosporion

Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Ballynamona Bog and Corkip Lough SAC

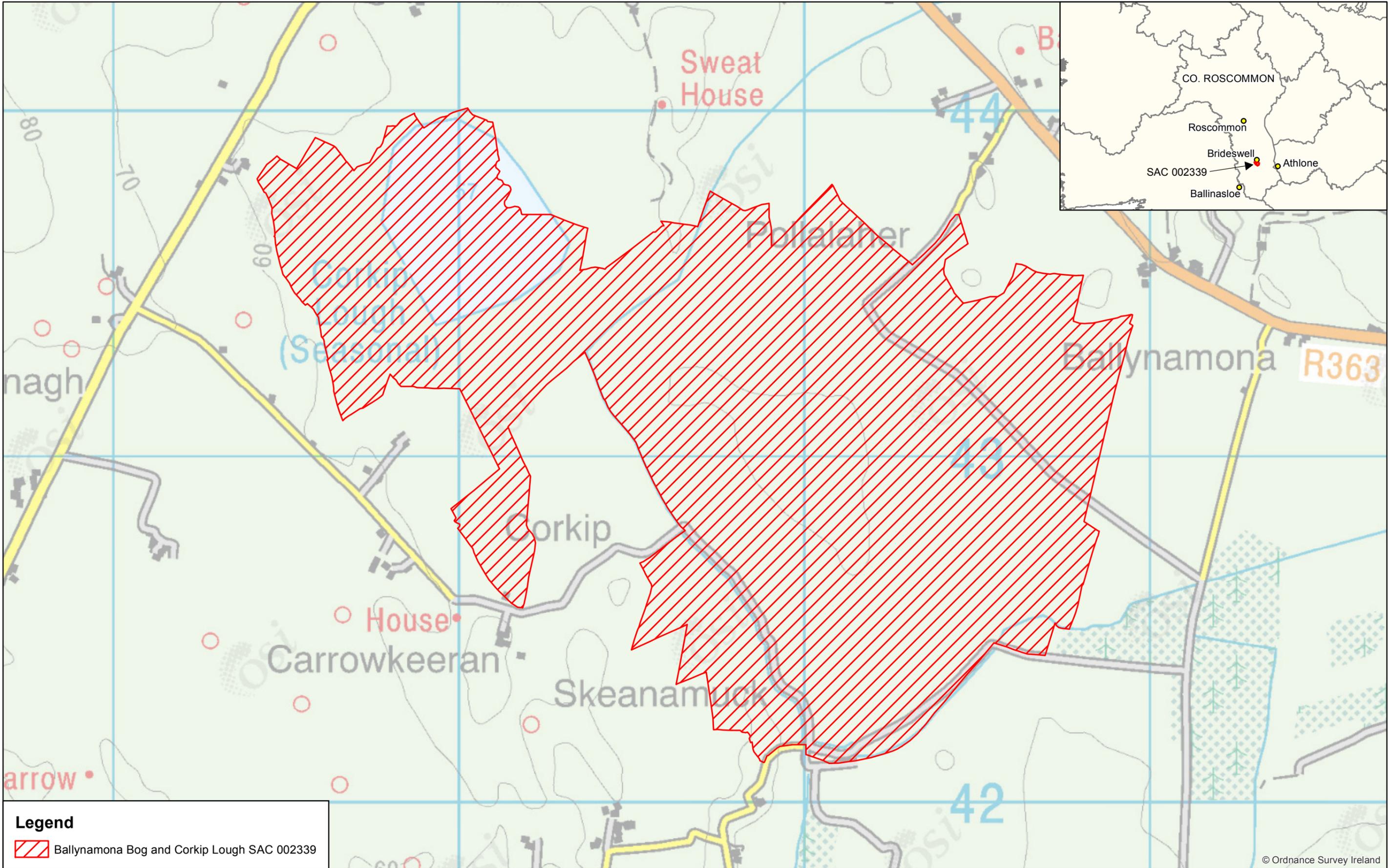
Attribute	Measure	Target	Notes
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Conservation Objectives for : Ballynamona Bog and Corkip Lough SAC [002339]

91D0 Bog woodland

To restore the favourable conservation condition of Bog woodland in Ballynamona Bog and Corkip 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	Bog woodland is regarded as a component of the Active Raised Bog (ARB) habitat (7110). Thus, the conservation objective and supporting document for ARB (7110) are also relevant to this habitat and common attributes have not been repeated here. Bog woodland on Ballynamona Bog was surveyed and mapped by Derwin and McGowan (2000) as 7.8ha (map 4), but note that this survey is likely to have significantly over-estimated the area of bog woodland present due to a refinement in the definition of the habitat (Fernandez et al., 2013)
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 4	Bog woodland occurs in active flushes on Ballynamona Bog (but see also note above)
Vegetation composition: positive indicator species	Number in a representative number of monitoring stops	Birch (<i>Betula pubescens</i>), bog moss (<i>Sphagnum</i> species) and at least five other species present	Bog woodland is typically species-poor but with a characteristic and distinctive flora. Positive indicator species are listed in bog woodland monitoring survey (Cross and Lynn, 2013)
Vegetation composition: negative indicator species	Percentage cover at a representative number of monitoring stops	Both native and non-native invasive species absent or under control. Total cover should be less than 10%	Negative indicator species include bracken (<i>Pteridium aquilinum</i>) and bramble (<i>Rubus fruticosus</i>), which can become invasive if the site begins drying out
Woodland structure: cover and height of birch	Percentage cover and metres at a representative number of monitoring stops	A minimum 30% cover of birch (<i>Betula pubescens</i>) with a median canopy height of 4m	Attribute and target based on Cross and Lynn (2013)
Woodland structure: dwarf shrub cover	Percentage cover at a representative number of monitoring stops	Dwarf shrub cover not more than 50%	Attribute and target based on Cross and Lynn (2013)
Woodland structure: ling cover	Percentage cover at a representative number of monitoring stops	Ling (<i>Calluna vulgaris</i>) cover not more than 40%	Attribute and target based on Cross and Lynn (2013)
Woodland structure: bryophyte cover	Percentage cover at a representative number of monitoring stops	Bryophyte cover at least 50%, with bog moss (<i>Sphagnum</i> spp.) cover at least 25%	Attribute and target based on Cross and Lynn (2013)
Woodland structure: tree size classes	Occurrence	Each size class present	Size classes are defined in Cross and Lynn (2013). The presence of all size classes suggests that a woodland has good structural variety with trees of varying ages
Woodland structure: senescent and dead wood	Occurrence	Senescent or dead wood present	Mature and veteran trees and dead wood are important for bryophytes, lichens, saproxylic organisms and some bird species. Their retention within a woodland is important to ensure continuity of habitats/niches and propagule sources over time. However, as birch (<i>Betula pubescens</i>) trees seldom exceed 30cm in diameter in this habitat and dead wood rots quickly and is engulfed by bog mosses (<i>Sphagnum</i> spp.), volume of dead wood may not be as high in bog woodland as in other woodland types



Legend

 Ballynamona Bog and Corkip Lough SAC 002339



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**MAP 1:
BALLYNAMONA BOG AND
CORKIP LOUGH SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION**

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

**SITE CODE:
SAC 002339; version 3. Co. Roscommon**

0 90 180 270 360 450 m

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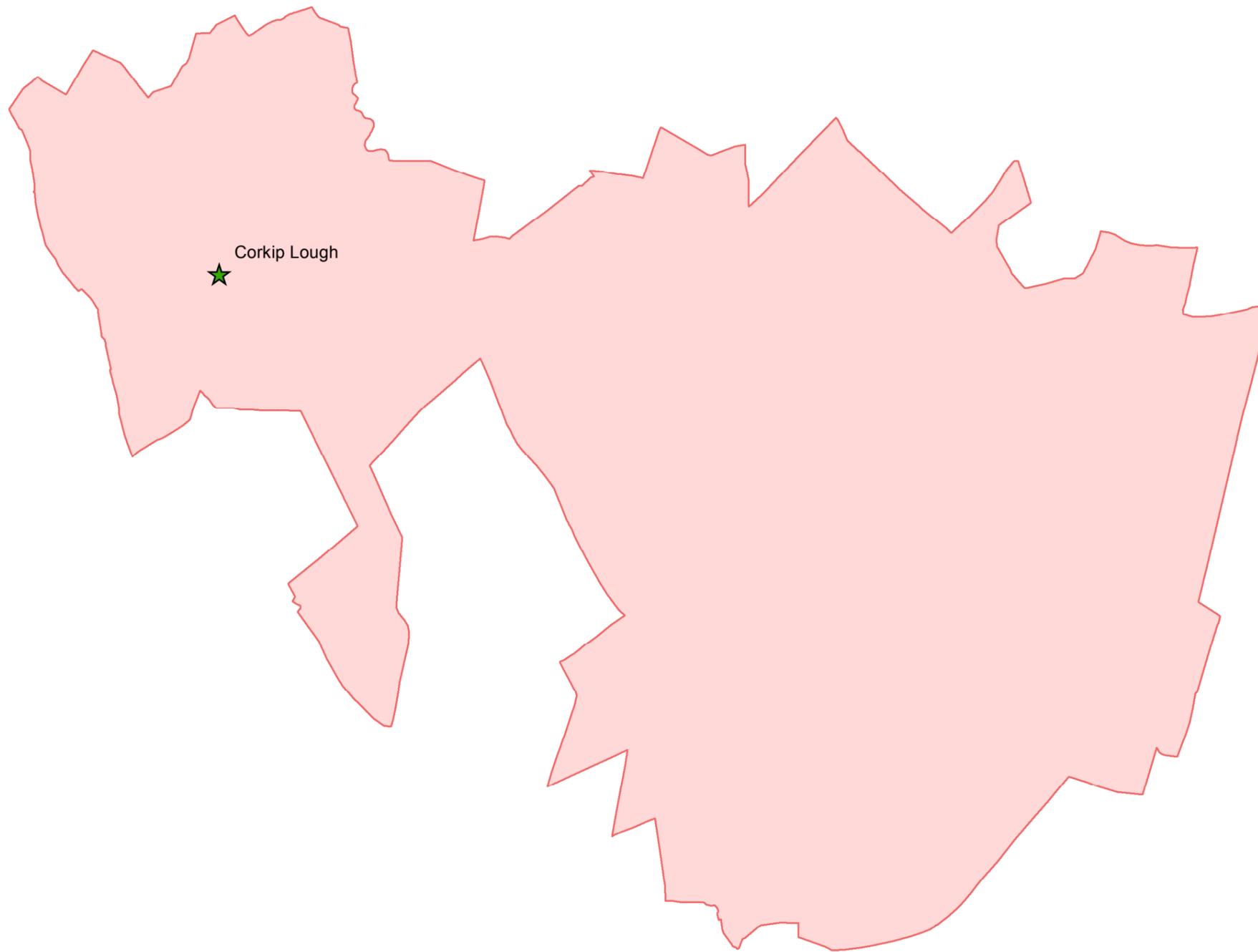
Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbheithníthe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh EN 0059216. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann.

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**Map Version 1
Date: July 2016**

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Legend

 Ballynamona Bog and Corkip Lough SAC 002339

 3180 *Turloughs



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**MAP 2:
BALLYNAMONA BOG AND
CORKIP LOUGH SAC
CONSERVATION OBJECTIVES
TURLOUGHS**

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

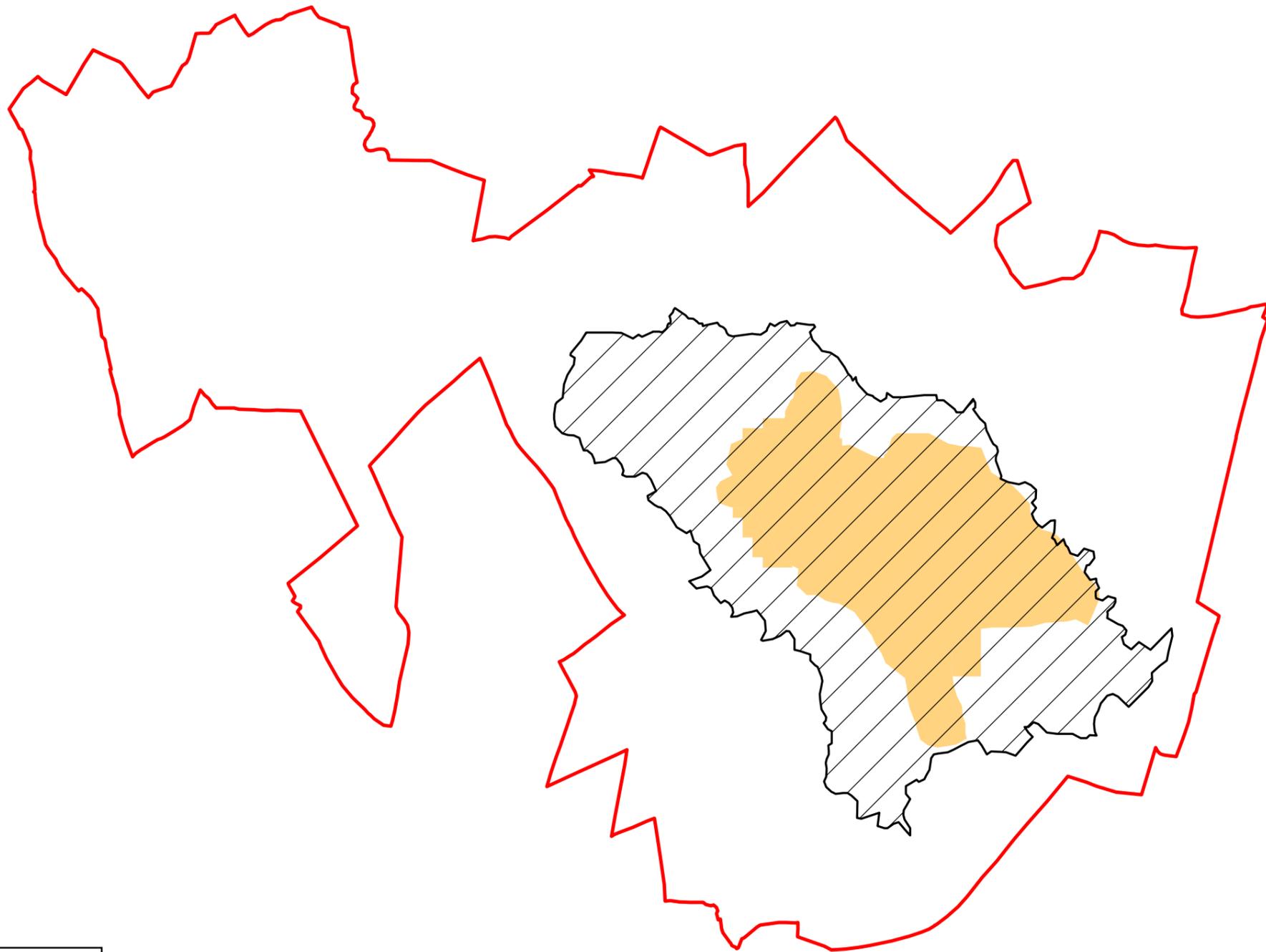
**SITE CODE:
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**Map Version 1
Date: July 2016**



Legend

-  Ballynamona Bog and Corkip Lough SAC 002339
-  High Bog Boundary
-  Potential 7110 *Active Raised Bogs



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**MAP 3:
BALLYNAMONA BOG AND
CORKIP LOUGH SAC
CONSERVATION OBJECTIVES
EXTENT OF POTENTIAL ACTIVE RAISED BOGS**
Map to be read in conjunction with the NPWS Conservation Objectives Document.

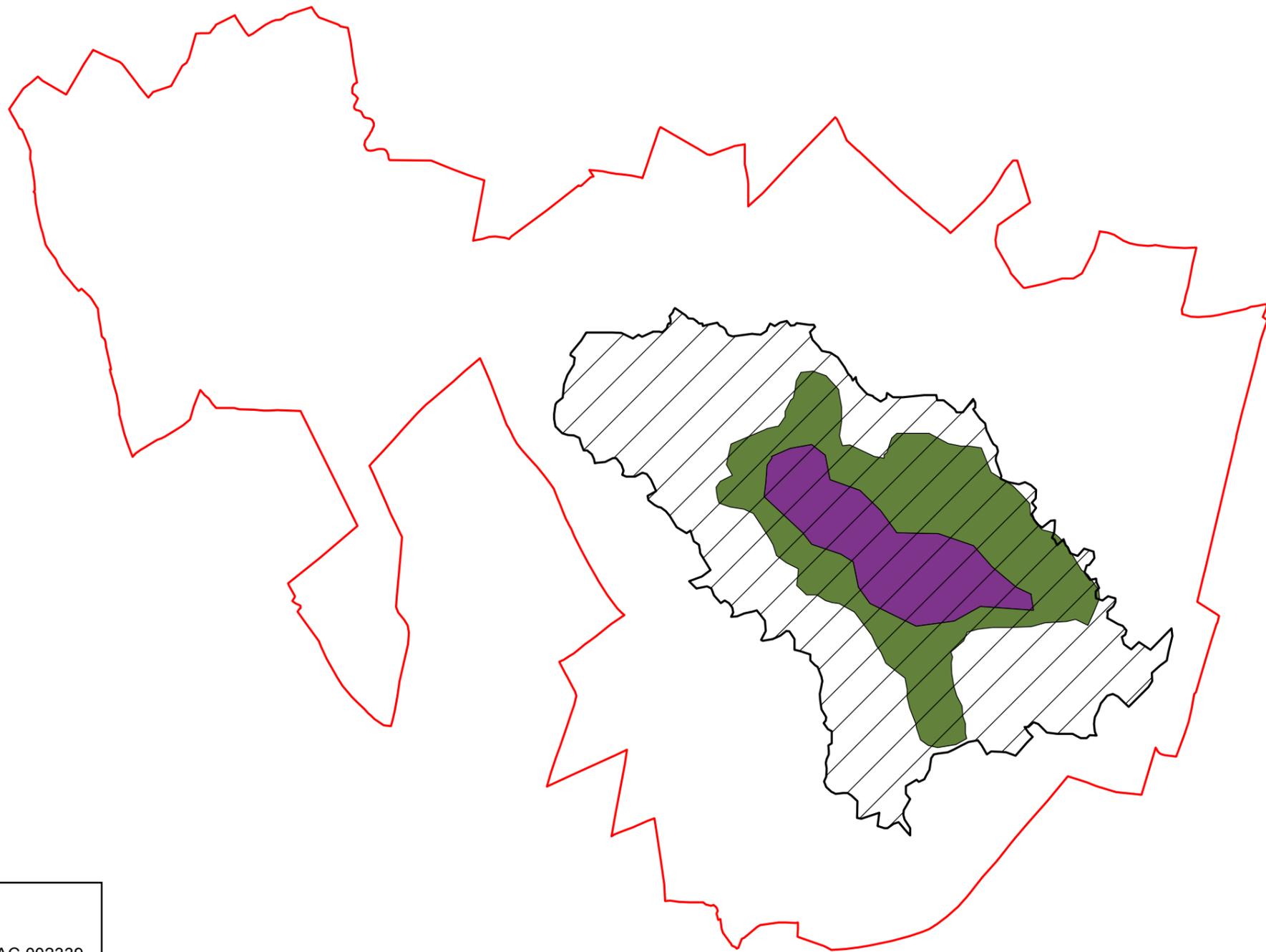
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**Map Version 1
Date: July 2016**



Legend

- Ballynamona Bog and Corkip Lough SAC 002339
- High Bog Boundary
- Active Raised Bogs Ecotopes**
- Bog Woodland
- Soaks / active flush



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**MAP 4:
BALLYNAMONA BOG AND
CORKIP LOUGH SAC
CONSERVATION OBJECTIVES
ACTIVE RAISED BOGS ECOTOPES**

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

**SITE CODE:
SAC 002339; version 3. Co. Roscommon**

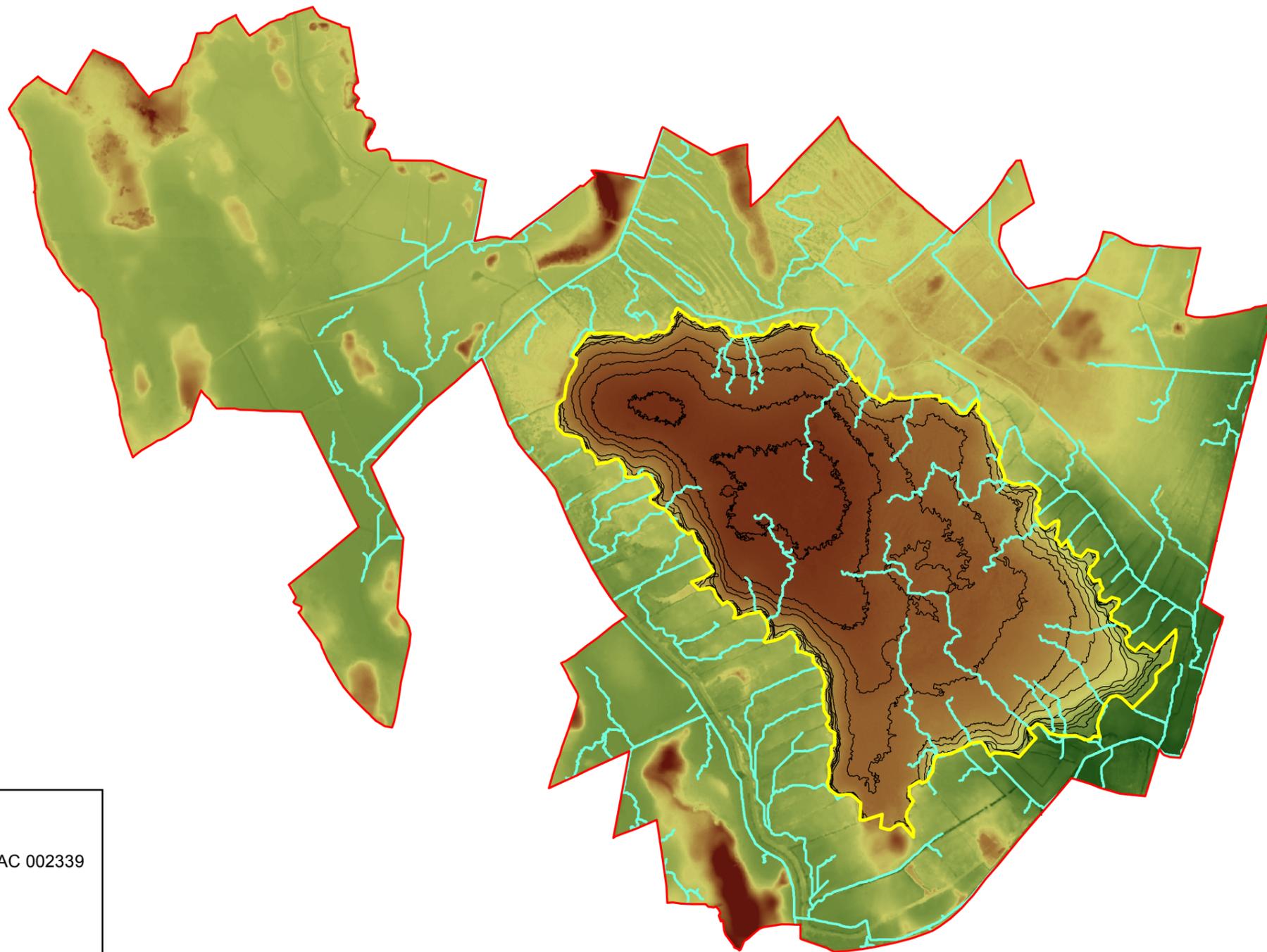


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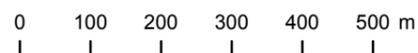
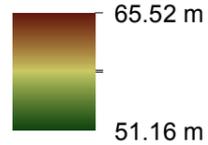
**Map Version 1
Date: July 2016**



Legend

- Ballynamona Bog and Corkip Lough SAC 002339
- High Bog Boundary
- Drainage Patterns
- Contours

Elevation





NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE IE0002339
SITENAME Ballynamona Bog and Corkip Lough SAC

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- [7. MAP OF THE SITE](#)

1. SITE IDENTIFICATION

1.1 Type B	1.2 Site code IE0002339	Back to top
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1.3 Site name

Ballynamona Bog and Corkip Lough SAC

1.4 First Compilation date 2003-04	1.5 Update date 2021-12
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1.6 Respondent:

Name/Organisation:	National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
Address:	90 King Street North, Dublin 7, D07 N7CV, Ireland
Email:	datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site classified as SPA:	0000-00
National legal reference of SPA designation	No data
Date site proposed as SCI:	2003-04
Date site confirmed as SCI:	No data
Date site designated as SAC:	2021-10
National legal reference of SAC designation:	554/2021

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

[Back to top](#)

Longitude -8.093705116 Latitude 53.4381688

2.2 Area [ha]:

2.3 Marine area [%]

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

IE01	Border, Midland and Western
------	-----------------------------

2.6 Biogeographical Region(s)

Atlantic (%)

3. ECOLOGICAL INFORMATION

3.1 Habitat types present on the site and assessment for them

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Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C		
						Representativity	Relative Surface	Conservation	Global
3180 B			48.95		M	B	C	B	B
7110 B			12.0		G	C	C	C	C
7120 B			1.08		G	B	C	C	C
7150 B			0.3		M	C	C	C	C
91D0 B			7.34		M	B	B	B	A

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- **Cover:** decimal values can be entered
- **Caves:** for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D. qual.	A B C D	A B C		
						Min	Max				Pop.	Con.	Iso.	Glo.

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species	Population in the site	Motivation
---------	------------------------	------------

Group	CODE	Scientific Name	S	NP	Size		Unit	Cat.	Species Annex		Other categories				
					Min	Max			C R V P	IV	V	A	B	C	D
I		Eurycercus glacialis													X
P		Rhynchospora fusca													X
P		Sphagnum fuscum													X
P		Sphagnum imbricatum													X
P		Teucrium scordium													X

- **Group:** A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles
- **CODE:** for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Unit:** i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see [reference portal](#))
- **Cat.:** Abundance categories: C = common, R = rare, V = very rare, P = present
- **Motivation categories:** IV, V: Annex Species (Habitats Directive), A: National Red List data; B: Endemics; C: International Conventions; D: other reasons

4. SITE DESCRIPTION

4.1 General site character

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Habitat class	% Cover
N06	20.0
N09	4.0
N16	3.0
N14	2.0
N07	68.0
N08	1.0
N10	2.0
Total Habitat Cover	100

Other Site Characteristics

Ballynamona Bog and Corkip Lough is a diverse site situated in Co. Roscommon, some 8 km west of Athlone. The site and surrounding land overlies limestone bedrock and the soils present are derived from limestone drift. The western half of the site is dominated by a turlough while the eastern half is dominated by a small raised bog complex, a significant part of which is uncut high bog. Much of the site is surrounded by low esker ridges which contain areas of species-rich calcareous grassland and scrub. Corkip Lough fluctuates markedly throughout the year and during the summer the water level drops revealing a species-rich wetland flora.

4.2 Quality and importance

This site displays an excellent diversity of bog and wetland habitats. While the uncut high bog is mainly classified as degraded raised bog, there is a small area of active raised bog within a central wet flush zone. Rhynchosporion vegetation is also represented, with the presence of the scarce *Rhynchospora fusca* of some note. However, the presence of bog woodland is of particular note as it is considered as one of the best-formed and most extensive areas of bog woodland in the country. Corkip Lough constitutes a good example of a turlough system containing both a permanent water area and an extensive area of seasonally inundated turlough grassland. In addition, there are areas of species-rich calcareous grassland and fen which are of ecological interest. Overall, the quality of the habitats occurring at this site is generally good, with the areas of bog woodland and turlough being of particularly high ecological value. A number of relatively rare plant and animal species occur, these include the rare aquatic invertebrate *Eurycercus glacialis* and the wetland plant *Teucrium scordium*. In general, this site ranks as one of the most diverse and species-rich small sites in Co. Roscommon.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures	Pollution (optional)	inside/outside

Positive Impacts			
Rank	Activities, management	Pollution (optional)	inside/outside

	[code]	[code]	[i o b]
M	J02.05		o
M	E03.01		b
L	J02.01		o
L	I01		b
M	E03.01		b

	[code]	[code]	[i o b]
L	A04		i
L	A10.01		i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.4 Ownership (optional)

4.5 Documentation

Cross, J.R. (1990). The Raised Bogs of Ireland: their Ecology, Status and Conservation. Report to the Minister of State at the Department of Finance. Stationery Office, Dublin. Derwin, J. and MacGowan, F. (2000). Raised Bog Conservation Project. Unpublished report, Dúchas -The Heritage Service, Dublin. Douglas, C. and Mooney, E. (1984). Survey to Locate Raised Bogs of Scientific Interest in Counties Galway (E) and Roscommon. Unpublished report, Wildlife Service, Dublin. Duignan, C.A. (1988). The Cladocera of Lough Ree and neighbouring waterbodies. Bulletin of the Irish Biogeographical Society 11: 100-113. Fahy, E. and Goodwillie, R. (1972). A Preliminary Report on Areas of Scientific Interest in County Roscommon. An Foras Forbartha, Dublin. Hammond, R.F. (1979). The Peatlands of Ireland. An Foras Talúntais, Dublin. National Parks and Wildlife Service (1992-1994). National Areas of Scientific Interest Survey. Unpublished report, National Parks and Wildlife Service, Dublin.

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

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5.2 Relation of the described site with other sites:

5.3 Site designation (optional)

6. SITE MANAGEMENT

6.1 Body(ies) responsible for the site management:

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6.2 Management Plan(s):

An actual management plan does exist:

- Yes
 No, but in preparation
 No

6.3 Conservation measures (optional)

7. MAP OF THE SITES

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INSPIRE ID:

IE.NPWS.PS.NATURA2000.SAC.IE0002339

Map delivered as PDF in electronic format (optional)

- Yes No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).



Site Name: Ballynamona Bog and Corkip Lough SAC

Site Code: 002339

Ballynamona Bog and Corkip Lough is situated approximately 9 km west of Athlone, mainly in the townlands of Skeanamuck, Carrowkeeran and Pollalaher, in Co. Roscommon. The site comprises a relatively small portion of what was once a large bog complex, and includes areas of high bog and cutover bog, and also the turlough, Corkip Lough.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3180] Turloughs*
[7110] Raised Bog (Active)*
[7120] Degraded Raised Bog
[7150] Rhynchosporion Vegetation
[91D0] Bog Woodland*

Active raised bog comprises areas of high bog that are wet and actively peat-forming, where the percentage cover of bog mosses (*Sphagnum* spp.) is high, and where some or all of the following features occur: hummocks, pools, wet flats, *Sphagnum* lawns, flushes and soaks. Degraded raised bog corresponds to those areas of high bog whose hydrology has been adversely affected by peat cutting, drainage and other land use activities, but which are capable of regeneration. The Rhynchosporion habitat occurs in wet depressions, pool edges and erosion channels where the vegetation includes White Beak-sedge (*Rhynchospora alba*) and/or Brown Beak-sedge (*R. fusca*), and at least some of the following associated species, Bog Asphodel (*Narthecium ossifragum*), sundews (*Drosera* spp.), Deergrass (*Scirpus cespitosus*) and Carnation Sedge (*Carex panicea*).

The high bog consists of a single dome, with a large area of bog woodland and flush in the centre. It is surrounded on three sides by esker ridges and limestone bedrock. These ridges are host to areas of species-rich grassland. Cutover bog occurs all around the margins of the high bog, some sections of which flood at times, and there is an area of commercial forestry at the eastern margin. The lake retains a small area of open water in the summer. It is surrounded by lowland wet grassland which is flooded in the winter.

This site contains an example of a Midland Raised Bog, with species such as Heather (*Calluna vulgaris*), Bog Asphodel, Common and Hare's-tail Cottongrasses (*Eriophorum*

angustifolium and *E. vaginatum*), Carnation Sedge and Cranberry (*Vaccinium oxycoccos*). Also occurring are the bog mosses *Sphagnum cuspidatum*, *S. magellanicum* and *S. papillosum*, amongst others. There are areas on the high bog with apparently old pools which are now infilled with Bog Asphodel, and algal pools are also found. The hummock and hollow topography typical of raised bogs is absent from this site. There are a number of stands of Bog-myrtle (*Myrica gale*) scattered over the bog. The central flush on the high bog contains an area of bog woodland, with Downy Birch (*Betula pubescens*) of various age classes. Cranberry is abundant here and the vegetation is lush in places, with many bog moss species occurring. Scarce species found here include Brown Beak-sedge and Bog-sedge (*Carex limosa*). The lichens on the bark and branches are of exceptional abundance and diversity. The treeless flush which surrounds the wooded area has an abundance of bog mosses, Heather and cottongrasses. Mosses other than *Sphagnum* found in the flushes include *Aulacomnium palustre*, *Hypnum jutlandicum* and *Breutelia chrysocoma*. An unusual feature of the flush is the occurrence of small specimens of Royal Fern (*Osmunda regalis*) scattered uniformly over the area.

The cutover areas associated with the high bog are mostly dominated by Heather, Purple Moor-grass (*Molinia caerulea*), Soft Rush (*Juncus effusus*), and Gorse (*Ulex europaeus*) and Downy Birch scrub. An area of cutover bog at the north of the site is frequently flooded and is dominated by Purple Moor-grass and Black Bog-rush (*Schoenus nigricans*). A very small, but extremely species-rich, damp calcareous stony community is found at the north of the site where a gravel ridge disappears under the cutover bog. Here, Black Bog-rush, Mountain Everlasting (*Antennaria dioica*), Lesser Clubmoss (*Selaginella selaginoides*) and many other species are found, including a diverse lichen flora. Other, more calcareous and drier grassland areas support species such as Carlina Thistle (*Carlina vulgaris*), Wild Thyme (*Thymus praecox*) and Mouse-ear Hawkweed (*Hieracium pilosella*).

Corkip Lough, a turlough, is fringed by Common Reed (*Phragmites australis*) and sedges (*Carex* spp.), along with many wetland herbs. Other species found here include Common Club-rush (*Scirpus lacustris*), Greater Spearwort (*Ranunculus lingua*), Water Plantain (*Alisma plantago-aquatica*) and Mare's-tail (*Hippuris vulgaris*). The surrounding grassland hosts a number of species of interest, including Few-flowered Spike-rush (*Eleocharis quinqueflora*), Grass-of-parnassus (*Parnassia palustris*) and Water Germander (*Teucrium scordium*). The latter species is of particular interest as it is otherwise known only from the banks of the River Shannon and in some turloughs in Counties Clare and Tipperary.

Apart from its unusual flora, Corkip Lough is also important for local birdlife. There are large nesting colonies of Lapwing and Redshank, and occasional Snipe. The wetter areas are popular feeding grounds for many species of waders. In the winter, large numbers of Plover, Curlew and Lapwing are found here. It is also frequented by smaller songbirds such as Reed Bunting and Sedge Warblers. Red Grouse, a species which is becoming increasingly rare in Ireland, has been recorded from Ballynamona Bog.

The rare aquatic invertebrate *Eurycercus glacialis* (Order Cladocera) is found at Corkip Lough, one of the few sites in Ireland where it occurs.

Current land use on the site consists of limited peat-cutting at the north-east and south-west of the site. There is a small area of commercial forestry at the east of the site. Some areas of cutover bog at the south have been reclaimed for agriculture. Damaging activities associated with these land uses include frequent burning. This recurrent burning is having a serious drying effect on the bog. Drainage, for the most part, is restricted to the cutover areas of the bog. These are all activities that have resulted in loss of habitat and damage to the hydrological status of the site, and pose a continuing threat to its viability.

Ballynamona Bog and Corkip Lough is a site of considerable conservation significance as it consists of a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. Ireland has a high proportion of the total E.U. resource of raised bog (over 60%) and so has a special responsibility for its conservation at an international level. Active raised bog, bog woodland and turlough are listed as priority habitats on Annex I of the E.U. Habitats Directive. Priority status is given to habitats and species that are threatened throughout the E.U. Areas of species-rich calcareous grassland add to the diversity of the site.

National Parks and Wildlife Service

Conservation Objectives Series

Killeglan Grassland SAC 002214



An Roinn Cultúir,
Oidhreacht agus Gaeltachta
Department of Culture,
Heritage and the Gaeltacht

**National Parks and Wildlife Service,
Department of Culture, Heritage and the Gaeltacht,
90 King Street North, Dublin 7, D07 N7CV, Ireland.**

**Web: www.npws.ie
E-mail: nature.conservation@chg.gov.ie**

Citation:

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**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*

002214 Killeglan Grassland SAC

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
<hr/>	
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 Manual No. 78
<hr/>	
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 Lists series, NPWS
<hr/>	

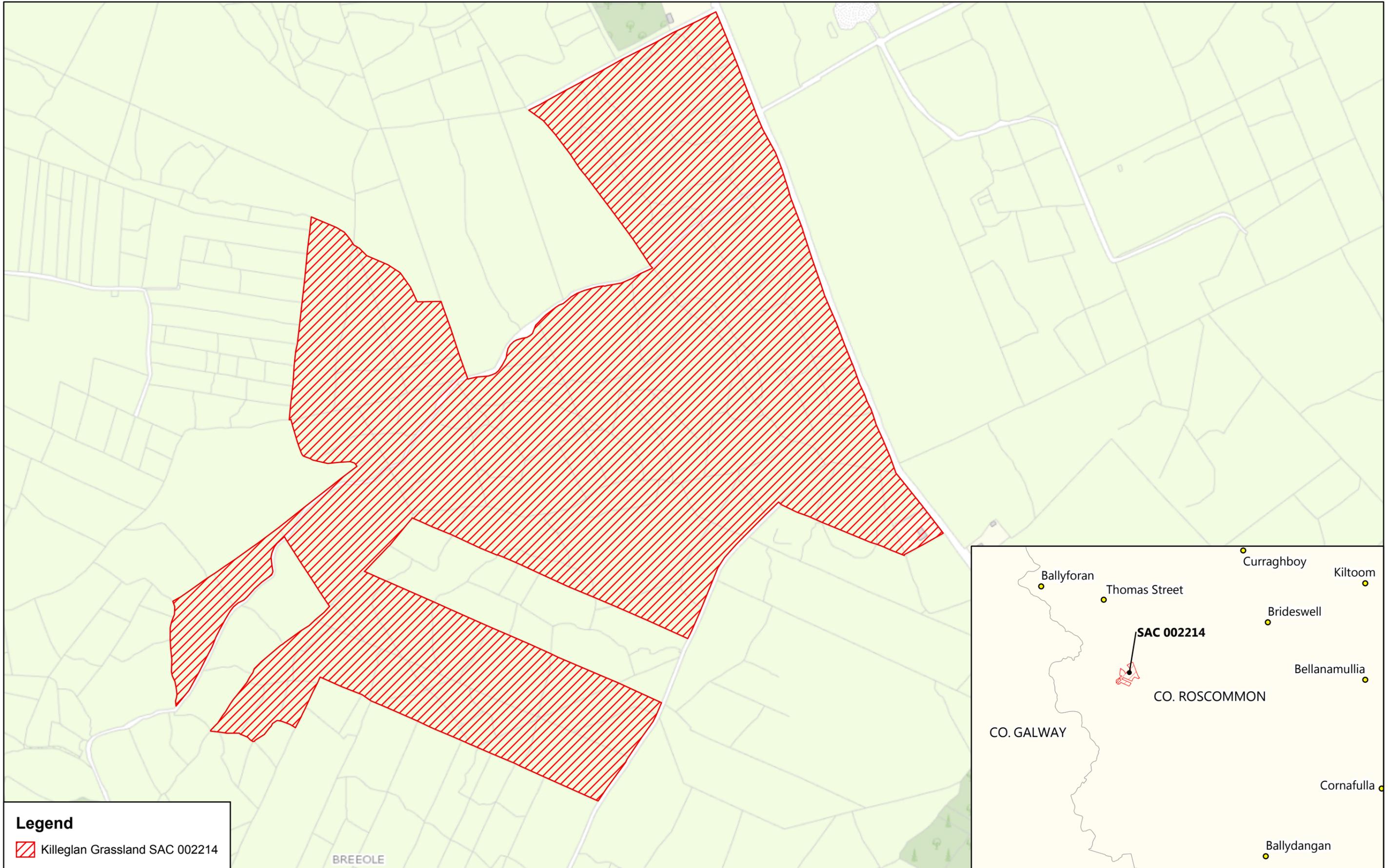
Conservation Objectives for : Killeglan Grassland SAC [002214]

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 Killeglan Grassland 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	The total current area of semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) in Killeglan Grassland SAC is unknown. As part of the Grasslands Monitoring Project 2006, the habitat was surveyed by Dwyer et al. (2007) who stated that the habitat is well-distributed throughout the SAC and occurs in association with patches of scrub, shattered limestone pavement and outcropping limestone boulders, with the best example of the habitat occurring in the central area of the SAC on relatively flat shallow soils. More scattered occurrences are located in a mosaic with scrub along the western and northern boundaries (Dwyer et al., 2007)
Habitat distribution	Occurrence	No decline, subject to natural processes	See the notes for Habitat area above
Vegetation composition: positive indicator species	Number at a representative number of 2m x 2m monitoring stops	At least seven positive indicator species present, including two "high quality" species	Attribute and target based on O'Neill et al. (2013) where the list of positive indicators, including high quality species, identified by the Irish Semi-natural Grasslands Survey (ISGS) is presented. Orchids recorded in the habitat in the SAC by Dwyer et al. (2007) include common spotted-orchid (<i>Dactylorhiza fuchsii</i>), greater butterfly-orchid (<i>Platanthera chlorantha</i>), fragrant orchid (<i>Gymnadenia conopsea</i>), common twayblade (<i>Neottia ovata</i>) and the Near Threatened frog orchid (<i>Coeloglossum viride</i>) (Wyse Jackson et al., 2016). The Vulnerable green-winged orchid (<i>Anacamptis morio</i>) and the Near Threatened orchids autumn lady's-tresses (<i>Spiranthes spiralis</i>) and dense-flowered orchid (<i>Neotinea maculata</i>) (Wyse Jackson et al., 2016) have also been recorded in the habitat in the SAC (NPWS internal files)
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 by an individual species not more than 10%	Attribute and target based on O'Neill et al. (2013), where the list of negative indicator species is also 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). Mature patches of prostrate cotoneaster (<i>Cotoneaster</i> sp.) were noted in the habitat in the SAC by Dwyer et al. (2007)
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% cover	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). Dwyer et al. (2007) recorded areas of encroachment by bracken and scrub, notably hawthorn (<i>Crataegus monogyna</i>) and blackthorn (<i>Prunus spinosa</i>), in the habitat in the SAC
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)

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)
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)
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)
Physical structure: disturbance	Area in local vicinity of a representative number of monitoring stops	Area of the habitat showing signs of serious grazing or other disturbance less than 20m ²	Attribute and target based on O'Neill et al. (2013)



Legend

 Killeglan Grassland SAC 002214



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**MAP 1:
KILLEGLAN GRASSLAND SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION**

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

**SITE CODE:
SAC 002214; version 3. CO. ROSCOMMON**

0 60 120 180 240 300 Meters

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 comharthaíthe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh EN 0059216. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann



**Map Version 1
Date: June 2018**



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE IE0002214
SITENAME Killeglan Grassland SAC

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- [1. SITE IDENTIFICATION](#)
- [2. SITE LOCATION](#)
- [3. ECOLOGICAL INFORMATION](#)
- [4. SITE DESCRIPTION](#)
- [6. SITE MANAGEMENT](#)
- [7. MAP OF THE SITE](#)

1. SITE IDENTIFICATION

1.1 Type B	1.2 Site code IE0002214	Back to top
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1.3 Site name

Killeglan Grassland SAC

1.4 First Compilation date 1999-02	1.5 Update date 2018-09
--	-----------------------------------

1.6 Respondent:

Name/Organisation:	National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
Address:	90 King Street North, Dublin 7, D07 N7CV, Ireland
Email:	datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site classified as SPA:	0000-00
National legal reference of SPA designation	No data
Date site proposed as SCI:	2002-01
Date site confirmed as SCI:	No data
Date site designated as SAC:	2016-05
National legal reference of SAC designation:	268/2016

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

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Longitude -8.202229715 **Latitude** 53.42979145

2.2 Area [ha]: **2.3 Marine area [%]**

M		Lepus timidus hibernicus										X			
M		Lepus timidus hibernicus											X		
M		Lepus timidus hibernicus												X	
M		Meles meles												X	
M		Meles meles										X			
P		Orchis morio										X			

- **Group:** A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles
- **CODE:** for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Unit:** i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see [reference portal](#))
- **Cat.:** Abundance categories: C = common, R = rare, V = very rare, P = present
- **Motivation categories:** IV, V: Annex Species (Habitats Directive), A: National Red List data; B: Endemics; C: International Conventions; D: other reasons

4. SITE DESCRIPTION

4.1 General site character

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Habitat class	% Cover
N14	1.0
N09	81.0
N22	15.0
N08	3.0
Total Habitat Cover	100

Other Site Characteristics

The underlying geology of the site is Lower Carboniferous Limestone, overlain by thin rendzina soils. The topography is undulating and there are many outcropping limestone boulders.

4.2 Quality and importance

Species rich calcareous grassland covers 81% of the site and in places forms a mosaic with scrub and shattered limestone outcrops. Grazing intensity is low although agricultural reclamation has seen the demise of some areas of the site in recent years. The site is one of the most important sites in Ireland for the legally protected species of orchid orchis morio (Flora Protection Order 1987).

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
H	A04.01.02		i
H	J02.01		i

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside /outside [i o b]
M	A04		i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification, T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.4 Ownership (optional)

4.5 Documentation

Curtis, T.G.F. and McGough, H.N. (1988). The Irish Red Data Book 1: Vascular Plants. Government Publications, Stationery Office. Dublin.
Webb, D.A., Parnell, J. and Doogue, D. (1996). An Irish Flora. Dundalgan Press. Dundalk.
Whilde, A. (1993). Threatened Mammals, Birds, Amphibians and Fish in Ireland. Irish Red Data Book 2: Vertebrates. HMSO. Belfast.

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

[Back to top](#)

5.2 Relation of the described site with other sites:

5.3 Site designation (optional)

6. SITE MANAGEMENT

6.1 Body(ies) responsible for the site management:

[Back to top](#)

6.2 Management Plan(s):

An actual management plan does exist:

- Yes
 No, but in preparation
 No

6.3 Conservation measures (optional)

7. MAP OF THE SITES

[Back to top](#)

INSPIRE ID:

Map delivered as PDF in electronic format (optional)

Yes No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).



Site Name: Killeglan Grassland SAC

Site Code: 002214

Killeglan grassland is situated in Co. Roscommon, approximately 9.5 km north of Ballinasloe. The underlying geology is Upper Carboniferous Limestone. A shallow rendzina type soil formation has developed in places between the outcropping limestone boulders and the shattered limestone formations. The topography of the site is undulating.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[6210] Orchid-rich Calcareous Grassland*
--

The calcareous grassland vegetation at this site is species-rich and comprises low-growing plants such as Red Fescue (*Festuca rubra*), Wild Thyme (*Thymus praecox*), Cat's-ear (*Hypochoeris radicata*), Mouse-ear Hawkweed (*Hieracium pilosella*), Devil's-bit Scabious (*Succisa pratensis*), Mountain Everlasting (*Antennaria dioica*), Carlina Thistle (*Carlina vulgaris*), Dandelion (*Taraxacum* agg.), sedges (*Carex* spp.), Ribwort Plantain (*Plantago lanceolata*), Bulbous Rush (*Juncus bulbosus*), Heather (*Calluna vulgaris*), Crested Dog's-tail (*Cynosurus cristatus*), Cock's-foot (*Dactylis glomerata*), Common Bent (*Agrostis capillaris*), Yorkshire-fog (*Holcus lanatus*), Carnation Sedge (*Carex panicea*), Sheep's Sorrel (*Rumex acetosella*), Yellow-rattle (*Rhinanthus minor*), Daisy (*Bellis perennis*), Yarrow (*Achillea millefolium*), clovers (*Trifolium* spp.) and Selfheal (*Prunella vulgaris*).

Orchid species recorded from the site include the Red Data Book species, Green-winged Orchid (*Orchis morio*) and Early-purple Orchid (*Orchis mascula*), Common Spotted-orchid (*Dactylorhiza fuchsii*), Fragrant Orchid (*Gymnadenia conopsea*), Pyramidal Orchid (*Anacamptis pyramidalis*), Lesser Butterfly-orchid (*Platanthera bifolia*) and Autumn Lady's-tresses (*Spiranthes spiralis*).

On the out-cropping limestone Herb-Robert (*Geranium robertianum*), Wall-rue (*Asplenium ruta-muraria*), Hart's-tongue (*Phyllitis scolopendrium*), Wild Thyme, Cat's-ear, Mouse-ear Hawkweed, Mountain Everlasting, Fairy Flax (*Linum catharticum*) and many mosses and lichens are present. Patches of Gorse (*Ulex europaeus*) and Bracken (*Pteridium aquilinum*) occur, with occasional specimens of Yew (*Taxus baccata*).

Badger and Hare, both listed in the Irish Red Data Book, occur on this site. Birds recorded include Kestrel, Sparrowhawk, Pheasant, Stonechat, Wheatear and Raven.

Most of this site appears to be managed in a manner which is suitable for the continued conservation of the grasslands. Low numbers of cattle are grazed during winter and low numbers of sheep in summer and autumn. Horses are occasional grazers. The grasslands have been improved in the past and limestone boulders have been cleared and placed in heaps scattered throughout the site. The site is divided into a number of small field systems that are defined by dry stone walls. Neighbouring lands have recently been cleared of boulders and shattered pavement, and have been re-seeded and heavily fertilised. Reclamation within the site would pose a significant threat to the conservation interest of the grassland.

Overall, the site is of outstanding quality and provides an excellent example of the Annex I priority habitat orchid-rich calcareous grasslands. It plays host to an important population of the Red Data Book plant species Green-winged Orchid, along with a number of Red Data Book mammals.

National Parks and Wildlife Service

Conservation Objectives Series

Four Roads Turlough SAC 001637



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Department of
Culture, Heritage and the Gaeltacht



**National Parks and Wildlife Service,
Department of Culture, Heritage and the Gaeltacht,
7 Ely Place, Dublin 2, Ireland.
Web: www.npws.ie
E-mail: nature.conservation@ahg.gov.ie**

Citation:

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and the Gaeltacht.**

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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*

001637 Four Roads Turlough SAC

3180 TurloughsE

Please note that this SAC overlaps with Four Roads Turlough SPA (004140). See map 2. The conservation objectives 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 :	1992
Title :	Turloughs over 10ha - Vegetation survey and evaluation
Author :	Goodwillie, R.N.
Series :	Unpublished report to NPWS
<hr/>	
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
<hr/>	

Spatial data sources

Year : 2017

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

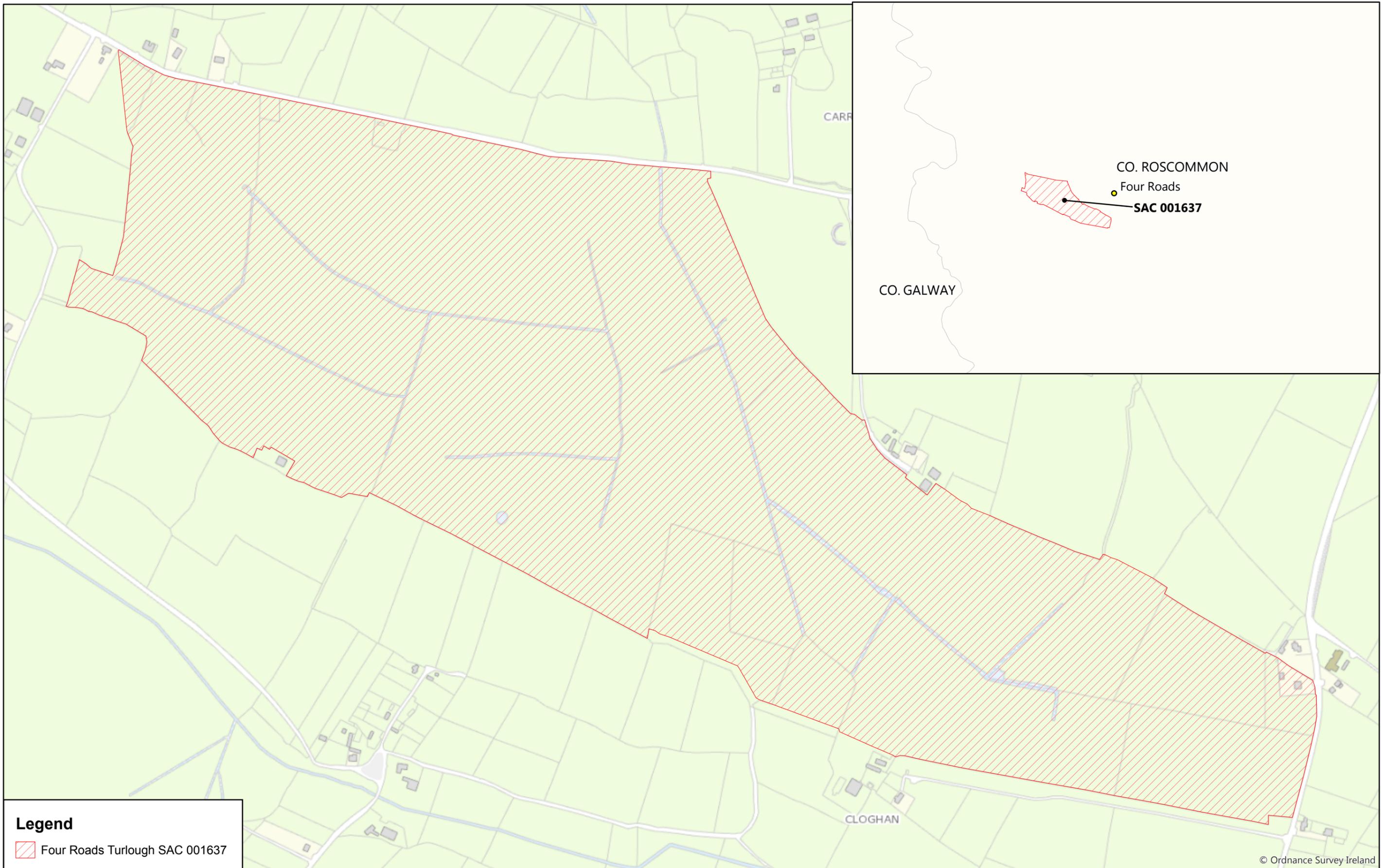
Used For : 3180 (map 3)

3180 Turloughs

To restore the favourable conservation condition of Turloughs* in Four Roads Turlough SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable at c.72ha or increasing, subject to natural processes	Approximate area of 72.1ha for Four Roads (or Cloonloughlin) turlough in Four Roads Turlough SAC based on Goodwillie (1992). See map 3 for recorded extent. Goodwillie (1992) described Four Roads turlough as a very flat basin, subject to less frequent flooding than the nearby Lisduff turlough (in Lisduff Turlough SAC 000610). 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/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). Goodwillie (1992) described Four Roads turlough as an apparently dry site and stated that standing water remains longest at the western end where there was a narrow pond in April. It appears to flood quite predictably and dry out early (NPWS internal files). From aerial imagery, an extensive network of drains is evident within the turlough basin
Soil type	Hectares	Maintain variety, area and extent of soil types necessary to support turlough vegetation and other biota	Peat is a significant presence throughout Four Roads turlough (NPWS internal files)
Soil nutrient status: nitrogen and phosphorus	N and P concentration in soil	Maintain/restore nutrient status appropriate to soil types and vegetation communities	Fertiliser has been applied in the upper turlough basin in Four Roads Turlough SAC (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
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). The eastern half of Four Roads turlough has been fertilised (NPWS internal files). An interim target of $\leq 20\mu\text{g/l}$ total phosphorus (TP) is suggested for Four Roads turlough; however, it may be necessary to achieve a target of $\leq 10\mu\text{g/l}$ TP to restore favourable condition
Active peat formation	Flood duration	Maintain active peat formation	Peat is a significant presence throughout Four Roads turlough, with occasional tree stumps in it (NPWS internal files)

Vegetation composition: area of vegetation communities	Hectares	Restore area of sensitive and high conservation value vegetation communities/units	See Goodwillie (1992) for a brief description of the vegetation communities at Four Roads turlough, which he described as "a eutrophic, grassy turlough". Goodwillie (1992) noted a small area of grazed <i>Schoenus nigricans</i> and <i>Carex panicea</i> in the north-west corner and large amounts of <i>Carex nigra</i> below this, which he considered likely to be community 6A (Dry <i>Carex nigra</i>). The vegetation of the upper eastern part is very uniform and dominated by <i>Agrostis stolonifera</i> , there are a few lower areas with <i>Carex rostrata</i> and <i>Menyanthes trifoliata</i> , and a very few pools with <i>Ranunculus trichophyllus</i> , <i>Baldellia ranunculooides</i> and <i>Apium inundatum</i> (NPWS internal files). No oligotrophic communities have been recorded and fertiliser use in the upper part of the turlough basin has significantly altered the vegetation (NPWS internal files)
Vegetation composition: vegetation zonation	Distribution	Maintain/restore vegetation zonation/mosaic characteristic of the site	See Goodwillie (1992) for a brief description of the vegetation of Four Roads turlough
Vegetation structure: sward height	Centimetres	Maintain/restore sward heights appropriate to the vegetation unit, and a variety of sward heights across the turlough	Heavy grazing pressure has been noted at Four Roads turlough, including poaching of the peat soil (NPWS internal files)
Typical species	Presence	Restore typical species within and across the turlough	It has been noted that the uniformity of the basin and fertilisation of the eastern half means that there is little of botanical interest in the vegetation of Four Roads turlough, but that it is used as a refuge and feeding area by herbivorous wildfowl and waders (NPWS internal files)
Fringing habitats: area	Hectares	Maintain marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations	See O Connor (2017) for further details on this and all attributes
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



Legend

 Four Roads Turlough SAC 001637



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**MAP 1:
FOUR ROADS TURLOUGH SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION**

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

**SITE CODE:
SAC 001637; version 3.02. CO. ROSCOMMON**

0 60 120 180 240 300 Meters

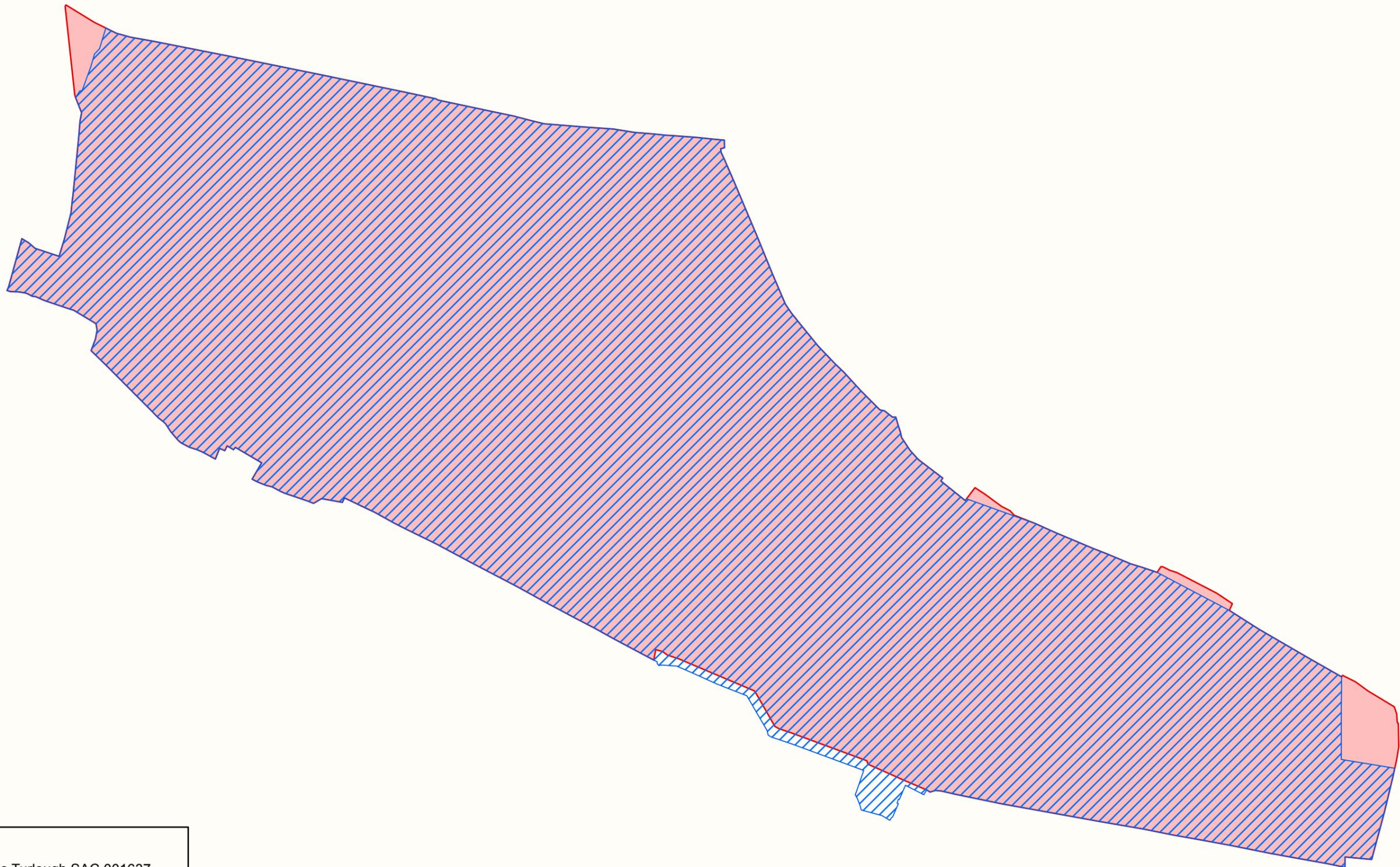
The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbheithníthe a déanamh ar theorainneacha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



**Map Version 1
Date: Nov 2017**

© Ordnance Survey Ireland



Legend

- Four Roads Turlough SAC 001637
- Four Roads Turlough SPA 004140
- OSi Discovery Series County Boundary

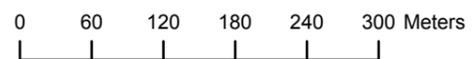


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**MAP 2:
FOUR ROADS TURLOUGH SAC
CONSERVATION OBJECTIVES
ADJACENT, ADJOINING AND
OVERLAPPING DESIGNATIONS**

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

**SITE CODE:
SAC 001637; version 3.02. SPA 004140; version 3.01.
CO. ROSCOMMON**

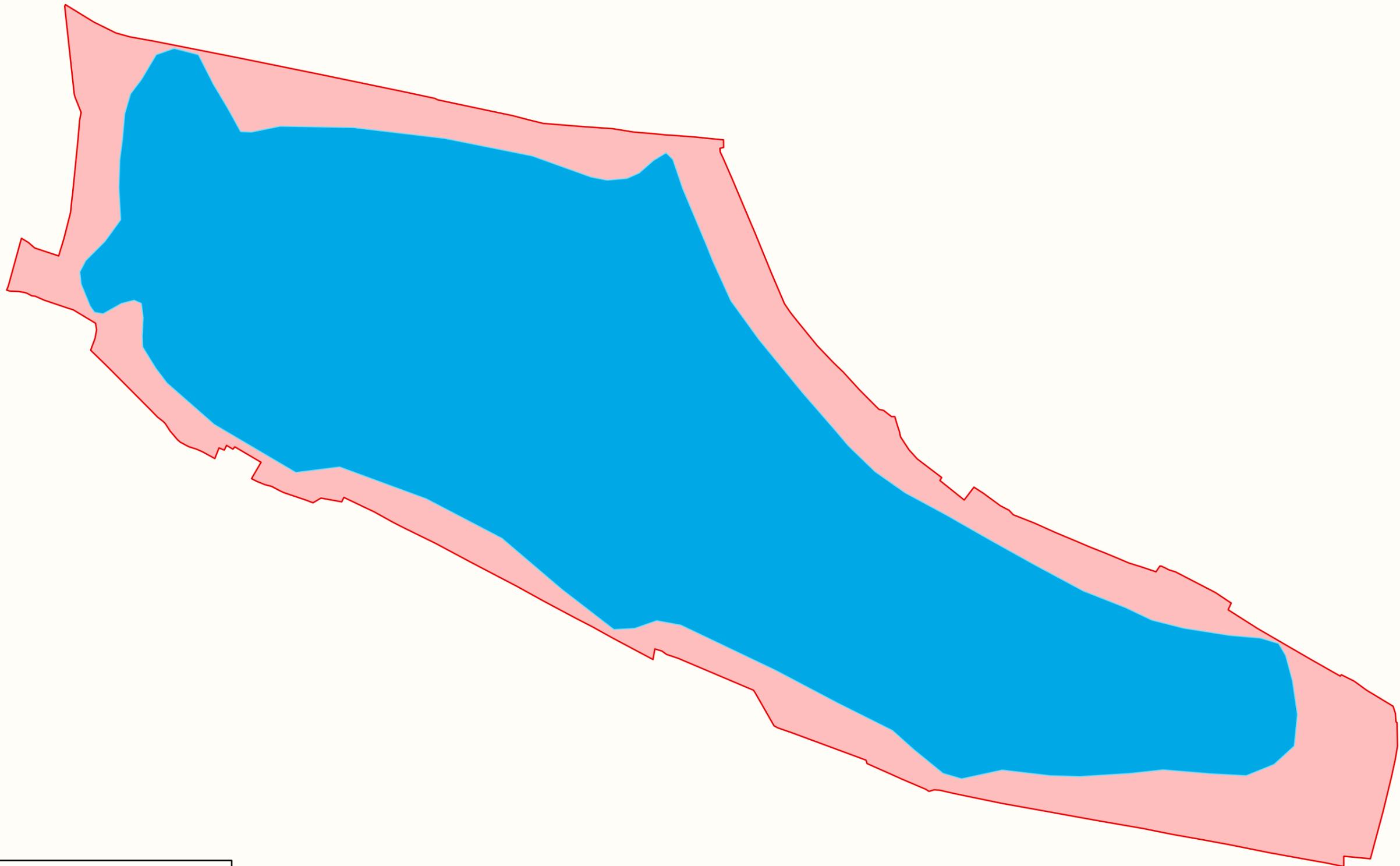


The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha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



**Map Version 1
Date: Nov 2017**



Legend

- Four Roads Turlough SAC 001637
- 3180 Turloughs



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**MAP 3:
FOUR ROADS TURLOUGH SAC
CONSERVATION OBJECTIVES
TURLOUGHs**

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

**SITE CODE:
SAC 001637; version 3.02. CO. ROSCOMMON**

0 70 140 210 280 350 Meters



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 athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaíthe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh EN 0059216. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann



**Map Version 1
Date: Nov 2017**

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

IE01	Border, Midland and Western
------	-----------------------------

2.6 Biogeographical Region(s)

Atlantic (%)

3. ECOLOGICAL INFORMATION

3.1 Habitat types present on the site and assessment for them

[Back to top](#)

Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C		
						Representativity	Relative Surface	Conservation	Global
3180			72.1		G	C	B	C	B

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- **Cover:** decimal values can be entered
- **Caves:** for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site					Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D. qual.	A B C D	A B C		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A054	Anas acuta			w	40	40	i		G	C	C	C	C
B	A056	Anas clypeata			w	81	81	i		G	C	B	C	B
B	A052	Anas crecca			w	870	870	i		G	C	B	C	B
B	A050	Anas penelope			w	983	983	i		G	C	A	C	A
B	A053	Anas platyrhynchos			w	235	235	i		G	C	B	C	B
B	A395	Anser albifrons flavirostris			w	177	177	i		G	C	A	C	A
B	A037	Cygnus columbianus bewickii			w	21	21	i		G	C	B	C	B
B	A160	Numenius arquata			w	103	103	i		G	C	B	C	C
B	A140	Pluvialis apricaria			w	317	317	i		G	C	B	C	B
B	A142	Vanellus vanellus			w	473	473	i		G	C	B	C	B

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)

- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

4. SITE DESCRIPTION

4.1 General site character

[Back to top](#)

Habitat class	% Cover
N10	12.0
N06	79.0
N14	9.0
Total Habitat Cover	100

Other Site Characteristics

Four Roads or Cloonloughlin Turlough lies 2.5 km from the Suck River below a low scarp of limestone hills. It is an open, shallow basin without permanent standing water. It seems to flood predictably and dry out quite early. The vegetation is uniform in general and of two main types - grass in the east and sedges in the west. It is grazed intensively.

4.2 Quality and importance

The uniformity of the basin and the fertilisation of its eastern half means that there is little interest in the vegetation. However the site is used as a refuge or feeding area by herbivorous wildfowl and waders - some of which occur in numbers of national importance.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
L	A05.02		b

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside /outside [i o b]
M	A04		i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.4 Ownership (optional)

4.5 Documentation

Goodwillie, R.N. (1992). Turloughs Over 10ha - Vegetation Survey and Evaluation. Unpublished Report to the National Parks and Wildlife Service, Dublin. Sheppard, R. (1993). Ireland's Wetland Wealth. Irish Wildbird Conservancy, Dublin.

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

[Back to top](#)

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
IE05	100.0				

5.2 Relation of the described site with other sites:

5.3 Site designation (optional)

6. SITE MANAGEMENT

6.1 Body(ies) responsible for the site management:

[Back to top](#)

6.2 Management Plan(s):

An actual management plan does exist:

- | | |
|-------------------------------------|------------------------|
| <input type="checkbox"/> | Yes |
| <input type="checkbox"/> | No, but in preparation |
| <input checked="" type="checkbox"/> | No |

6.3 Conservation measures (optional)

7. MAP OF THE SITES

[Back to top](#)

INSPIRE ID:

IE.NPWS.PS.NATURA2000.SAC.IE0001637

Map delivered as PDF in electronic format (optional)

- Yes No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).

--

Site Name: Four Roads Turlough SAC

Site Code: 001637

Four Roads Turlough is located south-west of Four Roads village, 2.5 km from the River Suck, in Co. Roscommon. It lies below a low scarp of limestone hills and is an open, shallow basin without permanent standing water which seems to flood predictably and dry out early.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3180] Turloughs*

The turlough has a relatively uniform vegetation structure, with the eastern part predominantly of grass, mostly Creeping Bent (*Agrostis stolonifera*), and the western part consisting mainly of sedges, with Common Sedge (*Carex nigra*) most frequent. There are a few low-lying places where Bottle Sedge (*Carex rostrata*) and Bogbean (*Menyanthes trifoliata*) grow, and a few pools with Thread-leaved Water-crowfoot (*Ranunculus trichophyllus*), Lesser Water-plantain (*Baldellia ranunculoides*) and Lesser Marshwort (*Apium inundatum*). No oligotrophic fen vegetation occurs and only a few tufts of Black Bog-rush (*Schoenus nigricans*) are found. The soil is peaty, and there are occasional tree stumps.

Four Roads Turlough has long been recognised as an area of ornithological importance for the large numbers of waterfowl that use it in winter, and it is part of a Wildfowl Sanctuary. As with most turloughs, bird numbers are highly variable. There are times when the whole of the River Suck population of Greenland White-fronted Goose (500) use the site, along with 2,600 wildfowl and 8,000 waders. At other times bird numbers are as low as several hundred. Except where indicated, the following numbers are the average of 11 counts over 3 seasons, 1984/85-1986/87: Wigeon (983), Teal (870), Shoveler (81), Bewick's Swan (21), Greenland White-fronted Goose (177, one count in 1987/88), Mallard (235), Pintail (40), Golden Plover (317), Lapwing (473) and Curlew (103). A single count on January 17 1988 emphasises the importance of assessing bird populations of turloughs based on as large a series of counts as possible - present on that date were 3,600 Wigeon, 2,500 Teal, 177 Greenland White-fronted Goose and 2,900 Lapwing. The site is also used by Whooper Swan (recent count of 60) and breeding Lapwing, Redshank and Snipe. Several of these species are listed in the Red Data Book and on Annex I of the E.U. Birds Directive.

The site is undrained, in spite of a few past attempts around the margins, and is fertilized in the eastern half. It is intensively grazed and in some areas there is poaching of the peaty soil.

This turlough has a relatively uniform vegetation, but does still support some interesting species (e.g. Lesser Water-plantain). Turloughs are listed with priority status on Annex I of the E.U. Habitats Directive and, as such, are of considerable conservation significance. The site is very important as a refuge or feeding area for wildfowl and waders, some of which occur in numbers of national importance.

National Parks and Wildlife Service

Conservation Objectives Series

River Shannon Callows SAC 000216



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: natureconservation@housing.gov.ie**

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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

000216	River Shannon Callows SAC
1355	Otter <i>Lutra lutra</i>
6410	<i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)
6510	Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>)
7230	Alkaline fens
8240	Limestone pavements*
91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)*

Please note that this SAC overlaps with Middle Shannon Callows SPA (004096) and is adjacent to Pilgrim's Road Esker SAC (001776), Lough Derg, North-East Shore SAC (002241), Redwood Bog SAC (002353), Lough Derg (Shannon) SPA (004058), River Little Brosna Callows SPA (004086) and River Suck Callows SPA (004097). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping and adjacent sites 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 :	1972
Title :	A Preliminary Report on Areas of Scientific Interest in County Offaly
Author :	Farrell, L.
Series :	Unpublished report
Year :	1999
Title :	SAC Survey of the River Shannon Callows
Author :	Heery, S.; Keane, S.
Series :	Unpublished report to NPWS
Year :	2006
Title :	Otter survey of Ireland 2004/2005
Author :	Bailey, M.; Rochford, J.
Series :	Irish Wildlife Manuals, No. 23
Year :	2007
Title :	Supporting documentation for the Habitats Directive Conservation Status Assessment - backing documents. Article 17 forms and supporting maps
Author :	NPWS
Series :	Unpublished report to NPWS
Year :	2008
Title :	National survey of native woodlands 2003-2008
Author :	Perrin, P.M.; Martin, J.; Barron, S.; O'Neill, F.H.; McNutt, K.E.; Delaney, A.
Series :	Unpublished report to NPWS
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 :	A provisional inventory of ancient and long-established woodland in Ireland
Author :	Perrin, P.M.; Daly, O.H.
Series :	Irish Wildlife Manuals, No. 46
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 :	National otter survey of Ireland 2010/12
Author :	Reid, N.; Hayden, B.; Lundy, M.G.; Pietravalle, S.; McDonald, R.A.; Montgomery, W.I.
Series :	Irish Wildlife Manuals, No. 76

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 :	2013
Title :	National survey of limestone pavement and associated habitats in Ireland
Author :	Wilson, S.; Fernandez, F.
Series :	Irish Wildlife Manuals, No. 73
Year :	2013
Title :	Results of a monitoring survey of old sessile oak woods and alluvial forests
Author :	O'Neill, F.H.; Barron, S.J.
Series :	Irish Wildlife Manuals, No. 71
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 Lists series, NPWS
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
Year :	2019
Title :	Checklists Protected and Threatened Species in Ireland 2019
Author :	Nelson, B.; Cummins, S.; Fay, L.; Jeffrey, R.; Kelly, S.; Kingston, N.; Lockhart, N.; Marnell, F.; Tierney, D.; Wyse Jackson, M.
Series :	Irish Wildlife Manuals, No. 116
Year :	2021
Title :	Checklists Protected and Threatened Species in Ireland. Version 2.1. 3 December 2021
Author :	Nelson, B.; Cummins, S.; Fay, L.; Jeffrey, R.; Kelly, S.; Kingston, N.; Lockhart, N.; Marnell, F.; Tierney, D.; Wyse Jackson, M.
Series :	Irish Wildlife Manuals, No. 116
Year :	in prep.
Title :	The monitoring and assessment of four EU Habitats Directive Annex I woodland habitats
Author :	Daly, O.H.; O'Neill, F.H.; Barron, S.J.
Series :	Irish Wildlife Manuals
Year :	in prep.
Title :	Scoping study and pilot survey of fens
Author :	O'Neill, F.H.; Perrin, P.M.; Denyer, J.; Martin, J.R.; Daly, O.H.; Brophy, J.T.
Series :	Irish Wildlife Manuals
Year :	in prep.
Title :	Floodplain and callows grasslands in Ireland
Author :	Martin, J.R.; O'Neill, F.H.; Daly, O.H.
Series :	Irish Wildlife Manuals
Year :	in prep.
Title :	Agricultural Atmospheric Ammonia: Identification & Assessment of Potential Impacts
Author :	Kelleghan, D.B.; Fogarty, M.; Welchman, S.; Cummins, T.; Curran, T.P.
Series :	Irish Wildlife Manuals

Other References

Year :	1982
Title :	Otter survey of Ireland
Author :	Chapman, P.J.; Chapman, L.L.
Series :	Unpublished report to Vincent Wildlife Trust
Year :	1991
Title :	The spatial organization of otters (<i>Lutra lutra</i>) in Shetland
Author :	Kruuk, H.; Moorhouse, A.
Series :	Journal of Zoology, 224: 41-57
Year :	2002
Title :	Reversing the habitat fragmentation of British woodlands
Author :	Peterken, G.
Series :	WWF-UK, London
Year :	2006
Title :	Otters - ecology, behaviour and conservation
Author :	Kruuk, H.
Series :	Oxford University Press
Year :	2010
Title :	Otter tracking study of Roaringwater Bay
Author :	De Jongh, A.; O'Neill, L.
Series :	Unpublished draft report to NPWS
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 :	2011
Title :	The Fen Management Handbook
Author :	McBride, A.; Diack, I.; Droy, N.; Hamill, B.; Jones, P.; Schutten, J.; Skinner, A.; Street, M. (eds.)
Series :	Scottish Natural Heritage, Perth
Year :	2012
Title :	Proposed pumphouses at Meelick and Portumna
Author :	Heery, S.; Mayes, E.
Series :	Natura Impact Statement prepared for ESBI
Year :	2016
Title :	Irish Vegetation Classification: Technical Progress Report No. 2
Author :	Perrin, P.
Series :	Report submitted to National Biodiversity Data Centre
Year :	2017
Title :	An ecological report on the habitats, mammals, and birds of Maddens Island, River Shannon, Co. Offaly
Author :	Martin, J.R.; Brophy, J.T.
Series :	Unpublished Report by BEC Consultants Ltd. to Waterways Ireland

Year : 2018
Title : Irish Vegetation Classification: Technical Progress Report No. 4
Author : Perrin, P.
Series : Report submitted to National Biodiversity Data Centre

Spatial data sources

Year :	1999
Title :	Heery and Keane (1999) SAC Survey of the River Shannon Callows
GIS Operations :	Dataset clipped to the SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	6410, 6510 (map 3)
<hr/>	
Year :	2013
Title :	Irish Semi-Natural Grassland Survey
GIS Operations :	Dataset clipped to the SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	6410, 6510 (map 3)
<hr/>	
Year :	2018
Title :	Grasslands Monitoring Survey 2015-2017
GIS Operations :	Dataset clipped to the SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	6410, 6510 (map 3)
<hr/>	
Year :	2021
Title :	Floodplain and Callows Grasslands in Ireland
GIS Operations :	Dataset clipped to the SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	6410, 6510 (map 3)
<hr/>	
Year :	2017
Title :	Martin and Brophy (2017) An ecological report on the habitats, mammals, and birds of Maddens Island, River Shannon, Co. Offaly
GIS Operations :	QIs selected. Dataset clipped to the SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	6510, 91E0 (map 3, 6)
<hr/>	
Year :	2012
Title :	Heery and Mayes (2012) Proposed pumphouses at Meelick and Portumna NIS
GIS Operations :	QI selected. Dataset clipped to the SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	7230 (map 4)
<hr/>	
Year :	2013
Title :	National Survey of Limestone Pavement and Associated Habitats in Ireland distribution data
GIS Operations :	Dataset clipped to the SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	8240 (map 5)
<hr/>	

Conservation Objectives for : River Shannon Callows SAC [000216]

6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)

To restore the favourable conservation condition of *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) in River Shannon Callows 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	River Shannon Callows SAC encompasses a large area of seasonally flooded, semi-natural, lowland wet grassland habitats, including the habitat <i>Molinia</i> meadows which occurs in association with Lowland hay meadows (Annex I habitat code 6510) and other grassland habitats (NPWS internal files). <i>Molinia</i> meadows were surveyed as part of the Irish Semi-natural Grassland Survey (ISGS; O'Neill et al., 2013) within eight sub-sites (ISGS site codes 107, 108, 109, 110, 113, 2340, 2342, 2344), of which four (107, 109, 110, 113) were monitored by the Grassland Monitoring Survey (GMS; Martin et al., 2018). An area of 6410 habitat was also mapped in sub-site 111 by the GMS. Further areas of <i>Molinia</i> meadows had also been surveyed by Heery and Keane (1999), and new areas were surveyed during the floodplain grassland survey by Martin et al. (in prep.). The total area mapped in the SAC is 116.7ha. It is important to note that further unsurveyed areas may be present within the SAC
Habitat distribution	Occurrence	No decline, subject to natural processes	Distribution based on Heery and Keane (1999), O'Neill et al. (2013), Martin et al. (2018) and Martin et al. (in prep.). See map 3. It should be noted that the habitat's area and distribution in the continuum/mosaic of grassland habitats in River Shannon Callows SAC can depend on such factors as the annual fluctuation of the water levels in the River Shannon and duration of flooding, and also on management practices such as grazing and mowing. The habitat is widely distributed all along this large SAC, and at both sides of the river channel. 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 one 'high quality' positive indicator species present in the 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 positive indicator species, are also presented. These documents should be consulted for further details. Note that purple moor-grass (<i>Molinia caerulea</i>) is a positive indicator species and should be present in at least one monitoring stop, or within 20m of a monitoring stop, for the attribute to pass (Martin et al., 2018). Note that Martin et al. (2018) mention two additional species which may be considered, should stops fail marginally on presence of indicators. See also Heery and Keane (1999) for species recorded in the habitat in the SAC
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 by an individual species not more than 10%	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018), where the list of negative indicator species is 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)
Vegetation composition: moss species	Percentage cover at a representative number of 2m x 2m monitoring stops	Hair mosses (<i>Polytrichum</i> spp.) not more than 25% cover	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018)

Vegetation composition: woody species and bracken	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of woody species and bracken (<i>Pteridium aquilinum</i>) not more than 5% cover	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018)
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 10cm and 80cm 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, usually a result of abandonment, or infrequent management, has been recorded in places in this SAC, and is detrimental to plant species diversity
Physical structure: bare ground	Percentage cover at a representative number of 2m x 2m monitoring stops	Not more than 10% bare ground	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)

Conservation Objectives for : River Shannon Callows SAC [000216]

6510 Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)

To restore the favourable conservation condition of Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*) in River Shannon Callows 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	This SAC encompasses a large area of seasonally flooded, semi-natural, lowland grassland habitats, including Lowland hay meadows (6510) which can occur in association with <i>Molinia</i> meadows (6410) and other grassland habitats (NPWS internal files). 6510 was surveyed as part of the Irish Semi-natural Grassland Survey (ISGS; O'Neill et al., 2013) at 5 sub-sites, Clonmacnoise (ISGS site code 107), Leitira Callow (108), Moystown Demesne and Bullock Island (109), Long Island (111) and Cappaleitrim (114), of which 3 (109, 111 and 114) were monitored by the Grassland Monitoring Survey (GMS; Martin et al., 2018). An area of 6510 was also mapped in the sub-site Clooncraft (110) by the GMS. Further areas of 6510 were surveyed by Heery and Keane (1999), Martin and Brophy (2017), and new areas were surveyed in the floodplain grassland survey by Martin et al. (in prep.). The total area mapped in the SAC is 38.7ha. It is important to note that further unsurveyed areas may be present in the SAC
Habitat distribution	Occurrence	No decline, subject to natural processes	The distribution of the habitat in River Shannon Callows SAC is based on Heery and Keane (1999), O'Neill et al. (2013), Martin and Brophy (2017), Martin et al. (2018) and Martin et al. (in prep.). See map 3. It is important to note that further unsurveyed areas 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 one 'high quality' positive 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 positive indicator species, are also presented. These documents should be consulted for further details. See also Heery and Keane (1999) for species recorded in the habitat in the SAC. Of particular note, the Flora (Protection) Order, 2015 listed species meadow barley (<i>Hordeum secalinum</i>) was recorded by the ISGS in Moystown Demesne and Bullock Island (site code 109) in the SAC by O'Neill et al. (2013). This species is listed as Vulnerable in Wyse Jackson et al. (2016). Heery and Keane (1999) recorded the Vulnerable green-winged orchid (<i>Anacamptis morio</i>) and the Near Threatened moonwort (<i>Botrychium lunaria</i>) (Wyse Jackson et al., 2016)
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 by an individual species not more than 10%	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018), where the list of negative indicator species is also presented. During the GMS (Martin et al., 2018), it was found that an area of 6510 habitat within the sub-site Long Island (site code 111) had been agriculturally improved since the site was surveyed by the ISGS in 2007, with the negative indicator species perennial rye-grass (<i>Lolium perenne</i>) and white clover (<i>Trifolium repens</i>) common in places. Agricultural intensification was also found to have led to the loss of an area of the Annex I 6510 habitat in the sub-site Cappaleitrim (site code 114) (Martin et al., 2018)
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)

Vegetation composition: woody species and bracken	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of woody species and bracken (<i>Pteridium aquilinum</i>) not more than 5%	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018)
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). A marginal failure result (35-39%) in the percentage broadleaf herb component may be allowed to pass on expert judgement (Martin et al., 2018). The broadleaf herb to grass ratio can be badly affected by agricultural improvement actions, such as fertiliser use, re-seeding, etc., which all favour grass growth over herb growth. This has been found to be an issue at a number of sites in this SAC by Martin et al. (2018)
Vegetation structure: sward height	Percentage at a representative number of 2m x 2m monitoring stops	At least 50% of sward between 10cm and 50cm 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)
Physical structure: bare soil	Percentage cover at a representative number of 2m x 2m monitoring stops	Not more than 5% bare soil	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018)
Physical structure: disturbance	Area in local vicinity of a representative number of monitoring stops	Area of the habitat showing signs of serious grazing or other disturbance less than 20m ²	Attribute and target based on O'Neill et al. (2013) and Martin et al. (2018)

To maintain the favourable conservation condition of Alkaline fens in River Shannon Callows 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	Alkaline fen in River Shannon Callows SAC occurs south of Portumna Bridge and south-east of the town of Portumna in an area of low-lying terrestrial land west of the river. The fen area corresponds largely to a former small bay at the northern end of Lough Derg that was cut off from the lake when the embankment was originally constructed as part of the Shannon Hydroelectric Scheme in the late 1920s. The area of alkaline fen in the SAC has been mapped as c.15ha based on Heery and Mayes (2012). See map 4. 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	Distribution based on Heery and Mayes (2012). See map 4. It is important to note that further unsurveyed areas of the habitat may be present within the SAC
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 O'Neill et al. (in prep.). See also Kelleghan et al. (in prep.) and Bobbink and Hettelingh (2011). Increased nutrients can lead to changes in plant and invertebrate species through competition and subsequent structural changes to micro-habitats. These nutrients favour growth of grasses rather than forbs and mosses and leads to a higher and denser sward
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 - groundwater levels	Water levels (centimetres); duration of levels; hydraulic gradients; water supply levels	Maintain, or restore where necessary, appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat	Fen habitats require high groundwater levels (i.e. water levels at or above the ground surface) for a large proportion of the calendar year (i.e. duration of mean groundwater level). Fen groundwater levels are controlled by regional groundwater levels in the contributing catchment area (which sustain the hydraulic gradients of the fen groundwater table). Regional abstraction of groundwater may affect fen groundwater levels. In this SAC, the fen may partly be fed by springs, and there is some evidence of base-rich flushing on sloping ground with outcropping rock to the west of the fen (Heery and Mayes, 2012)
Ecosystem function: hydrology - surface water flow	Drain density and form	Maintain, or restore where necessary, as close as possible to natural or semi-natural drainage conditions	Drainage, either within or surrounding the fen habitat, can result in the drawdown of the groundwater table. The depth, geometry and density of drainage (hydromorphology) will indicate the scale and impact on fen hydrology. Drainage can result in loss of characteristic species and transition to drier habitats
Ecosystem function: water quality	Various	Maintain appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat	Fens receive natural levels of nutrients (e.g. iron, magnesium and calcium) from water sources. However, they are generally poor in nitrogen and phosphorus, with the latter tending to be the limiting nutrient under natural conditions. Water supply should also be relatively calcium-rich

Vegetation composition: community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	Heery and Mayes (2012) described two main communities in the habitat in the SAC based on relevé data. The first was <i>Carex lasiocarpa</i> - <i>Menyanthes trifoliata</i> vegetation where <i>C. lasiocarpa</i> , <i>C. acutiformis</i> and <i>M. trifoliata</i> were constant, while <i>C. lasiocarpa</i> was slightly less abundant where <i>Schoenus nigricans</i> was present towards the north of the fen area. <i>Utricularia intermedia</i> was a component of this type and calcium carbonate accretions were common among the mosses. The second type was a <i>Briza media</i> - <i>Carex disticha</i> - <i>Festuca rubra</i> community which was rich in small sedges, and also orchid-rich. <i>Cirsium dissectum</i> , while widespread over the whole fen, was commonest in this community. Information on the vegetation communities associated with alkaline fens is provided by O'Neill et al. (in prep.). See also the Irish Vegetation Classification (Perrin, 2018; www.biodiversityireland.ie/projects/ivc-classification-explorer)
Vegetation composition: typical brown mosses	Percentage cover at a representative number of monitoring stops	Maintain adequate cover of typical brown moss species	For lists of typical bryophyte species, including high quality indicator species, see O'Neill et al. (in prep.). Typical brown moss species recorded in the habitat in the SAC by Heery and Mayes (2012) include <i>Bryum pseudotriquetrum</i> , <i>Campylium stellatum</i> , <i>Scorpidium cossonii</i> and <i>S. scorpioides</i>
Vegetation composition: typical vascular plants	Percentage cover at a representative number of monitoring stops	Maintain adequate cover of typical vascular plant species	For lists of typical vascular plant species for the different vegetation communities, including high quality indicators, see O'Neill et al. (in prep.). Typical species recorded in the habitat in the SAC by Heery and Mayes (2012) include slender sedge (<i>Carex lasiocarpa</i>), carnation sedge (<i>Carex panicea</i>), few-flowered spike-rush (<i>Eleocharis quinqueflora</i>), purple moor-grass (<i>Molinia caerulea</i>) and meadow thistle (<i>Cirsium dissectum</i>). The high quality indicator species early marsh-orchid (<i>Dactylorhiza incarnata</i>) and marsh helleborine (<i>Epipactis palustris</i>) have been recorded within the fen in the SAC (Heery and Mayes, 2012)
Vegetation composition: native negative indicator species	Percentage cover at a representative number of monitoring stops	Cover of 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 indicators may include <i>Anthoxanthum odoratum</i> , <i>Epilobium hirsutum</i> , <i>Holcus lanatus</i> , <i>Juncus effusus</i> , <i>Phragmites australis</i> and <i>Ranunculus repens</i> . See O'Neill et al. (in prep.). <i>Phragmites australis</i> and <i>Ranunculus repens</i> were recorded in a number of relevés collected by Heery and Mayes (2012), but at relatively low cover
Vegetation composition: non-native species	Percentage cover at a representative number of monitoring stops	Cover of non-native species less than 1%	Attribute and target based on O'Neill et al. (in prep.). 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
Vegetation composition: native trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 10%	Attribute and target based on O'Neill et al. (in prep.). Scrub and trees will tend to invade if fen conditions become drier
Vegetation composition: algal cover	Percentage cover at, and in local vicinity of, a representative number of monitoring stops	Cover of algae less than 2%	Attribute and target based on O'Neill et al. (in prep.). Algal cover is indicative of nutrient enrichment from multiple sources (McBride et al., 2011)
Vegetation structure: vegetation height	Percentage cover at a representative number of monitoring stops	At least 50% of the live leaves/flowering shoots are more than either 5cm or 15cm above ground surface depending on community type	Attribute and target based on O'Neill et al. (in prep.). While grazing may be appropriate in this habitat, excessive grazing can reduce the ability of plant species to regenerate reproductively and maintain species diversity, especially if flowering shoots are cropped during the growing season

Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of monitoring stops	Cover of disturbed bare ground not more than 10%	Attribute and target based on O'Neill et al. (in prep.). While grazing may be appropriate in this habitat, excessive areas of disturbed bare ground may develop due to unsuitable grazing regimes. 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
Physical structure: tufa formations	Percentage cover in local vicinity of a representative number of monitoring stops	Disturbed proportion of vegetation cover where tufa is present is less than 1%	Attribute and target based on O'Neill et al. (in prep.). Heery and Mayes (2012) recorded tufa formation at the base of brown mosses in areas of the habitat in the SAC
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 species of flora and fauna on Red Lists (Byrne et al., 2009; Regan et al., 2010; Lockhart et al., 2012; Wyse Jackson et al., 2016, etc.; see Nelson et al., 2019, 2021). Of note is the presence of marsh pea (<i>Lathyrus palustris</i>) in the habitat in the SAC. This species is extremely scarce in Ireland, with half of its distribution occurring along the River Shannon (Heery and Mayes, 2012)
Transitional areas between fen and adjacent habitats	Hectares; distribution	Maintain adequate transitional areas to support/protect the alkaline fen habitat and the services it provides	In many cases, fens transition to other wetland habitats. It is important that the transitional areas between fens and other habitats are maintained in as natural condition as possible in order to protect the functioning of the fen. Alkaline fen represents about a third of the terrestrial land that is within the part of the SAC south of Portumna Bridge and west of the river. The rest of this terrestrial area is unimproved/semi-improved grassland and there is c.2ha of reedswamp vegetation within the fen itself (Heery and Mayes, 2012)

Conservation Objectives for : River Shannon Callows SAC [000216]

8240 Limestone pavements*

To maintain the favourable conservation condition of Limestone pavements* in River Shannon Callows 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	Limestone pavements* in River Shannon Callows SAC occurs at Clorhane, which represents the only area of limestone pavement in Co. Offaly and one of relatively few located east of the Shannon. The limestone pavement is predominantly wooded with mature hazel (<i>Corylus avellana</i>), interspersed with some exposed pavement and calcareous grassland and scrub (NPWS internal files). Wilson and Fernandez (2013) mapped the indicative area of limestone pavement, including mosaics with grassland, scrub and woodland, as 38.7ha (map 5). As part of the National Survey of Native Woodlands (NSNW), part of the hazel wood was surveyed by Perrin et al. (2008) in the sub-site Clorhane Wood (NSNW site code 35)
Distribution	Occurrence	No decline. Map 5 shows the indicative distribution, including mosaics with other habitats	See the notes for habitat area above. Distribution based on Wilson and Fernandez (2013). This habitat can be split into exposed pavement and wooded pavement. In River Shannon Callows SAC, the majority of the habitat present is wooded pavement
Vegetation composition: positive indicator species	Number at a representative number of monitoring stops	At least seven positive indicator species present	Positive indicator species for exposed and wooded pavement are listed in Wilson and Fernandez (2013). Positive indicator species occurring in the open pavement in the SAC include the ferns hart's-tongue (<i>Asplenium scolopendrium</i>), wall-rue (<i>A. ruta-muraria</i>) and maidenhair spleenwort (<i>A. trichomanes</i>). Positive indicator species occurring in the wooded pavement include hazel (<i>Corylus avellana</i>), blackthorn (<i>Prunus spinosa</i>), bramble (<i>Rubus fruticosus</i> agg.), primrose (<i>Primula vulgaris</i>), common dog-violet (<i>Viola riviniana</i>), wood sorrel (<i>Oxalis acetosella</i>), herb-robert (<i>Geranium robertianum</i>) and the mosses <i>Neckera crispa</i> and <i>Hylocomium brevirostre</i> (Farrell, 1972; Perrin et al., 2008; NPWS internal files)
Vegetation composition: bryophyte layer	Percentage at a representative number of monitoring stops	Bryophyte cover at least 50% on wooded pavement	Attribute and target based on Wilson and Fernandez (2013)
Vegetation composition: negative indicator species	Percentage at a representative number of monitoring stops	Collective cover of negative indicator species on exposed pavement not more than 1%	Negative indicator species are listed in Wilson and Fernandez (2013). Negative indicator species for wooded pavement overlap with non-native species (below)
Vegetation composition: non-native species	Percentage at a representative number of monitoring stops	Cover of non-native species not more than 1% on exposed pavement; on wooded pavement not more than 10% with no regeneration	Attribute and target based on Wilson and Fernandez (2013). European larch (<i>Larix decidua</i>), Sitka spruce (<i>Picea sitchensis</i>) and Norway spruce (<i>Picea abies</i>) have been planted sparsely throughout the Clorhane Wood sub-site (NSNW site code 35) (Perrin et al., 2008)
Vegetation composition: scrub	Percentage at a representative number of monitoring stops	Scrub cover no more than 25% of exposed pavement	Attribute and target based on Wilson and Fernandez (2013)
Vegetation composition: bracken cover	Percentage at a representative number of monitoring stops	Bracken (<i>Pteridium aquilinum</i>) cover no more than 10% on exposed pavement	Attribute and target based on Wilson and Fernandez (2013)
Vegetation structure: woodland canopy	Percentage at a representative number of monitoring stops	Canopy cover on wooded pavement at least 30%	Attribute and target based on Wilson and Fernandez (2013)

Vegetation structure: dead wood	Occurrence in a representative number of monitoring stops	Sufficient quantity of dead wood on wooded pavement to provide habitat for saproxylic organisms	Dead wood is a valuable resource and an integral part of a healthy, functioning woodland ecosystem
Physical structure: disturbance	Occurrence in a representative number of monitoring stops	No evidence of grazing pressure on wooded pavement	Attribute and target based on Wilson and Fernandez (2013)
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 listed in the Flora (Protection) Order, 2015 and species of flora and fauna on red data lists (Byrne et al., 2009; Regan et al., 2010; Lockhart et al., 2012; Wyse Jackson et al., 2016, etc.; see Nelson et al., 2019, 2021) and other rare or localised species, as well as archaeological and geological features, which often support distinctive species. The Vulnerable green-winged orchid (<i>Anacamptis morio</i>) (Wyse Jackson et al., 2016) has been recorded in open pavement on short grassy turf in the SAC (NPWS internal files)

Conservation Objectives for : River Shannon Callows SAC [000216]

91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)*

To maintain the favourable conservation condition of Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* in River Shannon Callows SAC, which is defined by the following list of attributes and targets:

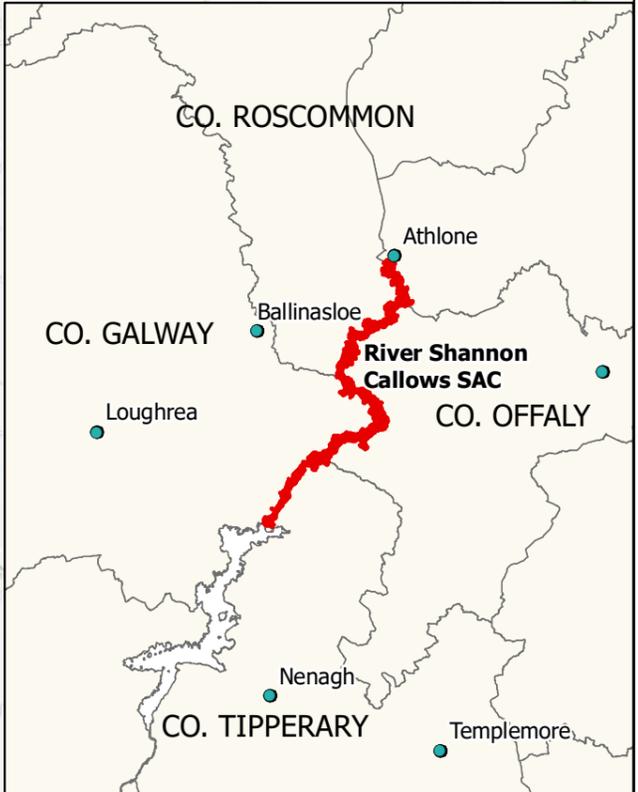
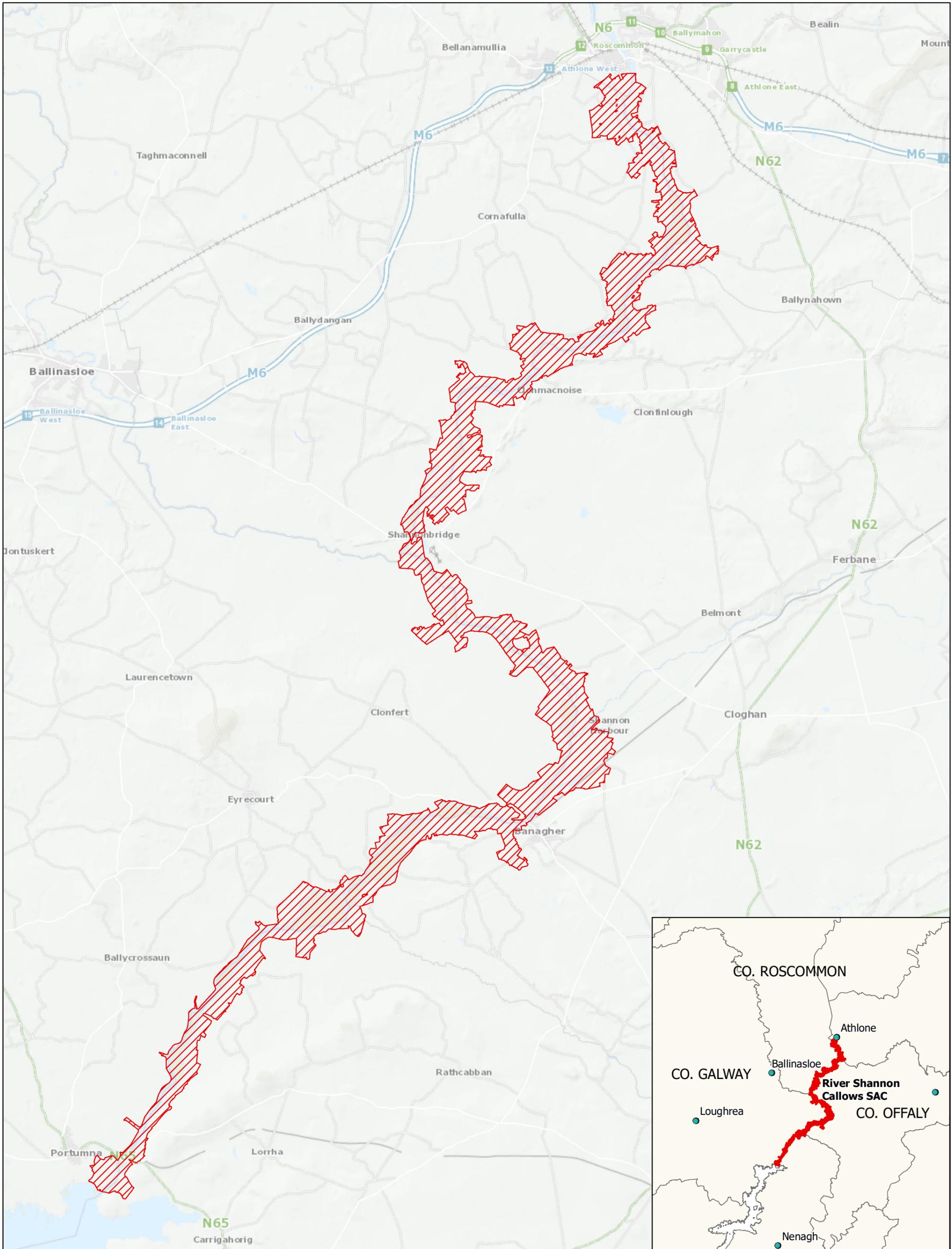
Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes. See map 6	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)* is present in River Shannon Callows SAC. Alluvial woodland has been identified at numerous locations along the Shannon from the islands below the ESB weir at Meelick to Madden's Island upstream. A small area of Alluvial woodland (1.1ha) has been mapped on two river islands at Madden's Island (Martin and Brophy, 2017). However, with the exception of Madden's Island, the habitat has not been mapped in detail and thus the current total habitat area within the SAC is unknown. The habitat is found on riverbanks and alluvial islands which are prone to periodic flooding (NPWS internal files). It is important to note that further areas of the habitat may be present elsewhere within the SAC and other documented areas of wet woodland, e.g. around Bishop's Island, Banagher and Clonburren (NPWS internal files), may also correspond to this priority Annex I woodland type
Habitat distribution	Occurrence	No decline, subject to natural processes. The surveyed woodland area is shown on map 6	Distribution based on Martin and Brophy (2017). See the notes on habitat area above. It is important to note that further unsurveyed areas may be present within the SAC
Woodland size	Hectares	Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size	The target areas for individual woodlands aim to reduce habitat fragmentation and benefit those species requiring 'deep' woodland conditions (Peterken, 2002). In some cases, topographical constraints may restrict expansion
Woodland structure: cover and height	Percentage; metres; centimetres	Total canopy cover at least 30%; median canopy height at least 7m; native shrub layer cover 10-75%; native herb/dwarf shrub layer cover at least 20% and height at least 20cm; bryophyte cover at least 4%	The target aims for a diverse structure with a canopy containing mature trees, shrub layer with semi-mature trees and shrubs, and well-developed field layer (herbs, graminoids and dwarf shrubs) and ground layer (bryophytes). Assessment criteria are described in Daly et al. (in prep.) and O'Neill and Barron (2013)
Woodland structure: community diversity and extent	Hectares	Maintain diversity and extent of community types	Described in Perrin et al. (2008). See also the Irish Vegetation Classification (Perrin, 2016; www.biodiversityireland.ie/projects/ivc-classificationexplorer)
Woodland structure: natural regeneration	Seedling: sapling: pole ratio	Seedlings, saplings and pole age-classes of target species for 91E0* woodlands and other native tree species occur in adequate proportions to ensure survival of woodland canopy	The target species for 91E0* are alder (<i>Alnus glutinosa</i>), ash (<i>Fraxinus excelsior</i>) and willows (<i>Salix</i> spp.). Assessment criteria are described in Daly et al. (in prep.) and O'Neill and Barron (2013)
Hydrological regime: flooding depth/height of water table	Metres	Appropriate hydrological regime necessary for maintenance of alluvial vegetation	Periodic flooding is essential to maintain alluvial woodlands along river and lake floodplains, but not for woodland around springs/seepage areas. The riverbanks and alluvial islands where the habitat is known to occur in the SAC are prone to periodic flooding (NPWS internal files)

Woodland structure: dead wood	Number per hectare	At least 19 stems/ha of dead wood at least 20cm diameter	Dead wood is a valuable resource and an integral part of a healthy, functioning woodland ecosystem. Dead wood comprises old senescent trees, standing dead trees, fallen dead wood (including large branches) and rotten stumps of any tree species. Assessment criteria are described in Daly et al. (in prep.) and O'Neill and Barron (2013)
Woodland structure: veteran trees	Number per hectare	No decline	Veteran trees are important habitats for bryophytes, lichens, saproxylic organisms and some bird species. Their retention is important to ensure continuity of habitats/niches and propagule sources
Woodland structure: indicators of local distinctiveness	Occurrence; population size	No decline in distribution and, in the case of red listed and other rare or localised species, population size	Includes ancient or long-established woodlands (see Perrin and Daly, 2010), archaeological and geological features as well as red listed and other rare or localised species. Buckthorn (<i>Rhamnus cathartica</i>) is present within Alluvial woodland in the Meelick area, with some individuals being remarkably large (NPWS internal files)
Woodland structure: indicators of overgrazing	Occurrence	All five indicators of overgrazing absent	There are five indicators of overgrazing within 91E0*: topiary effect on shrubs and young trees, browse line on mature trees, abundant dung, severe recent bark stripping, and trampling (Daly et al., in prep.)
Vegetation composition: native tree cover	Percentage	No decline. Native tree cover at least 90% of canopy; target species cover at least 50% of canopy	The target species for 91E0* are alder (<i>Alnus glutinosa</i>), ash (<i>Fraxinus excelsior</i>) and willows (<i>Salix</i> spp.) (Daly et al., in prep.; O'Neill and Barron, 2013)
Vegetation composition: typical species	Occurrence	At least 1 target species for 91E0* woodlands present; at least 6 positive indicator species for 91E0* woodlands present	A variety of typical native species should be present, depending on woodland type. The target species for 91E0* are alder (<i>Alnus glutinosa</i>), ash (<i>Fraxinus excelsior</i>) and willows (<i>Salix</i> spp.). Positive indicator species for 91E0* are listed in Daly et al. (in prep.) and O'Neill and Barron (2013)
Vegetation composition: negative indicator species	Occurrence	Negative indicator species cover not greater than 10%; regeneration of negative indicator species absent	Negative indicator species (i.e. any non-native species, including herbaceous species) should be absent or under control. In general, the following are the most common non-native invasive species in 91E0* woodlands: sycamore (<i>Acer pseudoplatanus</i>), beech (<i>Fagus sylvatica</i>) and horse-chestnut (<i>Aesculus hippocastanum</i>) (Daly et al., in prep.)
Vegetation composition: problematic native species	Percentage	Cover of common nettle (<i>Urtica dioica</i>) less than 75%	Common nettle (<i>Urtica dioica</i>) is a positive indicator species for 91E0* but, in some cases, it may become excessively dominant. Increased light and nutrient enrichment are factors which favour proliferation of common nettle (Daly et al., in prep.)

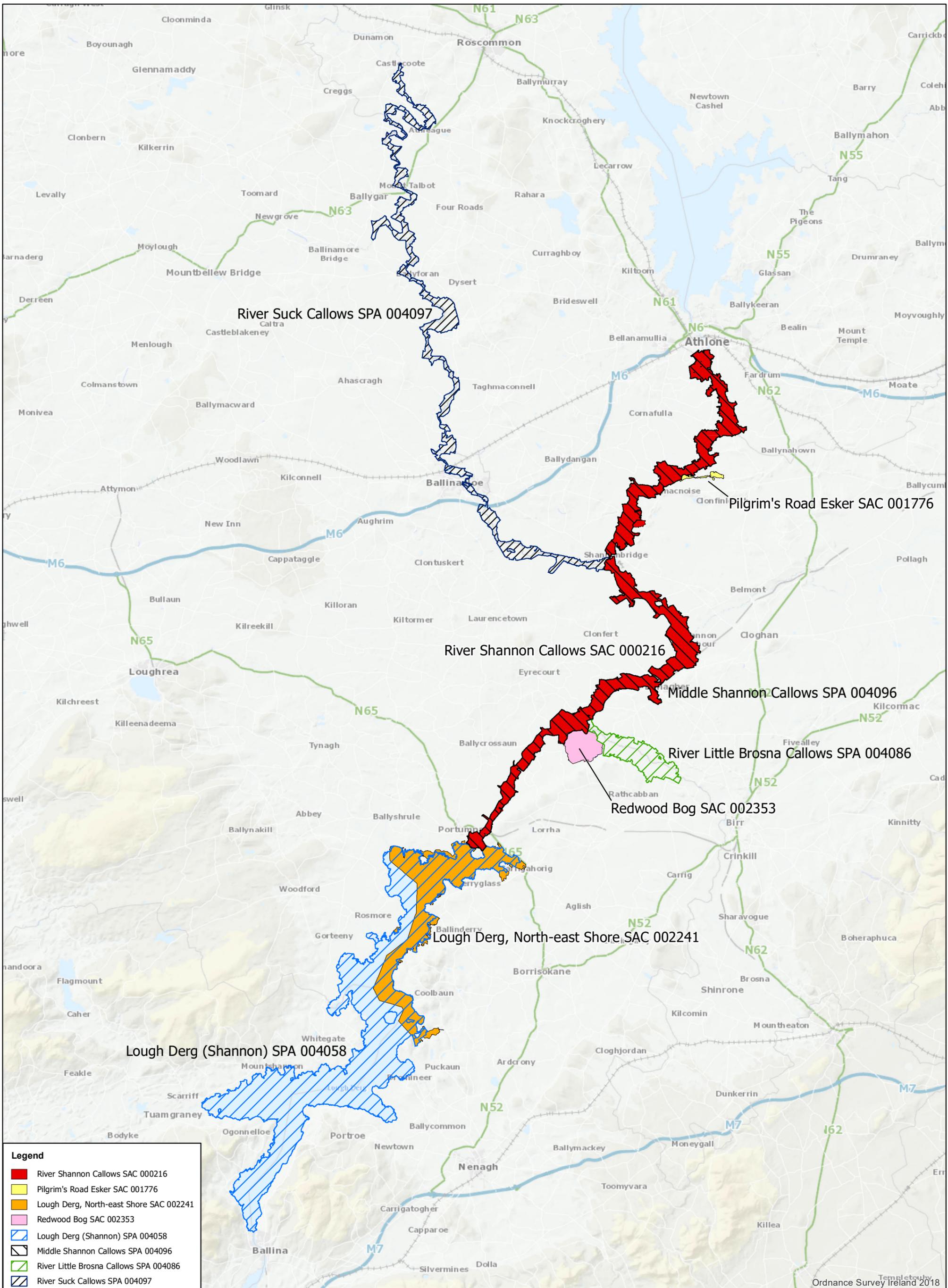
Conservation Objectives for : River Shannon Callows SAC [000216]**1355 Otter *Lutra lutra***

To maintain the favourable conservation condition of Otter (*Lutra lutra*) in River Shannon Callows SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution	Percentage positive survey sites	No significant decline	Measure based on standard otter survey technique. Favourable Conservation Status (FCS) target, based on 1980/81 survey findings, is 88% in SACs. Current range is estimated at 93.6% (Reid et al., 2013)
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 282.1ha	No field survey. Areas mapped to include 10m terrestrial buffer along shorelines and river banks identified as critical for otters (NPWS, 2007)
Extent of freshwater (river) habitat	Kilometres	No significant decline. Length mapped and calculated as 146.7km	No field survey. River length calculated on the basis that otters will utilise freshwater habitats from estuary to headwaters (Chapman and Chapman, 1982)
Couching sites and holts	Number	No significant decline	Otters need lying up areas throughout their territory where they are secure from disturbance (Kruuk and Moorhouse, 1991; Kruuk, 2006)
Fish biomass available	Kilograms	No significant decline	Broad diet that varies locally and seasonally, but dominated by fish, in particular salmonids, eels and sticklebacks in freshwater (Bailey and Rochford, 2006; Reid et al., 2013)
Barriers to connectivity	Number	No significant increase	Otters will regularly commute across stretches of open water up to 500m e.g. between the mainland and an island; between two islands; across an estuary (De Jongh and O'Neill, 2010). It is important that such commuting routes are not obstructed

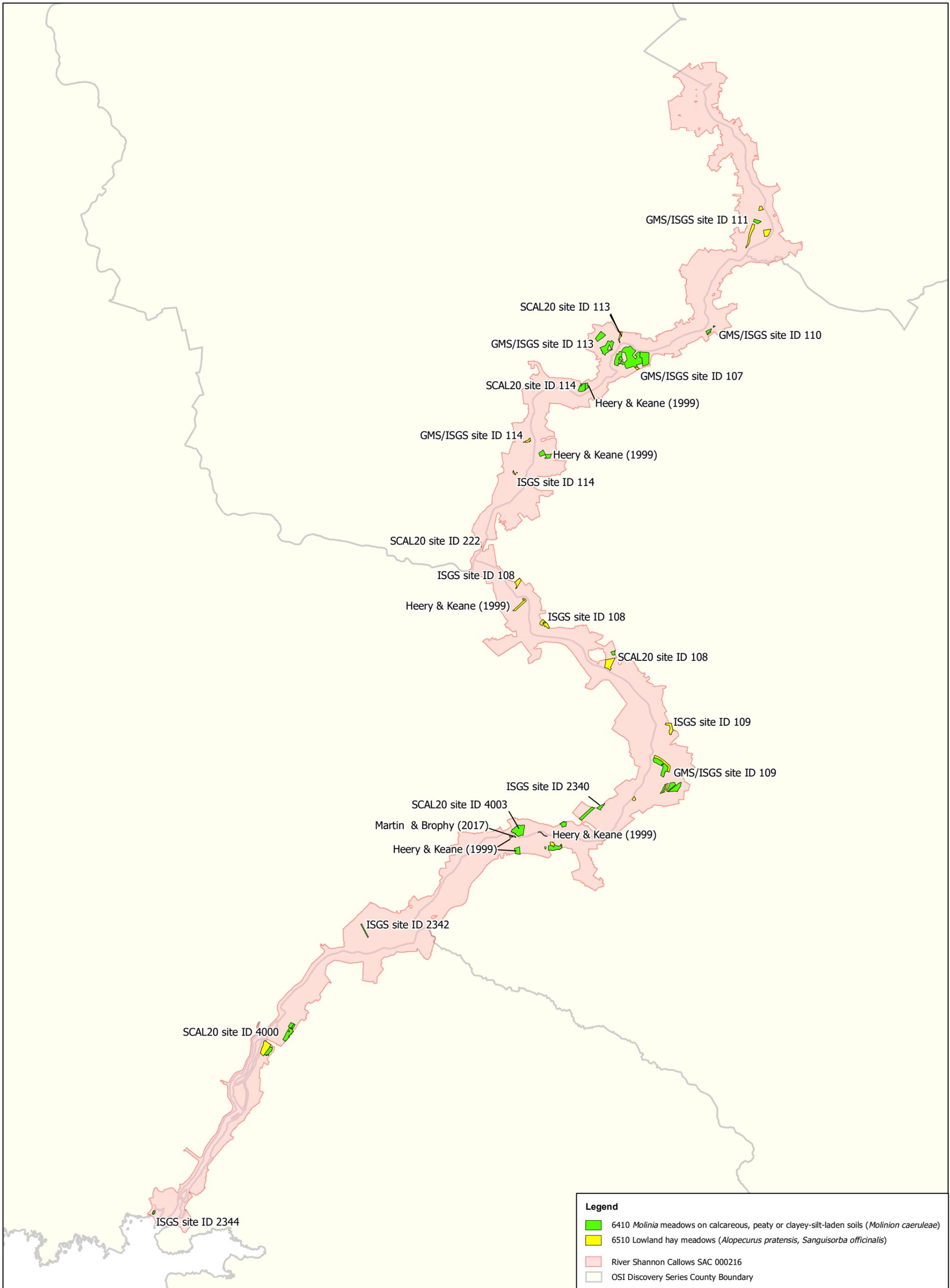


Legend
 River Shannon Callows SAC 000216



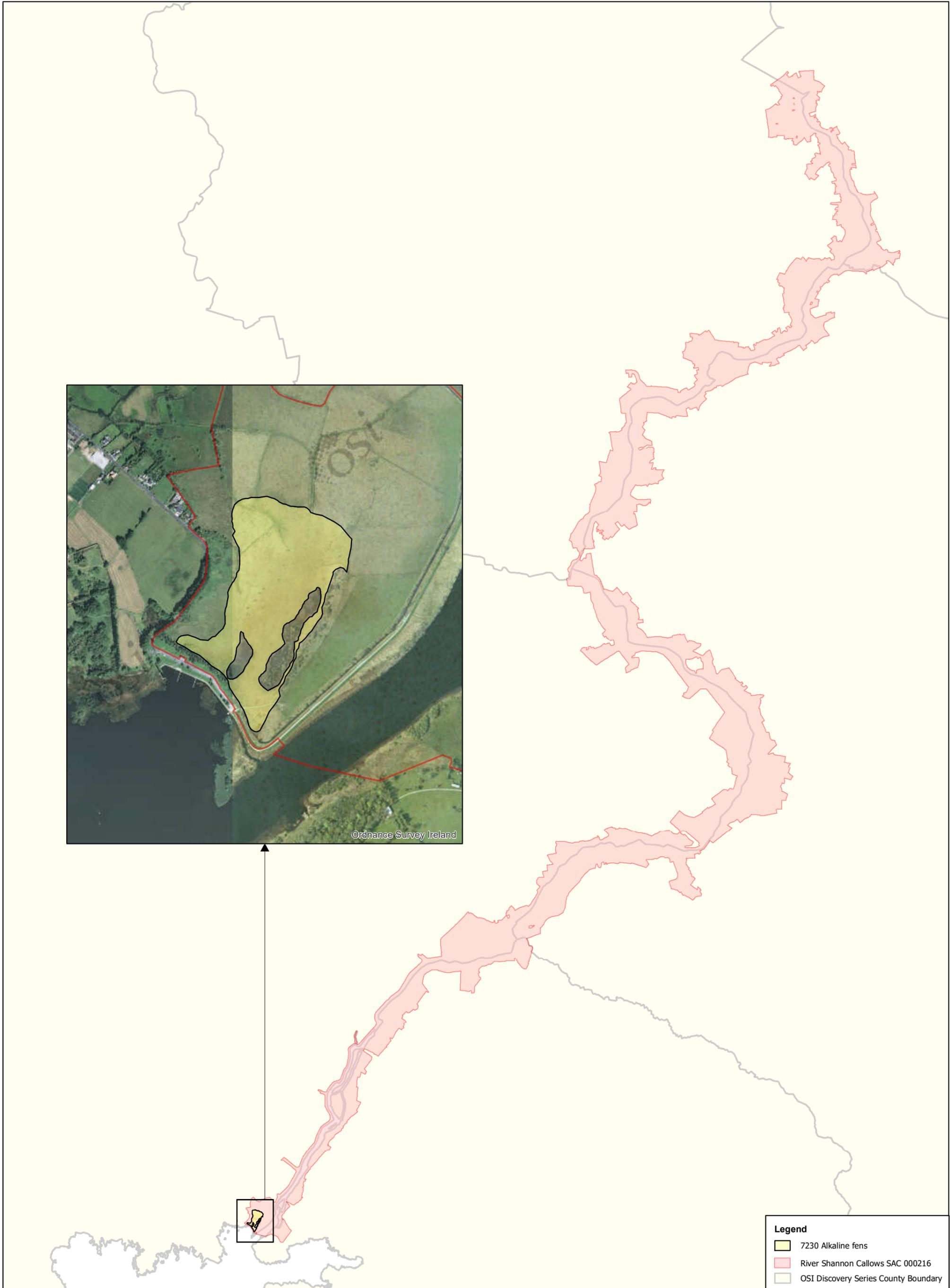
Legend

- River Shannon Callows SAC 000216
- Pilgrim's Road Esker SAC 001776
- Lough Derg, North-east Shore SAC 002241
- Redwood Bog SAC 002353
- Lough Derg (Shannon) SPA 004058
- Middle Shannon Callows SPA 004096
- River Little Brosna Callows SPA 004086
- River Suck Callows SPA 004097



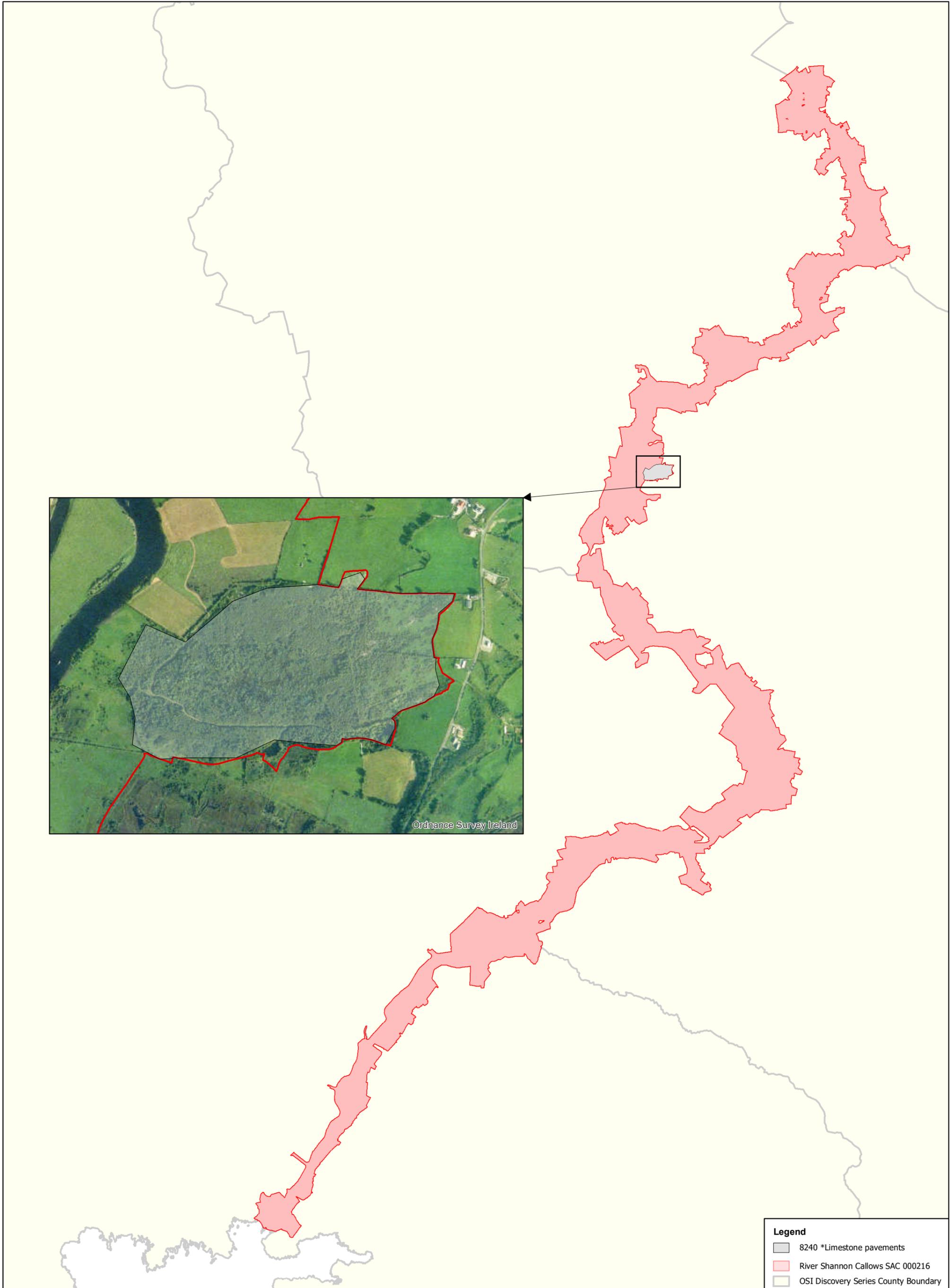
Legend

- 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinia caeruleae*)
- 6510 Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)
- River Shannon Callows SAC 000216
- OSI Discovery Series County Boundary



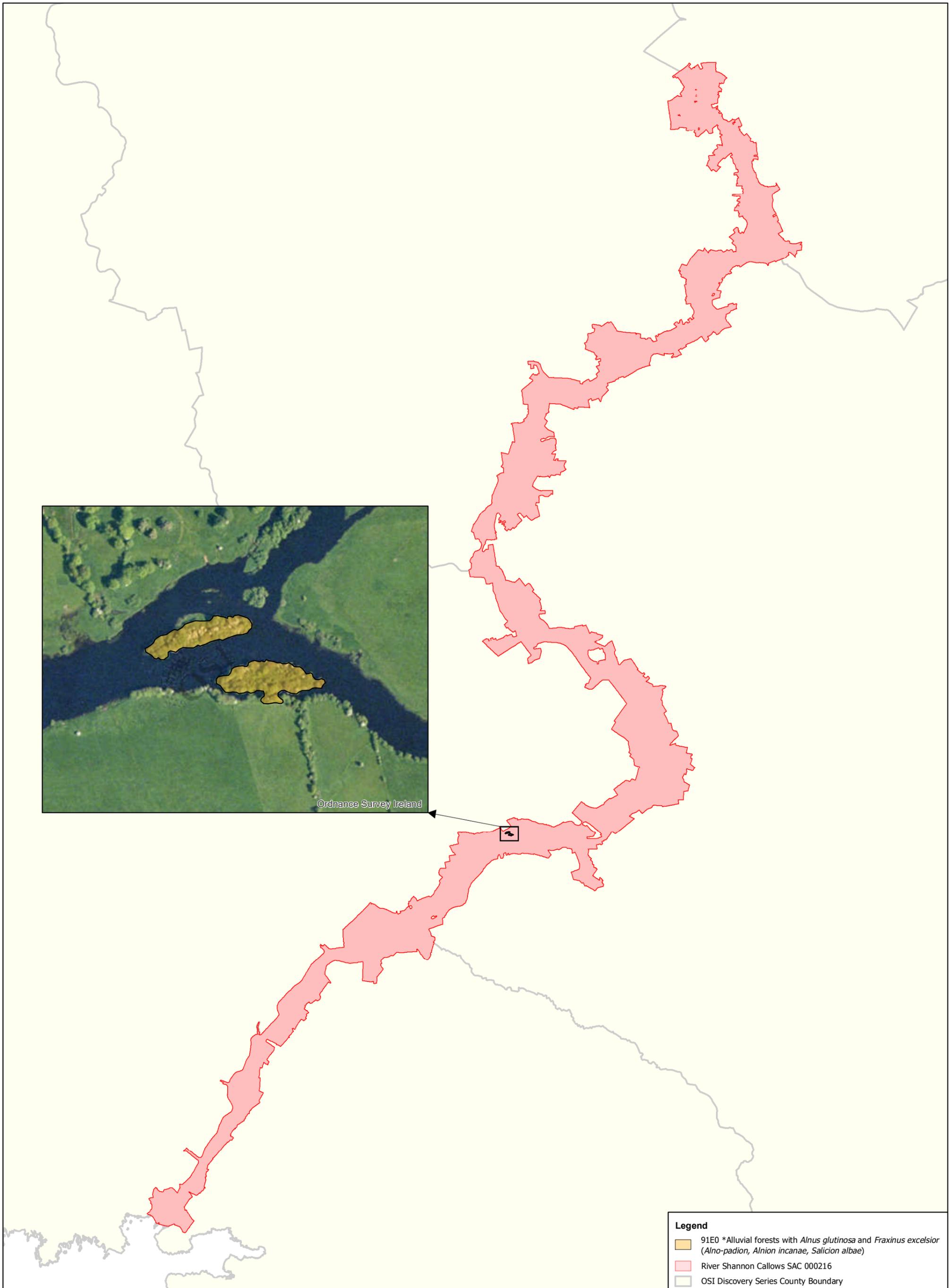
Legend

- 7230 Alkaline fens
- River Shannon Callows SAC 000216
- OSI Discovery Series County Boundary



Legend

- 8240 *Limestone pavements
- River Shannon Callows SAC 000216
- OSI Discovery Series County Boundary



Legend

- 91E0 *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-padion*, *Alnion incanae*, *Salicion albae*)
- River Shannon Callows SAC 000216
- OSI Discovery Series County Boundary



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE IE0000216
SITENAME River Shannon Callows SAC

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- [2. SITE LOCATION](#)
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- [7. MAP OF THE SITE](#)

1. SITE IDENTIFICATION

1.1 Type B	1.2 Site code IE0000216	Back to top
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1.3 Site name

River Shannon Callows SAC

1.4 First Compilation date 2000-10	1.5 Update date 2021-10
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1.6 Respondent:

Name/Organisation:	National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
Address:	90 King Street North, Dublin 7, D07 N7CV, Ireland
Email:	datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site classified as SPA:	0000-00
National legal reference of SPA designation	No data
Date site proposed as SCI:	2002-01
Date site confirmed as SCI:	No data
Date site designated as SAC:	2021-09
National legal reference of SAC designation:	473/2021

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

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Longitude -8.0216 Latitude 53.2535

2.2 Area [ha]:

2.3 Marine area [%]

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

IE01	Border, Midland and Western
IE02	Southern and Eastern
IE01	Border, Midland and Western

2.6 Biogeographical Region(s)

Atlantic (%)

3. ECOLOGICAL INFORMATION

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3.1 Habitat types present on the site and assessment for them

Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C		
						Representativity	Relative Surface	Conservation	Global
6410 B			117.13		M	A	C	A	A
6510 B			117.13		M	A	B	A	A
7230 B			15.03		G	B	C	B	B
8240 B			58.56		M	B	C	B	B
91E0 B			58.56		M	B	C	B	C

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- **Cover:** decimal values can be entered
- **Caves:** for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site					Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D. qual.	A B C D	A B C		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A056	Anas clypeata			p	12	12	p		G	D			
B	A052	Anas crecca			w	288	288	i		G	C	A	C	C
B	A050	Anas penelope			w	2830	2830	i		G	B	A	C	B
B	A395	Anser albifrons flavirostris			w	21	21	i		G	C	C	C	C
B	A149	Calidris alpina			w	675	675	i		G	B	A	C	B
B	A082	Circus cyaneus			c	1	5	i		G	C	B	C	C
B	A082	Circus cyaneus			w	1	5	i		G	C	B	C	C
B	A113	Coturnix coturnix			r	1	15	i		G	A	A	B	A

B	A122	Crex crex			r	66	66	p		G	A	A	B	C
B	A037	Cygnus columbianus bewickii			w	22	22	i		G	A	B	C	C
B	A038	Cygnus cygnus			w	627	627	i		G	B	A	C	B
B	A098	Falco columbarius			p	1	1	p		G	C	C	C	C
B	A153	Gallinago gallinago			r	323	323	p		G	C	B	C	A
B	A156	Limosa limosa			w	664	664	i		G	A	A	C	A
B	A156	Limosa limosa			r	2	2	p		G	A	A	C	A
B	A290	Locustella naevia			r	10	10	p		G	C	B	C	C
M	1355	Lutra lutra			p				P	DD	C	B	C	B
B	A160	Numenius arquata			w	129	129	i		G	C	B	C	A
B	A160	Numenius arquata			r	45	45	p		G	C	B	C	A
B	A140	Pluvialis apricaria			w	7265	7265	i		G	B	A	C	B
B	A162	Tringa totanus			r	308	308	p		G	B	B	C	A
B	A142	Vanellus vanellus			r	289	289	p		G	B	A	C	A
B	A142	Vanellus vanellus			w	11126	11126	i		G	B	A	C	A

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species			Population in the site					Motivation						
Group	CODE	Scientific Name	S	NP	Size		Unit	Cat.	Species Annex		Other categories			
					Min	Max		C R V P	IV	V	A	B	C	D
B		Cygnus olor			537	537	i							X
P		Groenlandia densa						R			X			
P		Hordeum secalinum						R			X			
P		Lathyrus palustris						C						X
M		Lepus timidus hibernicus						P					X	
M		Lepus timidus hibernicus						P				X		
M		Lepus timidus hibernicus						P			X			
P		Orchis morio						R			X			
A		Rana temporaria						P					X	
A		Rana temporaria						P			X			

- **Group:** A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles
- **CODE:** for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)

- **Unit:** i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see [reference portal](#))
- **Cat.:** Abundance categories: C = common, R = rare, V = very rare, P = present
- **Motivation categories:** IV, V: Annex Species (Habitats Directive), A: National Red List data; B: Endemics; C: International Conventions; D: other reasons

4. SITE DESCRIPTION

4.1 General site character

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Habitat class	% Cover
N06	13.0
N16	1.0
N14	1.0
N09	1.0
N07	3.0
N23	1.0
N10	80.0
Total Habitat Cover	100

Other Site Characteristics

The River Shannon is the largest river in Ireland, and its central route drains a large percentage of the whole country. It has proved too powerful to be tamed by drainage schemes in the past, and this central section is still free to flood the surrounding lowlands in winter. It is a well-used agricultural resource of low intensity during the summer. This floodplain functions as a semi-natural meadow/marsh habitat (used for grazing or hay-making). There is an extensive system of surface drains. The site is linear, running for about 50 km, at an average width of about 0.75 km (but reaching 1.5 km in several places). For about half its length it borders raised bogs, most of which are in the process of large-scale peat harvesting. Esker ridges lie adjacent to the callows in some places. There are areas of both relict and active levees. A weir at Meelick divides the flooding regime. Ecological diversity is caused and maintained by multiple ownership, variation in the flooding regime due to the topography of the callows, hundreds of kilometres of drainage ditches, differences in the amount of peat and alluvium in the soils and by the extensive nature of the site. The main habitat on the site is humid grassland managed for hay and pasture and these areas have the same management regime as the lowland hay meadows and Molinia meadows.

4.2 Quality and importance

This site is the largest area of semi-natural floodplain grassland in Ireland and Britain and has very many features of a natural ecosystem. It has been placed among the most 'natural' floodplains in western Europe. It is subject to regular and prolonged annual winter flooding. Wooded alluvial islands which flood regularly occur at one location and a rich fen and reedswamp occur near Portumna. A number of Red Data Book and scarce plant species occur on the site, the scarce species including *Leucojum aestivum*, *Sium latifolium*, *Botrychium lunaria* and *Lemna gibba*. In addition, the site contains a very wide variety of native plant species. A small area of limestone pavement at Clorhane is of particular importance as it is the only example of this habitat in the region. Along with its tributary the Little Brosna (designated separately) this is one of the great waterfowl sites in Ireland, with huge numbers of a wide range of species occurring in winter, with a mean peak of 34,985 waterbirds recorded from 1995/96 to 1999/00. This is the third highest for an inland site in Ireland. The highest is the Little Brosna, which is an extension to the Middle Shannon Callows. Only three estuarine sites are higher. In 1996/97 one species was of International Importance (Whooper Swan) and six species were of National Importance. A small flock of *Anser albifrons flavirostris* regularly use a few locations on the site and these are part of the Internationally Important flocks of both the Little Brosna and the River Suck. It is one of very few significant inland sites in Britain or Ireland for *Calidris alpina*. It is the top site in the country for *Cygnus olor* and close to that for *Cygnus cygnus*, *Vanellus vanellus* and *Pluvialis apricaria*. The E.U. Birds Directive Annex I species, *Circus cyaneus*, regularly uses the site for hunting in autumn and winter. Perhaps even more important are its nesting *Crex crex*, *Coturnix coturnix* and breeding waders. In 1987, 1204 pairs of breeding waders were recorded (including adjacent parts of the Shannon), mainly *Vanellus vanellus*, *Gallinago gallinago*, *Numenius arquata* and *Tringa totanus*. *Crex crex* has one of its last strongholds here with 70 and 66 calling birds present in 1998 and 1999 respectively. The Shannon Callows is one of the few areas in Ireland where *Coturnix coturnix* breeds. Numbers vary between years but up to 14 males have been heard. There are high populations of ground-nesting passerines, such as *Alauda arvensis*, *Anthus pratensis*, *Locustella naevia* and *Emberiza schoeniclus* on the site. The River Shannon Callows is a breeding site for two Red Data Book waterbird species: *Limosa limosa islandica* and *Anas clypeata*. The Red Data Book species *Anas acuta* has also bred on the site though its current status is unknown. The E.U. Birds Directive Annex I species *Falco columbarius*, bred on the site in 1996. Large rivers flowing unfettered through lowland floodplains are now rare anywhere in Europe. This river, and its associated habitats, are of the highest conservation importance.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts	Positive Impacts

Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
M	B02.02		i
H	A04.03		i
M	A08		i
L	G05.01		i
H	A07		i
H	J02.04.01		i
L	J02.01		i
L	A10.01		i
L	B06		i
L	C01.03.02		i
M	J02.11		i
M	J02.05.02		i
M	K03.04		b
L	A04.02.05		i
M	A04.01		i
L	J02.05		i
L	G01		i
L	D01.01		i
H	A03.03		i
L	F03.01		b

Rank	Activities, management [code]	Pollution (optional) [code]	inside /outside [i o b]
L	J02.05		i
H	A03		i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification, T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.4 Ownership (optional)

4.5 Documentation

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5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

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5.2 Relation of the described site with other sites:

5.3 Site designation (optional)

6. SITE MANAGEMENT

6.1 Body(ies) responsible for the site management:

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6.2 Management Plan(s):

An actual management plan does exist:

- Yes
 No, but in preparation
 No

6.3 Conservation measures (optional)

7. MAP OF THE SITES

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INSPIRE ID:

Map delivered as PDF in electronic format (optional)

Yes No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).



Site Name: River Shannon Callows SAC

Site Code: 000216

The River Shannon Callows is a long and diverse site which consists of seasonally flooded, semi-natural, lowland wet grassland, along and beside the river between the towns of Athlone and Portumna. It is approximately 50 km long and averages about 0.75 km wide (reaching 1.5 km wide in places). Along much of its length the site is bordered by raised bogs (many, but not all, of which are subject to large-scale harvesting), esker ridges and limestone-bedrock hills. The soils grade from silty-alluvial to peat. This site has a common boundary, and is closely associated, with two other sites with similar habitats, River Suck Callows and Little Brosna Callows.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

- | |
|-------------------------------------|
| [6410] <i>Molinia</i> Meadows |
| [6510] Lowland Hay Meadows |
| [7230] Alkaline Fens |
| [8240] Limestone Pavement* |
| [91E0] Alluvial Forests* |
| [1355] Otter (<i>Lutra lutra</i>) |

The River Shannon Callows is mainly composed of lowland wet grassland. Different plant communities occur, depending on elevation, and therefore flooding patterns. Two habitats listed on Annex I of the E.U. Habitats Directive are well-represented within the site – *Molinia* meadows and lowland hay meadows. The former is characterised by the presence of the Meadow Thistle (*Cirsium dissectum*) and Purple Moor-grass (*Molinia caerulea*), while typical species in the latter include Meadow Fescue (*Festuca pratensis*), Rough Meadow-grass (*Poa trivialis*), Downy Oat-grass (*Avenula pubescens*), Common Knapweed (*Centaurea nigra*), Ribwort Plantain (*Plantago lanceolata*) and Common Sorrel (*Rumex acetosa*). In places these two habitats grade into one another.

Low-lying areas of the callows with more prolonged flooding are characterised by Floating Sweet-grass (*Glyceria fluitans*), Marsh Foxtail (*Alopecurus geniculatus*) and wetland herbs such as Yellow-cress (*Rorippa* spp.), Water Forget-me-not (*Myosotis scorpioides*) and Common Spike-rush (*Eleocharis palustris*). Most of the callows consist of a plant community characterised by Creeping Bent (*Agrostis stolonifera*), Brown Sedge (*Carex disticha*), Common Sedge (*Carex nigra*), and herbs such as Marsh-marigold (*Caltha palustris*) and Marsh Bedstraw (*Galium palustre*), while the more

elevated and peaty areas are characterised by low-growing sedges, particularly Yellow Sedge (*Carex flava* agg.) and Star Sedge (*Carex echinata*). All these communities are very diverse in their total number of plant species, and include the scarce species Meadow-rue (*Thalictrum flavum*), Summer Snowflake (*Leucojum aestivum*) and Marsh Stitchwort (*Stellaria palustris*).

A further two Annex I habitats, both listed with priority status, have a minor though important presence within the site. Alluvial forest occurs on a series of alluvial islands just below the ESB weir near Meelick. Several of the islands are dominated by well-grown woodland consisting mainly of Ash (*Fraxinus excelsior*) and Willows (*Salix* spp.). The islands are prone to regular flooding from the river.

At Clorhane, an area of limestone pavement represents the only known example in Co. Offaly. It is predominantly colonised by mature Hazel (*Corylus avellana*) woodland, with areas of open limestone and calcareous grassland interspersed. The open limestone pavement comprises bare or moss-covered rock, or rock with a very thin calcareous soil cover supporting a short grassy turf. The most notable plant in the grassy area is a substantial population of Green-winged Orchid (*Orchis morio*), which occurs with such species as Sweet Vernal-grass (*Anthoxanthum odoratum*), Quaking-grass (*Briza media*), sedges (*Carex caryophyllea*, *C. flacca*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Common Knapweed (*Centaurea nigra*), and Ribwort Plantain (*Plantago lanceolata*). Ferns associated with the cracks in the pavement include *Asplenium trichomanes*, *A. ruta-muraria*, *A. adiantum-nigrum* and *Polypodium australe*. Bryophytes include *Grimmia apocarpa* and *Orthotrichum* cf. *anomalum*. Anthills are common within the open grassland. The Hazel wood is well-developed and has herbaceous species such as Primrose (*Primula vulgaris*), Common Dog-violet (*Viola riviniana*), Wood-sorrel (*Oxalis acetosella*) and Herb-Robert (*Geranium robertianum*). The wood is noted for its luxuriant growth of epiphytic mosses and liverworts, with such species as *Neckera crispa* and *Hylocomium brevirostre*. Yew (*Taxus baccata*) occurs in one area.

Other habitats of smaller area but also of importance within the site are lowland dry grassland, drainage ditches, freshwater marshes and reedbeds. The dry grassland areas, especially where they exist within hay meadows, are species-rich, and of two main types: calcareous grassland on glacial material, and dry grassland on levees of river alluvium. The former can contain many orchid species, Cowslip (*Primula veris*), abundant Adder's-tongue (*Ophioglossum vulgatum*) and Spring-sedge (*Carex caryophyllea*), and both contain an unusually wide variety of grasses, including False Oat-grass (*Arrhenatherum elatius*), Yellow Oat-grass (*Trisetum flavescens*), Meadow Foxtail (*Alopecurus pratense*), and Meadow Brome (*Bromus commutatus*). In places Summer Snowflake also occurs.

Good quality habitats on the edge of the callows included in the site are wet broadleaved semi-natural woodland dominated by both Downy Birch (*Betula pubescens*) and Alder (*Alnus glutinosa*), and dry broadleaved woodland dominated by Hazel. There are also areas of raised bog, fen on old cut-away bog with Black Bog-rush (*Schoenus nigricans*), and a 'petrifying stream' with associated species-rich

calcareous flush which supports Yellow Sedge (*Carex lepidocarpa*), Blunt-flowered Rush (*Juncus subnodulosus*) and Stoneworts (*Chara* spp.).

Immediately south of Portumna Bridge and south east of the town of Portumna the area of low-lying terrestrial land west of the river comprises a large area of the Annex I habitat alkaline fen. The fen comprises a complex of rich-fen plant communities. Sedges (*Carex lasiocarpa*, *Carex acutiformis*) and Bogbean (*Menyanthes trifoliata*) dominate parts of the fens while other small sedges are common throughout. The orchids Early Marsh Orchid (*Dactylorhiza incarnata*), Western Marsh Orchid (*D. majalis*) and Marsh Helleborine (*Epipactis palustris*) and the red-listed plant species Marsh Pea (*Lathyrus palustris*) have been recorded within the fen.

Two species which are legally protected under the Flora (Protection) Order, 2015, occur in the site - Opposite-leaved Pondweed (*Groenlandia densa*) in drainage ditches, and Meadow Barley (*Hordeum secalinum*) on dry alluvial grassland. This is one of only two known inland sites for Meadow Barley in Ireland. The Red Data Book plant Green-winged Orchid is known from dry calcareous grasslands within the site.

The site is of international importance for wintering waterfowl as numbers regularly exceed the 20,000 threshold (mean of 34,985 for five winters 1994/94-1998/99). Of particular note is an internationally important population of Whooper Swans (287). A further five species have populations of national importance (all figures are means for five winters 1995/96-1999/00): Mute Swan (349), Wigeon (2972), Golden Plover (4254), Lapwing (11578) and Black-tailed Godwit (388). Species which occur in numbers of regional or local importance include Bewick's Swan, Tufted Duck, Dunlin, Curlew and Redshank. The population of Dunlin is notable as it is one of the few regular inland flocks in Ireland. Small flocks of Greenland White-fronted Goose use the Shannon Callows; these are generally associated with larger flocks which occur on the adjacent Little Brosna Callows and River Suck Callows.

Shoveler (an estimated 12 pairs in 1987) and Black-tailed Godwit (Icelandic race) (one or two pairs in 1987) breed within this site. These species are listed in the Red Data Book as being threatened in Ireland. The scarce bird Quail is also known to breed within the area. The callows has at times held over 40% of the Irish population of the globally endangered Corncrake, although numbers have declined in recent years. A total of 66 calling birds were recorded in 1999, but numbers have dropped significantly since then. The total population of breeding waders (Lapwing, Redshank, Snipe and Curlew) in 1987 was one of three major concentrations in Ireland and Britain. The population of breeding Redshank in the site was estimated to be 10% of the Irish population, making it nationally significant. Also, the Annex I species Merlin and Hen Harrier are regularly reported hunting over the callows during the breeding season and in autumn and winter.

This site holds a population of Otter, a species listed on Annex II of the E.U. Habitats Directive, while the Irish Hare, which is listed in the Irish Red Data Book, is a common sight on the callows.

The Shannon Callows are used for summer dry-stock grazing (mostly cattle, with some sheep and a few horses), and permanent hay meadow. About 30 ha is a nature reserve owned by voluntary conservation bodies. The River Shannon is used increasingly for recreational purposes with coarse angling and boating accounting for much of the visitor numbers. Intermittent and scattered damage to the habitats has occurred due to over-deepening of drains and peat silt deposition, water-skiing, ploughing and neglect of hay meadow (or reversion to pasture). However, none of these damaging activities can yet be said to be having a serious impact. Threats to the quality of the site may come from the siting of boating marinas in areas away from centres of population, fertilising of botanically-rich fields, the use of herbicides, reversion of hay meadow to pasture, neglect of pasture and hay meadow, disturbance of birds by boaters, anglers, birdwatchers and the general tourist. The maintenance of generally high water levels in winter and spring benefits all aspects of the flora and fauna, but in this regard, summer flooding is a threat to breeding birds, and may cause neglect of farming.

The Shannon Callows has by far the largest area of lowland semi-natural grassland and associated aquatic habitats in Ireland, and one in which there is least disturbance of natural wetland processes. Botanically, it is extremely diverse with two legally protected species of plants and many scarce species. Excellent examples of two habitats listed on Annex I of the E.U. Habitats Directive occur within the site – *Molinia* meadows and lowland hay meadows with good examples of a further three Annex habitats (two with priority status). In winter the site is internationally important for numbers and species of waterfowl. In spring it feeds large numbers of birds on migration, and in summer it holds very large numbers of breeding waders, rare breeding birds and the endangered Corncrake, as well as a very wide variety of more common grassland and wetland birds. The presence of Otter, an Annex II species, adds further importance to the site.



Conservation objectives for Lough Croan Turlough SPA [004139]

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.

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.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A056	Shoveler	<i>Anas clypeata</i>
A140	Golden Plover	<i>Pluvialis apricaria</i>
A395	Greenland White-fronted Goose	<i>Anser albifrons flavirostris</i>

To acknowledge the importance of Ireland's wetlands to wintering waterbirds, "Wetland and Waterbirds" may be included as a Special Conservation Interest for some SPAs that have been designated for wintering waterbirds and that contain a wetland site of significant importance to one



or more of the species of Special Conservation Interest. Thus, a second objective is included as follows:

Objective: To maintain or restore the favourable conservation condition of the wetland habitat at Lough Croan Turlough SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Citation: NPWS (2022) *Conservation objectives for Lough Croan Turlough SPA [004139]. Generic Version 9.0. Department of Housing, Local Government and Heritage.*



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE IE0004139
SITENAME Lough Croan Turlough SPA

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1. SITE IDENTIFICATION

1.1 Type A	1.2 Site code IE0004139	Back to top
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1.3 Site name

Lough Croan Turlough SPA

1.4 First Compilation date 2005-03	1.5 Update date 2018-09
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1.6 Respondent:

Name/Organisation:	National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
Address:	90 King Street North, Dublin 7, D07 N7CV, Ireland
Email:	datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site classified as SPA:	2010-08
National legal reference of SPA designation	No data

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

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Longitude -8.181129594	Latitude 53.49454641
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2.2 Area [ha]: 151.2603067	2.3 Marine area [%]: 0.0
--------------------------------------	------------------------------------

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

IE01	Border, Midland and Western
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2.6 Biogeographical Region(s)

Atlantic (%)

3. ECOLOGICAL INFORMATION

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3.1 Habitat types present on the site and assessment for them

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site					Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D. qual.	A B C D			
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A054	Anas acuta			w	22	22	i		G	C	B	C	B
B	A056	Anas clypeata			w	157	157	i		G	B	A	C	A
B	A056	Anas clypeata			r	1	1	p		G	C	B	B	C
B	A052	Anas crecca			w	330	330	i		G	C	B	C	C
B	A050	Anas penelope			w	392	392	i		G	C	B	C	C
B	A051	Anas strepera			w	7	7	i		G	C	B	C	C
B	A395	Anser albifrons flavirostris			w	164	164	i		G	C	B	C	B
B	A059	Aythya ferina			r	1	1	p		G	C	B	B	C
B	A038	Cygnus cygnus			w	15	15	i		G	C	B	C	C
B	A160	Numenius arquata			w	93	93	i		G	C	B	C	C
B	A140	Pluvialis apricaria			w	2025	2025	i		G	C	B	C	B
B	A142	Vanellus vanellus			w	661	661	i		G	C	B	C	C

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species					Population in the site				Motivation						
Group	CODE	Scientific Name	S	NP	Size		Unit	Cat.	Species Annex						
					Min	Max			C R V P	IV	V	A	B	C	D
A		Rana temporaria										X			
P		Rorippa islandica										X			

- **Group:** A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles

- **CODE:** for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Unit:** i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see [reference portal](#))
- **Cat.:** Abundance categories: C = common, R = rare, V = very rare, P = present
- **Motivation categories:** **IV, V:** Annex Species (Habitats Directive), **A:** National Red List data; **B:** Endemics; **C:** International Conventions; **D:** other reasons

4. SITE DESCRIPTION

4.1 General site character

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Habitat class	% Cover
N06	60.0
N14	35.0
N10	5.0
Total Habitat Cover	100

Other Site Characteristics

Situated approximately 6 km west of the River Suck in Co. Roscommon, Lough Croan is a linear wetland, aligned north-west/south-east, which lies in a flattish area of glacial till. It is split into two main parts - the east functions as a typical turlough with a wet, swampy centre, the west is a fen, floating places, which also floods in winter. In between, there is undulating ground. Both basins retain some water all year round but there is little overground flow.

4.2 Quality and importance

Lough Croan turlough is an important site for wintering waterfowl. It regularly supports a nationally important population of *Anser albifrons flavirostris*, which is part of the internationally important River Suck population. It also has nationally important populations of *Anas clypeata* and *Pluvialis apricaria*. The *Anas clypeata* population represents a substantial (>5%) proportion of the all-Ireland total. Other species which occur regularly include *Cygnus cygnus*, *Anas crecca*, *Anas acuta* and *Vanellus vanellus*. The turlough also has breeding waterfowl species, most notable *Anas clypeata* and *Aythya ferina*, both rare breeders in Ireland. The wintering waterfowl are monitored annually. Much of the site is a Wildfowl Sanctuary.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
L	A04		i
M	A08		o
M	A08		i

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside /outside [i o b]
L	A04		i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.4 Ownership (optional)

4.5 Documentation

Crowe, O. (2005). Ireland's Wetlands and their Waterbirds: Status and Distribution. BirdWatch Ireland, Newcastle, Co. Wicklow. Crowe, O., Austin, G.E., Colhoun, K., Cranswick, P.A., Kershaw, M. and Musgrove, A.J. (2008). Estimates and trends of waterbird numbers wintering in Ireland 1994/95 to 2003/04. Bird Study 55: 66-77. Fox, T., Francis, I. and Walsh, A. (2008). Report of the 2007/2008 International Census of Greenland White-fronted Geese. Greenland White-fronted Goose Study and NPWS. Fox, A.D., Norris, D.W., Stroud, D.A. and Wilson, H.J. (1994). Greenland White-fronted Geese in Ireland and Britain 1982/83 - 1993/94. Greenland White-fronted Goose Study research report no. 8. Greenland White-fronted Goose Study, Wales and National Parks and Wildlife Service, Dublin. Goodwillie, R.N. (1992). Turloughs over 10 ha - Vegetation Survey and Evaluation. Unpublished Report to National Parks and Wildlife Service, Dublin. Heery, S. (1996). Birds in Central Ireland. Mid-Shannon Bird Report 1992-1995. BirdWatch Ireland, Kilcoole. Heery, S. (2000). Birds in Central Ireland. Mid-Shannon Bird Report 1996-1999. BirdWatch Ireland, Kilcoole. Hills, J.P. (2003). Rare Irish breeding birds. Irish Birds 7: 157-172. Hills, J.P. (2004). First annual report of the Irish Rare Breeding Birds Panel. Irish Birds 7: 375-384. National Parks and Wildlife Service. Greenland White-fronted Goose Inventory.

Ruttledge, R.F. and Ogilvie, M.A. (1979). The past and current status of the Greenland White-Fronted Goose in Ireland and Britain. Irish Birds 1: 293-363. Sheppard, R. (1993). Ireland's Wetland Wealth. IWC, Dublin. Whilde, A. (1993). Threatened Mammals, Birds, Amphibians and Fish in Ireland. Irish Red Data Book 2: Vertebrates. HMSO, Belfast.

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

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Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
IE05	60.0				

5.2 Relation of the described site with other sites:

designated at national or regional level:

Type code	Site name	Type	Cover [%]
IE05	Lough Croan Wildfowl Sanctuary	*	60.0

5.3 Site designation (optional)

6. SITE MANAGEMENT

6.1 Body(ies) responsible for the site management:

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6.2 Management Plan(s):

An actual management plan does exist:

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No, but in preparation
<input checked="" type="checkbox"/>	No

6.3 Conservation measures (optional)

7. MAP OF THE SITES

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INSPIRE ID:

Map delivered as PDF in electronic format (optional)

Yes No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).

SITE SYNOPSIS

SITE NAME: LOUGH CROAN TURLOUGH SPA

SITE CODE: 004139

Situated approximately 6 km east of the River Suck in Co. Roscommon, Lough Croan Turlough is a linear wetland, aligned north-west/south-east, which lies in a flattish area of glacial till. It is split into two main parts - the east functions as a typical turlough, with a wet, reedy centre, while the west is a fen, floating in places, which also floods in winter.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Greenland White-fronted Goose, Shoveler and Golden Plover. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Lough Croan supports nationally important numbers of Greenland White-fronted Goose (164) - mean peak counts for the period 1994/95 to 1998/99. The geese that utilise this site are part of an internationally important flock that are based along the River Suck. The site also supports nationally important populations of Shoveler (157), and Golden Plover (2,025) - figures are mean peak counts for four of the five winters between 1995/96 and 1999/2000. The Shoveler population is one of the largest in the country. Other species that occur at the site include Whooper Swan (15), Wigeon (392), Gadwall (7), Teal (330), Mallard (56), Pintail (22), Lapwing (661), Curlew (93) and Black-headed Gull (59). Some of these species use the turlough both as a feeding and roost site.

Lough Croan is also a site for breeding birds - Pochard and Shoveler, which are both rare breeding species in Ireland, have bred at the site in recent years and it is considered that they probably attempt to nest every year. Mute Swan also breeds and Black-headed Gull has bred in the past.

Lough Croan Turlough SPA is of high ornithological importance, primarily for its Greenland White-fronted Goose population, but also because of its nationally important Shoveler and Golden Plover populations. The presence of Greenland White-fronted Goose, Golden Plover and Whooper Swan is of particular note as these are listed on Annex I of the E.U. Birds Directive. Part of the site is a Wildfowl Sanctuary.

22.4.2010



Conservation objectives for River Suck Callows SPA [004097]

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.

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.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A038	Whooper Swan	<i>Cygnus cygnus</i>
A050	Wigeon	<i>Anas penelope</i>
A140	Golden Plover	<i>Pluvialis apricaria</i>
A142	Lapwing	<i>Vanellus vanellus</i>
A395	Greenland White-fronted Goose	<i>Anser albifrons flavirostris</i>



To acknowledge the importance of Ireland's wetlands to wintering waterbirds, “Wetland and Waterbirds” may be included as a Special Conservation Interest for some SPAs that have been designated for wintering waterbirds and that contain a wetland site of significant importance to one or more of the species of Special Conservation Interest. Thus, a second objective is included as follows:

Objective: To maintain or restore the favourable conservation condition of the wetland habitat at River Suck Callows SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Citation: NPWS (2022) *Conservation objectives for River Suck Callows SPA [004097]. Generic Version 9.0.* Department of Housing, Local Government and Heritage.



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE IE0004097
SITENAME River Suck Callows SPA

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- [5. SITE PROTECTION STATUS](#)
- [6. SITE MANAGEMENT](#)
- [7. MAP OF THE SITE](#)

1. SITE IDENTIFICATION

1.1 Type A	1.2 Site code IE0004097	Back to top
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1.3 Site name

River Suck Callows SPA

1.4 First Compilation date 2004-05	1.5 Update date 2020-10
---------------------------------------	----------------------------

1.6 Respondent:

Name/Organisation:	National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
Address:	90 King Street North, Dublin 7, D07 N7CV, Ireland
Email:	datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site classified as SPA:	1996-10
National legal reference of SPA designation	No data

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

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Longitude -8.233337212 Latitude 53.43224153

2.2 Area [ha]: 3182.027108 2.3 Marine area [%]: 0.0

2.4 Sitelength [km]: 0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

IE01	Border, Midland and Western
------	-----------------------------

2.6 Biogeographical Region(s)

Atlantic (%)

3. ECOLOGICAL INFORMATION

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3.1 Habitat types present on the site and assessment for them

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site					Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D. qual.	A B C D			
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A054	Anas acuta			w	5	5	i		G	C	B	C	C
B	A052	Anas crecca			w	325	325	i		G	C	B	C	C
B	A050	Anas penelope			w	1203	1203	i		G	C	B	C	B
B	A395	Anser albifrons flavirostris			w	386	386	i		G	B	A	C	A
B	A038	Cygnus cygnus			w	124	124	i		G	C	A	C	B
B	A179	Larus ridibundus			w	240	240	i		G	C	B	C	C
B	A160	Numenius arquata			w	67	67	i		G	C	B	C	C
B	A142	Vanellus vanellus			w	3640	3640	i		G	C	B	C	B

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species					Population in the site				Motivation					
Group	CODE	Scientific Name	S	NP	Size		Unit	Cat.	Species Annex		Other categories			
					Min	Max			C R V P	IV	V	A	B	C
B		Cygnus olor			90	90	i						X	

- **Group:** A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles
- **CODE:** for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Unit:** i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see [reference portal](#))
- **Cat.:** Abundance categories: C = common, R = rare, V = very rare, P = present

- **Motivation categories:** IV, V: Annex Species (Habitats Directive), A: National Red List data; B: Endemics; C: International Conventions; D: other reasons

4. SITE DESCRIPTION

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4.1 General site character

Habitat class	% Cover
N14	40.0
N10	30.0
N06	20.0
N07	10.0
Total Habitat Cover	100

Other Site Characteristics

The River Suck is the largest tributary of the River Shannon. The site follows the river from Castlecoote, near Fuerty to its confluence with the River Shannon, a distance of approximately 70 km of river course. The main habitat is grassland, improved to varying extents, that is seasonally flooded. The less improved areas are species-rich. The grassland is used mainly for pasture but some is used for silage or occasionally hay-making. The river channel is fringed in places by swamp and marsh vegetation. The site adjoins several raised bogs and cutover bogs and there are turloughs in the vicinity.

4.2 Quality and importance

The River Suck Callows is an important site for wintering waterfowl, with an internationally important population of *Anser albifrons flavirostris* centred within the site. This is one of the largest flocks in the country outside of the Wexford Slobs. Despite poor survey data for recent years, it is known that at least three species have populations of national importance: *Cygnus cygnus*, *Anas penelope* and *Vanellus vanellus*. *Cygnus columbarius bewickii* formerly occurred in significant numbers but has abandoned the site, in line with a marked contraction of range at a national level. *Crex crex* formerly bred but not since the early 1990s. This site provides one of the few remaining examples in the country of a large river system of which parts still flood in a fairly natural way.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
L	F03.01		i
L	F02.03		i
H	A08		o
M	E01.03		o
H	A04		o
M	A03		i
M	G01.01		i
M	A04		i
L	B		o
M	A08		i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside /outside [i o b]
M	A04		i
M	G01.01		i
M	A03		i
M	E01.03		o
H	A04		o
L	F02.03		i

4.4 Ownership (optional)

4.5 Documentation

Casey, C. (1998). Distribution and conservation of Corncrake in Ireland, 1993-1998. *Irish Birds* 6: 159-176. Colhoun, K. (2001). I-WeBS Report 1998-99. BirdWatch Ireland, Dublin. Fox, A.D., Norriss, D.W., Stroud, D.A. and Wilson, H.J. (1994). Greenland White-fronted Geese in Ireland and Britain 1982/83 - 1993/94. Greenland White-fronted Goose Study research report no. 8. Greenland White-fronted Goose Study, Wales and National Parks and Wildlife Service, Dublin. Heery, S. (1993). The Shannon Floodlands - a Natural History of the River Shannon Callows. Tir Eolas, Kinvara. Hunt, J., Derwin, J., Coveney, J. and Newton, S. (2000). Republic of Ireland. Pp. 365-416 in Heath, M.F. and Evans, M.I. (eds). Important Bird Areas in Europe: Priority Sites for Conservation 1: Northern Europe. Cambridge, UK: BirdLife International (BirdLife

Conservation Series No. 8). Irish Wetland Birds Survey (I-WeBS) Database, 1994/95-2000/01. BirdWatch Ireland, Dublin. Merne, O.J. (1989). Important bird areas in the Republic of Ireland. In: Grimmett, R.F.A. and Jones, T.A. (eds). Important Bird Areas in Europe. ICBP Technical Publication No. 9. Cambridge. Ruttledge, R.F. and Ogilvie, M.A. (1979). The past and current status of the Greenland White-fronted Goose in Ireland and Britain. Irish Birds 1: 293-363. Sheppard, R. (1993). Ireland's Wetland Wealth. IWC, Dublin.

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

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Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
IE05	10.0				

5.2 Relation of the described site with other sites:

designated at national or regional level:

Type code	Site name	Type	Cover [%]
IE05	Muckanagh/Cloonlaughnan Wildfowl Sanctuary	+	10.0

5.3 Site designation (optional)

6. SITE MANAGEMENT

6.1 Body(ies) responsible for the site management:

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6.2 Management Plan(s):

An actual management plan does exist:

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No, but in preparation
<input checked="" type="checkbox"/>	No

6.3 Conservation measures (optional)

7. MAP OF THE SITES

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INSPIRE ID:

Map delivered as PDF in electronic format (optional)

Yes No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).

SITE SYNOPSIS

SITE NAME: RIVER SUCK CALLOWS SPA

SITE CODE: 004097

The River Suck Callows SPA is a linear, sinuous site comprising a section of the River Suck from Castlecoote, Co. Roscommon to its confluence with the River Shannon close to Shannonbridge, a distance of approximately 70 km along the course of the river. The river forms part of the boundary between Counties Galway and Roscommon. The site includes the River Suck itself and the adjacent areas of seasonally-flooded semi-natural lowland wet callow grassland. The River Suck is the largest tributary of the River Shannon.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Whooper Swan, Greenland White-fronted Goose, Wigeon, Golden Plover and Lapwing. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The River Suck Callows SPA is an important site for wintering waterfowl. Of particular note is the nationally important Greenland White-fronted Goose flock (293 – five year mean peak for the period 1994/95 to 1998/99) which congregates mainly in the middle reaches of the river. Four other species occur in populations of national importance, i.e. Whooper Swan (164), Wigeon (3,232), Golden Plover (2,241) and Lapwing (3,906) – all figures are five year mean peaks from aerial surveys between 2001/02 and 2005/06. Other species present include Mute Swan (122), Teal (402), Mallard (70), Black-tailed Godwit (24), Curlew (22) and Black-headed Gull (86).

The River Suck Callows SPA is of considerable ornithological importance, in particular for the presence of nationally important populations of five species. Of note is that three of the species that occur regularly, i.e. Whooper Swan, Greenland White-fronted Goose and Golden Plover, are listed on Annex I of the E.U. Birds Directive. Part of the River Suck Callows SPA is a Wildfowl Sanctuary.



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE IE0004140
SITENAME Four Roads Turlough SPA

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1. SITE IDENTIFICATION

1.1 Type A	1.2 Site code IE0004140	Back to top
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1.3 Site name

Four Roads Turlough SPA

1.4 First Compilation date 2010-09	1.5 Update date 2018-09
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1.6 Respondent:

Name/Organisation:	National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
Address:	90 King Street North, Dublin 7, D07 N7CV, Ireland
Email:	datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site classified as SPA:	2010-08
National legal reference of SPA designation	No data

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

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Longitude -8.24105739 Latitude 53.5123822

2.2 Area [ha]: 99.59854634 2.3 Marine area [%]: 0.0

2.4 Sitelength [km]: 0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

IE01	Border, Midland and Western
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2.6 Biogeographical Region(s)

Atlantic (%)

3. ECOLOGICAL INFORMATION

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3.1 Habitat types present on the site and assessment for them

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site					Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D. qual.	A B C D			
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A056	Anas clypeata			w	28	28	i		G	C	B	C	C
B	A052	Anas crecca			w	657	657	i		G	C	B	C	C
B	A050	Anas penelope			w	307	307	i		G	C	B	C	C
B	A053	Anas platyrhynchos			w	84	84	i		G	C	B	C	C
B	A395	Anser albifrons flavirostris			w	93	93	i		G	C	B	C	B
B	A140	Pluvialis apricaria			w	3717	3717	i		G	B	B	C	B
B	A142	Vanellus vanellus			w	1521	1521	i		G	C	B	C	C

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

4. SITE DESCRIPTION

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4.1 General site character

Habitat class	% Cover
N15	45.0
N06	50.0
N14	5.0
Total Habitat Cover	100

Other Site Characteristics

Four Roads Turlough (also known as Cloonlaughnan Turlough) is located 6 km south of Athleague, Co. Roscommon and just over 2 km east of the River Suck. It lies below a low scarp of limestone hills and is an open, shallow basin without permanent standing water which floods regularly and dries out early.

4.2 Quality and importance

Four Roads Turlough is an important site for wintering waterfowl. In most winters it is visited by the nationally important River Suck population of *Anser albifrons flavirostris*. The site also supports a nationally important population of *Pluvialis apricaria* (2.3% of the all-Ireland population). Other species which occur regularly include *Anas penelope*, *Anas crecca*, *Anas platyrhynchos*, *Anas clypeata* and *Vanellus vanellus*. It is also occasionally used by *Cygnus cygnus*. Breeding species include *Vanellus vanellus* and *Gallinago gallinago*.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
M	A04		i

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside /outside [i o b]
M	A04		i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.4 Ownership (optional)

4.5 Documentation

Crowe, O. (2005). Ireland's Wetlands and their Waterbirds: Status and Distribution. BirdWatch Ireland, Newcastle, Co. Wicklow. Crowe, O., Austin, G.E., Colhoun, K., Cranswick, P.A., Kershaw, M. and Musgrove, A.J. (2008). Estimates and trends of waterbird numbers wintering in Ireland 1994/95 to 2003/04. Bird Study 55: 66-77. Fox, T., Francis, I. and Walsh, A. (2008). Report of the 2007/2008 International Census of Greenland White-fronted Geese. Greenland White-fronted Goose Study and NPWS. Fox, A.D., Norriss, D.W., Stroud, D.A. and Wilson, H.J. (1994). Greenland White-fronted Geese in Ireland and Britain 1982/83 - 1993/94. Greenland White-fronted Goose Study research report no. 8. Greenland White-fronted Goose Study, Wales and National Parks and Wildlife Service, Dublin. Goodwillie, R.N. (1992). Turloughs over 10 ha - Vegetation Survey and Evaluation. Unpublished Report to National Parks and Wildlife Service, Dublin. Heery, S. (1996). Birds in Central Ireland. Mid-Shannon Bird Report 1992-1995. BirdWatch Ireland, Kilcoole. Heery, S. (2000). Birds in Central Ireland. Mid-Shannon Bird Report 1996-1999. BirdWatch Ireland, Kilcoole. Hills, J.P. (2003). Rare Irish breeding birds. Irish Birds 7: 157-172. Hills, J.P. (2004). First annual report of the Irish Rare Breeding Birds Panel. Irish Birds 7: 375-384. National Parks and Wildlife Service. Greenland White-fronted Goose Inventory. Ruttledge, R.F. and Ogilvie, M.A. (1979). The past and current status of the Greenland White-fronted Goose in Ireland and Britain. Irish Birds 1: 293-363. Sheppard, R. (1993). Ireland's Wetland Wealth, IWC, Dublin.

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

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Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
IE05	90.0				

5.2 Relation of the described site with other sites:

5.3 Site designation (optional)

6. SITE MANAGEMENT

6.1 Body(ies) responsible for the site management:

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6.2 Management Plan(s):

An actual management plan does exist:

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No, but in preparation
<input checked="" type="checkbox"/>	No

6.3 Conservation measures (optional)

7. MAP OF THE SITES

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INSPIRE ID:

IE.NPWS.PS.NATURA2000.SPA.IE0004140

Map delivered as PDF in electronic format (optional)

Yes No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).



Conservation objectives for Four Roads Turlough SPA [004140]

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.

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.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A140	Golden Plover	<i>Pluvialis apricaria</i>
A395	Greenland White-fronted Goose	<i>Anser albifrons flavirostris</i>

To acknowledge the importance of Ireland's wetlands to wintering waterbirds, "Wetland and Waterbirds" may be included as a Special Conservation Interest for some SPAs that have been designated for wintering waterbirds and that contain a wetland site of significant importance to one



or more of the species of Special Conservation Interest. Thus, a second objective is included as follows:

Objective: To maintain or restore the favourable conservation condition of the wetland habitat at Four Roads Turlough SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Citation: NPWS (2022) *Conservation objectives for Four Roads Turlough SPA [004140]. Generic Version 9.0. Department of Housing, Local Government and Heritage.*

SITE SYNOPSIS

SITE NAME: FOUR ROADS TURLOUGH SPA

SITE CODE: 004140

Four Roads Turlough (also known as Cloonlaughnan Turlough) is located 6 km south of Athleague, Co. Roscommon and just over 2 km east of the River Suck. It lies below a low scarp of limestone hills and is an open, shallow basin without permanent standing water which floods regularly and dries out early.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Greenland White-fronted Goose and Golden Plover. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Four Roads Turlough is an important site for wintering waterfowl. In most winters it is visited by the nationally important River Suck population of Greenland White-fronted Goose (93 – four year mean peak for four of the five winters between 1994/95 and 1998/99). The site also supports a nationally important population of Golden Plover (3,717) – all figures are mean peaks for three of the five winters between 1995/96 and 1999/2000). Other species which occur regularly include Wigeon (307), Teal (657), Mallard (84), Shoveler (28) and Lapwing (1,521). It is also occasionally used by Whooper Swan. Breeding species include Lapwing and Snipe. Much of the site is a Wildfowl Sanctuary.

Four Roads Turlough SPA is of ornithological importance because it is regularly utilised by the nationally important River Suck Greenland White-fronted Goose flock. A nationally important population of Golden Plover also occurs at the site. The regular occurrence of these two species, which are listed on Annex I of the E.U. Birds Directive, is of note.



Conservation objectives for Lough Ree SPA [004064]

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.

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.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A004	Little Grebe	<i>Tachybaptus ruficollis</i>
A038	Whooper Swan	<i>Cygnus cygnus</i>
A050	Wigeon	<i>Anas penelope</i>
A052	Teal	<i>Anas crecca</i>
A053	Mallard	<i>Anas platyrhynchos</i>
A056	Shoveler	<i>Anas clypeata</i>
A061	Tufted Duck	<i>Aythya fuligula</i>
A065	Common Scoter	<i>Melanitta nigra</i>



A067	Goldeneye	<i>Bucephala clangula</i>
A125	Coot	<i>Fulica atra</i>
A140	Golden Plover	<i>Pluvialis apricaria</i>
A142	Lapwing	<i>Vanellus vanellus</i>
A193	Common Tern	<i>Sterna hirundo</i>

To acknowledge the importance of Ireland's wetlands to wintering waterbirds, "Wetland and Waterbirds" may be included as a Special Conservation Interest for some SPAs that have been designated for wintering waterbirds and that contain a wetland site of significant importance to one or more of the species of Special Conservation Interest. Thus, a second objective is included as follows:

Objective: To maintain or restore the favourable conservation condition of the wetland habitat at Lough Ree SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Citation: NPWS (2022) *Conservation objectives for Lough Ree SPA [004064]. Generic Version 9.0.*
Department of Housing, Local Government and Heritage.



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE IE0004064
SITENAME Lough Ree SPA

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1. SITE IDENTIFICATION

1.1 Type A	1.2 Site code IE0004064	Back to top
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1.3 Site name

Lough Ree SPA

1.4 First Compilation date 2004-04	1.5 Update date 2020-10
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1.6 Respondent:

Name/Organisation:	National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
Address:	90 King Street North, Dublin 7, D07 N7CV, Ireland
Email:	datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site classified as SPA:	1995-11
National legal reference of SPA designation	No data

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

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Longitude -7.96848253 **Latitude** 53.54304735

2.2 Area [ha]: 12347.97571 **2.3 Marine area [%]** 0.0

2.4 Sitelength [km]: 0.0

2.5 Administrative region code and name

NUTS level 2 code	Region Name
IE01	Border, Midland and Western
IE01	Border, Midland and Western

2.6 Biogeographical Region(s)

Atlantic (%)

3. ECOLOGICAL INFORMATION

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3.1 Habitat types present on the site and assessment for them

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site					Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D. qual.	A B C D	A B C		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A054	Anas acuta			w	35	35	i		G	C	A	C	B
B	A056	Anas clypeata			w	40	40	i		G	C	A	C	B
B	A052	Anas crecca			w	912	912	i		G	C	B	C	B
B	A050	Anas penelope			w	1475	1475	i		G	C	B	C	B
B	A053	Anas platyrhynchos			w	675	675	i		G	C	A	C	C
B	A395	Anser albifrons flavirostris			w	92	92	i		G	C	B	C	C
B	A059	Aythya ferina			w	65	65	i		G	C	A	C	C
B	A061	Aythya fuligula			w	661	661	i		G	C	A	C	B
B	A061	Aythya fuligula			r	265	265	i		G	B	B	C	B
B	A067	Bucephala clangula			w	137	137	i		G	C	A	C	B
B	A038	Cygnus cygnus			w	89	89	i		G	C	B	C	C
B	A125	Fulica atra			w	250	250	i		G	C	A	C	C
B	A179	Larus ridibundus			r	100	100	i		G	C	B	C	B
B	A065	Melanitta nigra			r	30	35	p		G	A	A	B	A
B	A160	Numenius arquata			w	167	167	i		G	C	B	C	C
B	A017	Phalacrocorax carbo			w	64	64	i		G	C	A	C	C
B	A140	Pluvialis apricaria			w	2035	2035	i		G	C	C	C	C
B	A005	Podiceps cristatus			w	23	23	i		G	C	A	C	C
B	A005	Podiceps cristatus			r	89	89	p		G	B	A	C	A
B	A193	Sterna hirundo			r	90	90	p		G	B	B	C	B
B	A142	Vanellus vanellus			w	3870	3870	i		G	C	B	C	C

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species			Population in the site					Motivation						
Group	CODE	Scientific Name	S	NP	Size		Unit	Cat.	Species Annex		Other categories			
					Min	Max		C R V P	IV	V	A	B	C	D
P		Chara tomentosa									X			
F		Coregonus autumnalis pollan											X	
F		Coregonus autumnalis pollan									X			
B		Cygnus olor			93	93	i						X	
B		Tachybaptus ruficollis			34	34	i						X	

- **Group:** A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles
- **CODE:** for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Unit:** i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see [reference portal](#))
- **Cat.:** Abundance categories: C = common, R = rare, V = very rare, P = present
- **Motivation categories:** IV, V: Annex Species (Habitats Directive), A: National Red List data; B: Endemics; C: International Conventions; D: other reasons

4. SITE DESCRIPTION

4.1 General site character

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Habitat class	% Cover
N16	1.0
N09	1.0
N06	95.0
N10	1.0
N07	2.0
Total Habitat Cover	100

Other Site Characteristics

Situated on the River Shannon between Lanesborough and Athlone, Lough Ree is the third largest lake in the Republic of Ireland. It lies in an ice-deepened depression in Carboniferous Limestone. Some of its features (including the islands) are based on glacial drift. The main inflowing rivers are the Shannon, Inny and Hind, and the main outflowing river is the Shannon. The greater part of Lough Ree is less than 10 m in depth, but there are six deep troughs running from north to south, reaching a maximum depth of about 36 m just west of Inchmore. The lake has a very long, indented shoreline and hence has many sheltered bays. It also has a good scattering of islands, most of which are included in the site. The lake is classified as a mesotrophic system. The water of Lough Ree tends to be strongly peat-stained, restricting macrophytes to depths of less than 2 m. Swamp vegetation, especially of *Phragmites australis*, occurs in the sheltered areas around the lake. The swamp often grades to species-rich calcareous fen or freshwater marsh. Lowland wet grassland, some of which floods in winter, is found in abundance around the shore. Some of the islands are wooded.

4.2 Quality and importance

Lough Ree is one of the most important Midland sites for wintering waterfowl, with nationally important populations of *Anas penelope*, *Anas crecca*, *Anas acuta*, *Anas clypeata*, *Aythya fuligula* and *Bucephala clangula*. Nationally important populations of *Pluvialis apricaria* and *Vanellus vanellus* are also associated with the lake. Regionally important numbers of *Cygnus cygnus* and *Anser albifrons flavirostris* are also found in the vicinity of the lake. The site supports a nationally important population of *Sterna hirundo*. *Larus ridibundus* breeds (nationally important) and *Larus fuscus* and *Larus canus* have bred in the past (recent census information is poor). Lough Ree is an important site for breeding duck and grebes, with *Aythya fuligula* and *Podiceps cristatus* having populations of national importance. Of particular note is that it is one of the two main sites in the country for breeding *Melanitta nigra*, a Red Data Book species. The woodland around the lake is a stronghold for *Sylvia borin* and this scarce species probably occurs on some of the islands within the SPA. *Lutra lutra* is frequent within the site and the fish *Coregonus autumnalis pollan* occurs.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
M	F03.01		i
M	A04		o
L	B		o
M	F02.03		i
M	G01.02		o
M	I01		i
H	G01.01		i
M	A08		o

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside /outside [i o b]
M	G01.02		o
M	F03.01		i
M	A04		o
M	F02.03		i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.4 Ownership (optional)

4.5 Documentation

Bowman, J.J. (1996). Lough Ree: an investigation of eutrophication and its causes. Environmental Protection Agency, Wexford. Colhoun, K. (2001). I-WeBS Report 1998-99. BirdWatch Ireland, Dublin. Fox, A.D., Norriss, D.W., Stroud, D.A. and Wilson, H.J. (1994). Greenland White-fronted Geese in Ireland and Britain 1982/83 - 1993/94. Greenland White-fronted Goose Study research report no. 8. Greenland White-fronted Goose Study, Wales and National Parks and Wildlife Service, Dublin. Gittings, T. and Delany, S. (1996). A pre-breeding census of Common Scoters in Ireland in 1995. Irish Birds 5: 413-422. Hannon, C. (1997). The 1995 All-Ireland Tern Survey. BirdWatch Ireland Conservation Report No. 97/1. Hannon, C., Berrow, S.D. and Newton S.F. (1997). The status and distribution of breeding Sandwich Sterna sandvicensis, Roseate S. dougallii, Common S. hirundo, Arctic S. paradisaea and Little Terns S. albifrons in Ireland in 1995. Irish Birds 6: 1-22. Heery, S. (1996). Birds in Central Ireland - Mid Shannon Bird Report 1992-1995. Birdwatch Ireland, Dublin. Heery, S. (2000). Birds in Central Ireland - Mid Shannon Bird Report 1996-1999. Birdwatch Ireland, Dublin. Hunt, J., Derwin, J., Coveney, J. and Newton, S. (2000). Republic of Ireland. Pp. 365-416 in Heath, M.F. and Evans, M.I. (eds). Important Bird Areas in Europe: Priority Sites for Conservation 1: Northern Europe. Cambridge, UK: BirdLife International (BirdLife Conservation Series No. 8). Irish Wetland Birds Survey (I-WeBS) Database, 1994/95-2000/01. BirdWatch Ireland, Dublin. Levinge, D.E.S. (1977). A general description of Lough Ree and surroundings. Bulletin of the Irish Biogeographical Society 1: 4-6. Lloyd, C. (1982). Inventory of Seabird Breeding Colonies in Republic of Ireland. Unpublished report, Forest and Wildlife Service, Dublin. Lovatt, J.K. (1997). Occurrence of the Garden Warbler Sylvia borin around Lough Ree and County Cavan, 1995-1997. Irish Birds 6: 58-60. McGarrigle, M. L., Bowman, J.J., Clabby, K.J., Lucey, J., Cunningham, P., MacCarthaigh, M., Keegan, M., Cantrell, B., Lehane, M., Clenaghan, C. and Toner, P.F. (2002). Water Quality in Ireland 1998-2000. Environmental Protection Agency, Wexford. Merne, O.J. (1989). Important bird areas in the Republic of Ireland. In: Grimmett, R.F.A. and Jones, T.A. (eds). Important Bird Areas in Europe. ICBP Technical Publication No. 9. Cambridge. Minchin, D., Maguire, C. and Rosell, R. (2003). The zebra mussel (Dreissena polymorpha Pallas) invades Ireland: human mediated vectors and the potential for rapid intra-national dispersal. Biology and Environment, Proceedings of the Royal Irish Academy 103B: 23-30. Mitchell, P.I., Newton, S., Ratcliffe, N. and Dunn, T. (2004). Seabird 2000: The Status of Breeding Seabirds in Britain and Ireland. Poyser, London. Ruttledge, R.F. (1987). The breeding distribution of the Common Scoter in Ireland. Irish Birds 3: 417-426. Ruttledge, R.F. and Ogilvie, M.A. (1979). The past and current status of the Greenland White-fronted Goose in Ireland and Britain. Irish Birds 1: 293-363. Sheppard, R. (1993). Ireland's Wetland Wealth. IWC, Dublin. Tierney, T.D., Dunne, J. and Callanan, T. (2000). The Common Scoter Melanitta nigra nigra breeding in Ireland, range expansion or site relocation? Irish Birds 6: 447-452.

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

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5.2 Relation of the described site with other sites:

5.3 Site designation (optional)

6. SITE MANAGEMENT

6.1 Body(ies) responsible for the site management:

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6.2 Management Plan(s):

An actual management plan does exist:

- Yes
- No, but in preparation
- No

6.3 Conservation measures (optional)

7. MAP OF THE SITES

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INSPIRE ID:

IE.NPWS.PS.NATURA2000.SPA.IE0004064

Map delivered as PDF in electronic format (optional)

- Yes
- No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).

SITE SYNOPSIS

SITE NAME: LOUGH REE SPA

SITE CODE: 004064

Situated on the River Shannon between Lanesborough and Athlone, Lough Ree is the third largest lake in the Republic of Ireland. It lies in an ice-deepened depression in Carboniferous Limestone. Some of its features (including the islands) are based on glacial drift. The main inflowing rivers are the Shannon, Inny and Hind, and the main outflowing river is the Shannon. The greater part of Lough Ree is less than 10 m in depth, but there are six deep troughs running from north to south, reaching a maximum depth of about 36 m just west of Inchmore. The lake has a very long, indented shoreline and hence has many sheltered bays. It also has a good scattering of islands, most of which are included in the site.

Beds of Common Reed (*Phragmites australis*) are an extensive habitat in a number of the more sheltered places around the lake; monodominant stands of Common Club-rush (*Scirpus lacustris*), Slender Sedge (*Carex lasiocarpa*) and Saw Sedge (*Cladium mariscus*) also occur as swamps in suitable places. Some of these grade into species-rich calcareous fen or freshwater marsh. Lowland wet grassland, some of which floods in winter, occurs frequently around the shore.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Whooper Swan, Wigeon, Teal, Mallard, Shoveler, Tufted Duck, Common Scoter, Goldeneye, Little Grebe, Coot, Golden Plover, Lapwing and Common Tern. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Lough Ree is one of the most important Midland sites for wintering waterfowl, with nationally important populations of Little Grebe (52), Whooper Swan (139), Wigeon (2,070), Teal (1,474), Mallard (1,087), Shoveler (54), Tufted Duck (1,012), Goldeneye (205), Coot (338), Golden Plover (3,058) and Lapwing (5,793) – all figures are three year mean peaks for the period 1997/98 to 1999/2000. Other species which occur in winter include Great Crested Grebe (29), Cormorant (99), Curlew (254) and Black-headed Gull (307) as well as the resident Mute Swan (85). Greenland White-fronted Goose has been recorded on occasion on the flooded margins of the site.

The site supports a nationally important population of Common Tern (90 pairs in 1995). It is a traditional breeding site for Black-headed Gull and whilst a full survey has not been carried out in recent years, substantial numbers of nesting birds were present on at least one island in 2003. Lesser Black-backed Gull and Common Gull have bred in the past and may still breed. Lough Ree is a noted site for breeding duck and grebes: Tufted Duck (202 pairs) and Great Crested Grebe (32 pairs) – records from 1995. Of particular note is that Lough Ree is one of the two main sites in the

country for breeding Common Scoter, a Red Data Book species. Surveys have recorded 39 pairs and 32 pairs in 1995 and 1999 respectively. Cormorant also breeds on some of the islands within the site – 86 nests were recorded in 2010. The woodland around the lake is a stronghold for Garden Warbler and this scarce species probably occurs on some of the islands within the site.

Lough Ree SPA is of high ornithological importance for both wintering and breeding birds. It supports nationally important populations of eleven wintering waterfowl species. The site has a range of breeding waterfowl species, notably nationally important populations of Common Scoter and Common Tern. Of particular note is the regular presence of three species, Whooper Swan, Golden Plover and Common Tern, which are listed on Annex I of the E.U. Birds Directive. Parts of Lough Ree SPA are Wildfowl Sanctuaries.



Conservation objectives for Middle Shannon Callows SPA [004096]

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.

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.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A038	Whooper Swan	<i>Cygnus cygnus</i>
A050	Wigeon	<i>Anas penelope</i>
A122	Corncrake	<i>Crex crex</i>
A140	Golden Plover	<i>Pluvialis apricaria</i>
A142	Lapwing	<i>Vanellus vanellus</i>
A156	Black-tailed Godwit	<i>Limosa limosa</i>
A179	Black-headed Gull	<i>Chroicocephalus ridibundus</i>



To acknowledge the importance of Ireland's wetlands to wintering waterbirds, “Wetland and Waterbirds” may be included as a Special Conservation Interest for some SPAs that have been designated for wintering waterbirds and that contain a wetland site of significant importance to one or more of the species of Special Conservation Interest. Thus, a second objective is included as follows:

Objective: To maintain or restore the favourable conservation condition of the wetland habitat at Middle Shannon Callows SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Citation: NPWS (2022) *Conservation objectives for Middle Shannon Callows SPA [004096]. Generic Version 9.0. Department of Housing, Local Government and Heritage.*



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE IE0004096
SITENAME Middle Shannon Callows SPA

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- [1. SITE IDENTIFICATION](#)
- [2. SITE LOCATION](#)
- [3. ECOLOGICAL INFORMATION](#)
- [4. SITE DESCRIPTION](#)
- [5. SITE PROTECTION STATUS](#)
- [6. SITE MANAGEMENT](#)
- [7. MAP OF THE SITE](#)

1. SITE IDENTIFICATION

1.1 Type A	1.2 Site code IE0004096	Back to top
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1.3 Site name

Middle Shannon Callows SPA

1.4 First Compilation date 2004-05	1.5 Update date 2020-10
---------------------------------------	----------------------------

1.6 Respondent:

Name/Organisation: National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
Address: 90 King Street North, Dublin 7, D07 N7CV, Ireland
Email: datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site classified as SPA:	1996-10
National legal reference of SPA designation	No data

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

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Longitude -8.021690287 Latitude 53.25323621

2.2 Area [ha]: 5814.847963 2.3 Marine area [%]: 0.638

2.4 Sitelength [km]:
0.0

2.5 Administrative region code and name

NUTS level 2 code	Region Name
IE01	Border, Midland and Western
IE02	Southern and Eastern
IE01	Border, Midland and Western

2.6 Biogeographical Region(s)

Atlantic (%)

3. ECOLOGICAL INFORMATION

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3.1 Habitat types present on the site and assessment for them

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D. qual.	A B C D	A B C		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A056	Anas clypeata			r	1	12	p		M	B	B	B	B
B	A052	Anas crecca			w	77	77	i		G	C	A	C	C
B	A050	Anas penelope			w	2972	2972	i		G	B	A	C	A
B	A395	Anser albifrons flavirostris			w	21	21	i		G	C	C	C	C
B	A061	Aythya fuligula			w	33	33	i		G	C	B	C	C
B	A149	Calidris alpina			w	369	369	i		G	C	B	C	C
B	A082	Circus cyaneus			c	1	5	i		G	C	B	C	C
B	A082	Circus cyaneus			w	1	5	i		G	C	B	C	C
B	A113	Coturnix coturnix			r	1	15	i		G	A	A	B	A
B	A122	Crex crex			r	60	60	p		G	A	A	C	A
B	A038	Cygnus cygnus			w	287	287	i		G	B	A	C	A
B	A153	Gallinago gallinago			r	116	116	i		G	C	A	C	A
B	A179	Larus ridibundus			w	1061	1061	i		G	C	B	C	C
B	A156	Limosa limosa			c	1500	1500	i		G	B	A	C	A
B	A156	Limosa limosa			w	388	388	i		G	B	A	C	A
B	A290	Locustella naevia			r	10	20	p		G	C	B	C	C
B	A160	Numenius arquata			r	8	8	p		G	C	C	C	C
B	A160	Numenius arquata			w	129	129	i		G	C	A	C	C
B	A140	Pluvialis apricaria			w	4254	4254	i		G	B	A	C	A
B	A162	Tringa totanus			r	94	94	p		G	B	A	C	A
B	A162	Tringa totanus			w	31	31	i		G	C	B	C	C
B	A142	Vanellus vanellus			w	11578	11578	i		G	B	A	C	A
B	A142	Vanellus vanellus			r	63	63	p		G	C	B	C	B

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))

- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species			Population in the site					Motivation							
Group	CODE	Scientific Name	S	NP	Size		Unit	Cat.	Species Annex		Other categories				
					Min	Max		C R V P	IV	V	A	B	C	D	
B		Alauda arvensis												X	
B		Cygnus olor			349	349	i							X	
P		Groenlandia densa									X				
M		Lepus timidus hibernicus										X			
M		Lepus timidus hibernicus												X	
M		Lepus timidus hibernicus									X				
A		Rana temporaria												X	
A		Rana temporaria									X				

- **Group:** A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles
- **CODE:** for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Unit:** i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see [reference portal](#))
- **Cat.:** Abundance categories: C = common, R = rare, V = very rare, P = present
- **Motivation categories:** IV, V: Annex Species (Habitats Directive), A: National Red List data; B: Endemics; C: International Conventions; D: other reasons

4. SITE DESCRIPTION

4.1 General site character

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Habitat class	% Cover
N07	5.0
N10	50.0
N06	15.0
N16	1.0
N14	27.0
N23	1.0
N09	1.0
Total Habitat Cover	100

Other Site Characteristics

The site follows the River Shannon from Athlone, just below Lough Ree, to Portumna, just above Lough Derg, a distance of over 50 km. It includes much of the flood plain of the river, varying in width from approximately 0.5 km to up to 1.5 km in places. A weir at Meelick divides the flooding regime. The main habitat present is humid grassland, improved to varying extents, that is seasonally flooded. The less improved areas are species-rich. The grassland is used mainly for pasture but some is used for hay-making. The river channel is fringed by swamp and marsh vegetation. There is an extensive system of drainage channels, many of which support a diverse flora. The callows often border raised bogs, some of which are still intact.

4.2 Quality and importance

This site is the largest area of semi-natural floodplain grassland in Ireland and has very many features of a natural ecosystem. Along with its main tributaries the River Suck and River Brosna, it represents one of the most important wetland systems in the country. It is of International Importance for wintering waterfowl as numbers regularly exceed the 20,000 threshold (mean of 34985 for the 5 winters 1994/94-1998/99). Of particular note is the presence of an Internationally Important population of *Cygnus cygnus*. A further five species have populations of national importance: *Cygnus olor*, *Anas penelope*, *Pluvialis apricaria*, *Vanellus vanellus* and *Limosa limosa*. There is a well documented spring passage of *Limosa limosa* along the river valley. The Shannon callows are also of high importance for breeding birds. In particular, it has the largest concentration of *Crex crex* in Ireland. Since 1991, a conservation programme involving annual monitoring of population size, practical habitat management and publicity has been in operation. *Coturnix coturnix*, a very rare species in Ireland, also breeds in the grasslands. Several wader species, notably *Vanellus vanellus*, *Gallinago gallinago* and *Tringa totanus*, have important breeding populations though these have declined substantially since the 1980s. The scarce breeding species, *Anas clypeata*, nests in small numbers each year. The callows is one of the very few sites in Ireland where *Limosa limosa* has bred. The habitats also support a range of ground nesting passerine species, notably *Locustella naevia* and *Alauda arvensis*. In autumn and winter, *Circus cyaneus* is a regular visitor.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
M	G01.02		i
H	G01.01		i
L	A04.03		i
H	A04		i
L	D01.01		i
H	D01.05		i
M	A08		o
H	E01		o
L	A08		i
M	F02.03		i
L	F03.01		i

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside /outside [i o b]
H	D01.05		i
L	F03.01		i
M	G01.02		i
H	G01.01		i
L	D01.01		i
H	A03		i
L	A04.03		i
H	A04		i
M	F02.03		i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.4 Ownership (optional)

4.5 Documentation

Casey, C. (1998). Distribution and conservation of Corncrake in Ireland, 1993-1998. *Irish Birds* 6: 159-176. Colhoun, K. (2001). I-WeBS Report 1998-99. BirdWatch Ireland, Dublin. Copeland, A. (2002). Delivering Corncrake *Crex crex* conservation in Ireland: Past, present and future. *Irish Birds* 7: 33-42. Copeland, A. and Madden, D. (2002). Corncrake Fieldwork in the Shannon Callows 2002. Unpublished report, BirdWatch Ireland, Dublin. Fox, A.D., Norriss, D.W., Stroud, D.A. and Wilson, H.J. (1994). Greenland White-fronted Geese in Ireland and Britain 1982/83 - 1993/94. Greenland White-fronted Goose Study research report no. 8. Greenland White-fronted Goose Study, Wales and National Parks and Wildlife Service, Dublin. Heery, S. (1991). The plant communities of the grazed and mown grasslands of the River Shannon callows. *Proceedings of the Royal Irish Academy* 91B (1): 1-19. Heery, S. (1993). The Shannon Floodlands - a Natural History of the River Shannon Callows. Tir Eolas, Kinvara. Heery, S. (2000). Birds in Central Ireland. Mid-Shannon Bird Report 1996-1999. BirdWatch Ireland, Dublin. Heery, S. and Cooney, T. (1997). A Part Re-survey of the Breeding Waders on the Shannon/Little Brosna Callows. Unpublished report to National Parks and Wildlife Service, Dublin. Hunt, J., Derwin, J., Coveney, J. and Newton, S. (2000). Republic of Ireland. Pp. 365-416 in Heath, M.F. and Evans, M.I. (eds). *Important Bird Areas in Europe: Priority Sites for Conservation 1: Northern Europe*. Cambridge, UK: BirdLife International (BirdLife Conservation Series No. 8). Irish Wetland Birds Survey (I-WeBS) Database, 1994/95-2000/01. BirdWatch Ireland, Dublin. McGarrigle, M.L., Bowman, J.J., Clabby, K.J., Lucey, J., Cunningham, P., MacCarthaigh, M., Keegan, M., Cantrell, B., Lehane, M., Clenaghan, C. and Toner, P. F. (2002). Water Quality in Ireland 1998-2000. Environmental Protection Agency, Wexford. Merne, O.J. (1989). Important bird areas in the Republic of Ireland. In: Grimmett, R.F.A. and Jones, T.A. (eds). *Important Bird Areas in Europe*. ICBP Technical Publication No. 9. Cambridge. Nairn, R., Herbert, I.J. and Heery, S. (1988). Breeding waders and other wet grassland birds of the River Shannon callows, Ireland. *Irish Birds* 3: 521-537. Ruttledge, R.F. and Ogilvie, M.A. (1979). The past and current status of the Greenland White-fronted Goose in Ireland and Britain. *Irish Birds* 1: 293-363. Sheppard, R. (1993). Ireland's Wetland Wealth. IWC, Dublin. Sheppard, R. and Green, R.E. (1994). Status of the Corncrake in Ireland in 1993. *Irish Birds* 5: 125-138. Tierney, T.D., Hudson, J. and Casey, C. (2002). Survey of breeding waders on the River Shannon Callows, 2002. *Irish Birds* 7: 21-32. Tubridy, M. (ed.) (1984). Creation and Management of a Heritage Zone at Clonmacnoise, Co. Offaly, Ireland. Final Report, EEC Contract No. 6611/12. Environmental Sciences Unit, Trinity College, Dublin. Tubridy, M. (ed.) (1987). The Heritage of Clonmacnoise. Environmental Sciences Unit, Trinity College, Dublin.

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

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Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
IE21	1.0				

5.2 Relation of the described site with other sites:

designated at national or regional level:

Type code	Site name	Type	Cover [%]
IE21	Bullock Island and Bishop's Island Reserve	+	1.0

5.3 Site designation (optional)

6. SITE MANAGEMENT

6.1 Body(ies) responsible for the site management:

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6.2 Management Plan(s):

An actual management plan does exist:

<input type="checkbox"/> Yes
<input type="checkbox"/> No, but in preparation
<input checked="" type="checkbox"/> No

6.3 Conservation measures (optional)

7. MAP OF THE SITES

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INSPIRE ID:

Map delivered as PDF in electronic format (optional)

Yes No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).

SITE SYNOPSIS

SITE NAME: MIDDLE SHANNON CALLOWS SPA

SITE CODE: 004096

The Middle Shannon Callows SPA is a long and diverse site which extends for approximately 50 km from the town of Athlone to the town of Portumna; it lies within Counties Galway, Roscommon, Westmeath, Offaly and Tipperary. The site averages about 0.75 km in width though in places is up to 1.5 km wide. Water levels on the site are greatly influenced by the very small fall between Athlone and Portumna and by the weir at Meelick. The site has extensive areas of callow, or seasonally flooded, semi-natural, lowland wet grassland, along both sides of the river. The callows are mainly too soft for intensive farming but are used for hay or silage or for summer grazing. Other habitats of smaller area which occur alongside the river include lowland dry grassland, freshwater marshes, reedbeds and wet woodland. The diversity of semi-natural habitats present and the sheer size of the site attract an excellent diversity of bird species, including significant populations of several.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Whooper Swan, Wigeon, Corncrake, Golden Plover, Lapwing, Black-tailed Godwit and Black-Headed Gull. It is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The Middle Shannon Callows qualifies as a site of international importance as it regularly supports in excess of 20,000 wintering waterbirds (23,656 – four year mean peak for four of the winters between 1995/96 and 1999/2000). The site also supports internationally important populations of Whooper Swan (305 – five year mean peak for the period 1995/96 to 1999/2000) and Black-tailed Godwit (485 – four year mean peak for four of the winters between 1995/96 and 1999/2000). Four further species of wintering waterbird occur in numbers of national importance, i.e. Wigeon (3,059), Golden Plover (4,133), Lapwing (13,240) and Black-headed Gull (1,209) – all figures are four year mean peaks for four of the winters between 1995/96 and 1999/2000.

The Shannon Callows is the largest site monitored as part of I-WeBS and many parts of it are inaccessible on the ground. Annual monitoring of the wintering waterbirds of the Shannon Callows is undertaken by aerial surveys in January/February with some areas also covered by ground counts. The importance of the site for some species may have been underestimated if count coverage missed the brief spring peaks for these species, e.g. peak counts of Lapwing (23,409) and Black-tailed Godwit (1,096) recorded in the baseline period (1995/96 to 1999/2000) have been considerably higher than the four year means. A wide range of other species occurs within the site, including Mute Swan (407), Teal (88), Tufted Duck (41), Dunlin

(335), Curlew (162) and Redshank (39). Small numbers of Greenland White-fronted Goose use the Shannon Callows (peak 55 in 1998/99) and these are generally associated with larger flocks which occur on the adjacent Little Brosna Callows and River Suck Callows. The callow grasslands provide optimum feeding grounds for these various species of waterfowl, while many of the birds also roost or rest within the site.

The Shannon Callows is also an important site for breeding waders with the total population on the Shannon and Little Brosna Callows being one of three major concentrations in Ireland and Britain in 1987. Numbers of some species have declined since then but a survey of the Shannon Callows in 2002 recorded the following breeding waders - Lapwing (63 pairs), Redshank (116 pairs), Snipe (139 drumming birds) and Curlew (8 pairs). Black-tailed Godwit, a very rare breeding species in Ireland, nests or attempts to nest in small numbers each year within the site. A further scarce breeding species, Shoveler, also nests in small numbers each year (an estimated 12 pairs in 1987).

The Middle Shannon Callows SPA supports a breeding population of Corncrake (19 pairs - five year mean peak between 2003 and 2007, based on records of calling males).

Corncrake winter in southern and eastern Africa, migrating northwards to arrive on their breeding grounds from early April onwards, departing again in August and September. They require the cover of tall vegetation throughout their breeding cycle and are strongly associated with meadows which are harvested annually, where they nest and feed. Annual cutting of these meadows creates a sward which is easy for the birds to move through. Other habitats, which can provide cover for Corncrake in the early and late stages of the breeding season, are also important for this species.

Corncrake is listed on the 2010 International Union for Conservation of Nature (IUCN) Red List of Threatened Species. This is due to population and range declines of more than 50% in the last 25 years across significant parts of its range.

Quail, a related, scarce species, is also known to breed within the callow grasslands.

A good variety of other bird species are attracted to the site. Birds of prey, including scarce species such as Merlin and wintering Hen Harrier have been recorded hunting over the callows. A range of passerine species associated with grassland and swamp vegetation breed, including Sedge Warbler, Grasshopper Warbler, Skylark and Reed Bunting. Kingfisher is also known to occur within the site. Whinchat, an uncommon breeding species, occurs in small numbers.

The Middle Shannon Callows SPA is an internationally important site that supports an assemblage of over 20,000 wintering waterbirds. It holds internationally important populations of two species - Whooper Swan and Black-tailed Godwit. In addition, there are four species that have wintering populations of national importance. The site also supports a nationally important breeding population of Corncrake. Of particular note is that several of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan, Corncrake and Golden Plover.

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