PROPOSED REPAIR OF DUNIRY 2 BRIDGE, TYNAGH, CO. GALWAY 10.64 KM UPSTREAM OF LOUGH DERG, NORTH EAST SHORE SAC (002241), 10.84 KM UPSTREAM OF LOUGH DERG (SHANNON) SPA (004058) AND 9.7 KM UPSTREAM OF BARROUGHTER BOG SAC (000231)

Appropriate Assessment Screening

In accordance with the requirements of Article 6 (3) of the Habitats Directive (Council Directive 92/43/EEC)

Duniry Bridge

PREPARED FOR

GALWAY COUNTY COUNCIL

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Lough Derg (Shannon) SPA
Barroughter Bog SAC

1. INTRODUCTION

This Appropriate Assessment Screening report has been prepared in compliance with Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (DoEHLG 2009, February 2010) and the European Communities (Birds and Natural Habitats) Regulations 2011 (DoEHLG). The report has been prepared to assess the potential impact of proposed bridge maintenance works by Galway County Council to Duniry 2 Bridge, Tynagh, Co. Galway, on the Natura 2000 network.

Duniry 2 Bridge spans the Cappagh River which enters Lough Derg approximately 10.8 km downstream. The Cappagh River flows along the eastern boundary of Barroughter Bog SAC approximately 9.7 km downstream of Duniry 2 Bridge. The boundary of Lough Derg North east Shore SAC 002241 lies a further 943m downstream and boundary of Lough Derg Shannon SPA lies an additional 205m downstream.

The proposed works will be carried out approximately 9.7 - 10.8 km upstream of these protected sites. Therefore, Appropriate Assessment under Article 6 (3) of the Habitat's Directive is required.

This report provides the information required to establish whether or not the proposed work is likely to have a potential impact on these protected sites in relation to their conservation objectives and specifically on the habitats and species for which these sites have been designated.

Duniry 2 Bridge was surveyed for roosting bats and nesting birds on 19th May 2024.

1.1 Protected Sites

Appropriate Assessment screening takes into consideration the likely effects on any protected site (SACs or SPAs) within 15km of the proposed works site. There are 12 protected sites in the European NATURA network within 15 km of Duniry 2 Bridge. These sites are listed in Table 1.

SITE	SITE CODE	DISTANCE FROM SITE
Barroughter Bog SAC	000231	7.9 km to south east along watercourse
Lough Derg North East Shore SAC	002241	10.64 km to south east along watercourse
Lough Derg (Shannon) SPA	004058	10.84 km to south east along watercourse
Slieve Aughty Mountains SPA	004168	2.41 km to west
Lough Rea SAC	000304	10.80 km to north west
Lough Rea SPA	004134	10.80 km to north west
Pollagoona Bog SAC	002126	14.68 km to south west
Pollnaknockaun Wood Nature Reserve SAC	000319	9.92 km to south east
Rosturra Wood SAC	001313	8.93 km to south east

Cloonmoylan Bog SAC	000248	9.47 km to south east
Derrycrag Wood Nature Reserve SAC	000261	7.63 km to south east
Ardgraigue Bog SAC	002356	11.41 km to north east

Table 1 – Protected Sites with 15km of Duniry 2 Bridge

Only the first three sites listed in Table 1 (Barroughter Bog SAC, Lough Derg North East Shore SAC and Lough Derg (Shannon) SPA) are hydrologically linked to the proposed work site. The work site is approximately 7.9 km upstream of the boundary of Barroughter Bog SAC and 10.64/10.84 km upstream of Lough Derg North East Coast SAC/Lough Derg (Shannon) SPA.
The other 9 sites are not hydrologically connected to the proposed work site. Therefore, the works will have no impacts on these sites. These 9 sites will not be considered further.

Figure 1 – aerial showing location of Duniry 2 Bridge on the Cappagh River in area of improved pasture

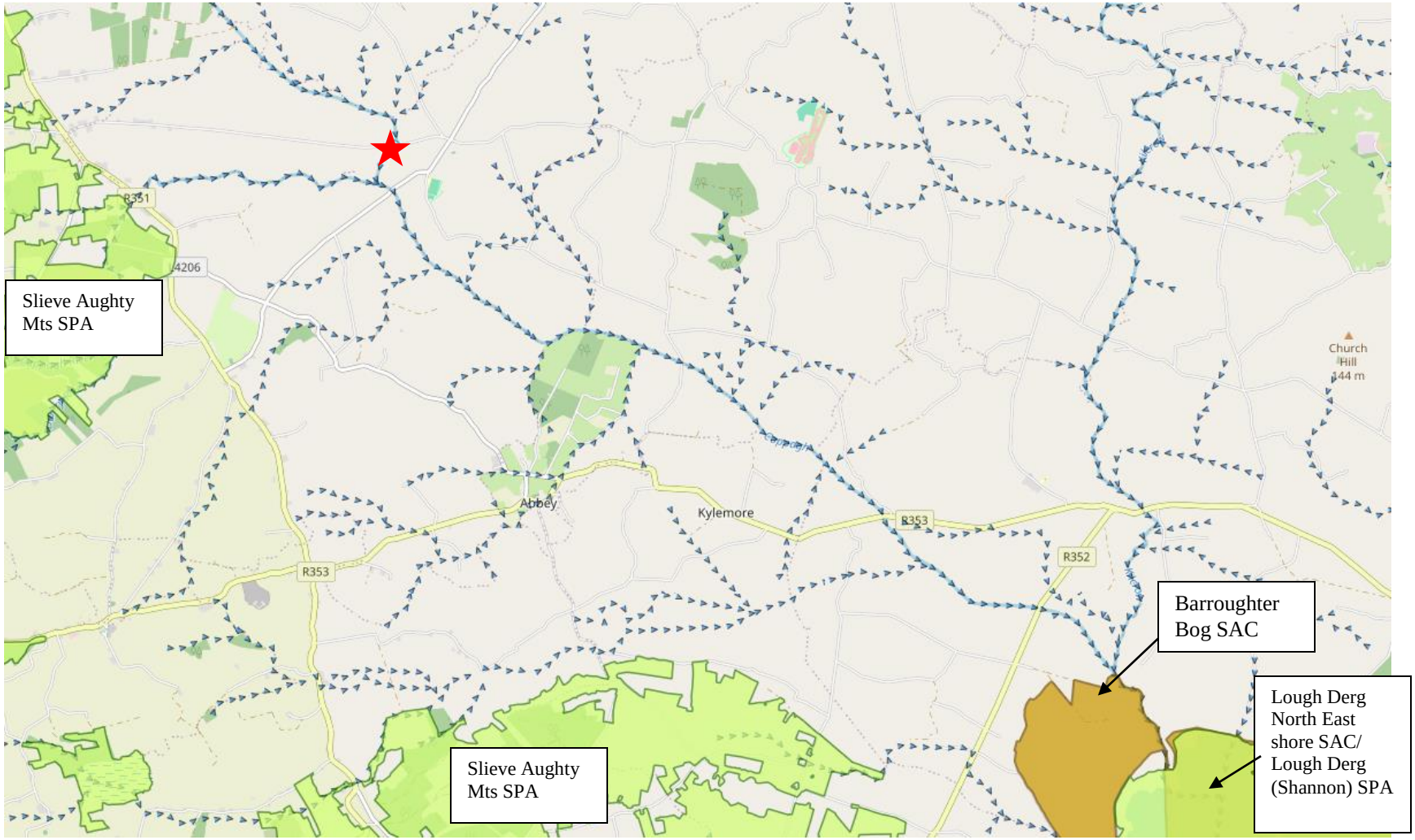

Figure 2 – Duniry 2 Bridge (red star) in relation to Barroughter Bog SAC, Lough Derg North East Shore SAC and Lough Derg Shannon SPA

SITE	SITE CODE	DISTANCE FROM SITE	QUALIFYING FEATURES (Qualifying Interests or Special Conservation Interests)	SITE DESCRIPTION AND VULNERABILITY/THREATS
Lough Derg North East Shore SAC	002241	Duniry 2 Bridge is 10.64 km upstream of site	[5130] Juniper Scrub [7210] Cladium Fens* [7230] Alkaline Fens [8240] Limestone Pavement* [91E0] Alluvial Forests* [91J0] Yew Woodlands*	Lough Derg, the lowest order lake on the River Shannon, is one of the largest bodies of freshwater in Ireland. This SAC, however, only includes the northern shore of the lake from the mouth of the Cappagh River in the north-west to just below Black Lough at the north-eastern shore. The geology of the lake shore is principally limestone and in places this protrudes at the surface in the form of boulders and rubble, and can be classified as limestone pavement. These are often bryophyte-rich surfaces or else support a calcareous grassland or heath flora, as well as some woody species, such as Yew (Taxus baccata) and Juniper (Juniperus communis). The geographical location of these examples of limestone pavement within the country is notable. A second priority Annex I habitat, Cladium fen, occurs occasionally along the lake margins, mainly in association with alkaline fens, Common Reed (Phragmites australis) and other swamp vegetation. Typically, Great Fen-sedge (Cladium mariscus), which can be up to 2 m in height, forms dense stands. Yew woods in Ireland are mostly confined to the west of the country. However, a substantial area of Yew is located on limestone at Cornalack, where Yew forms a scrub woodland along the east shore of Lough Derg. Here, Yew is found in association with small amounts of Juniper, which forms protection against grazing for the young Yew. Elsewhere, small stands of Yew up to 5 m high occur with Spindle (Euonymus europaeus), Blackthorn (Prunus spinosa), Gorse (Ulex europaeus) and Ash (Fraxinus excelsior). Due to shading, and in places cattle trampling, the ground flora supports few herbs. However, the bryophyte layer is well developed with many moss covered rocks present. Juniper occurs throughout this site in a range of habitats, associated

				with calcareous grasslands, heath and limestone outcrops. Some of the finest examples of Juniper formations in Ireland occur along the lake edge where upright, bushy Juniper shrubs up to 3 m tall are found. Many of the islands also support significant Juniper cover. This is particularly evident on Bounla Island. Juniper generally occurs as fringing vegetation around the islands, which typically have wooded centres. At Cornalack, along the eastern shore of Lough Derg, tall Juniper is found in association with loose limestone rubble with a significant cover of Yew. Deciduous woodlands are also a notable feature of the site, dominated by oak (Quercus spp.), as at Bellevue, and Hazel/Ash at many of the examples along the north-eastern shore. Wet woodland is frequent along the lake shore, and in some areas this conforms well with the E.U. Annex I habitat, alluvial woodland. The ground flora of the undisturbed alluvial sites is often dominated by Yellow Iris (Iris pseudacorus), with a range of other species commonly present. Further examples of alluvial woodland occur at Portumna. Beech (Fagus sylvatica) and Scots Pine (Pinus sylvestris) are often present at the lake edge along areas which were once parts of estates. Some areas of coniferous forestry have been included within the site. The only known site in the country for the Red Data Book plant Irish Fleabane (Inula salicina) occurs along the lake shore. This plant is legally protected under the Flora (Protection) Order, 1999. Other Red Data Book species present within this site are Marsh Pea (Lathyrus palustris) and Ivy Broomrape (Orobanche hederae). The Red Data Book stonewort Chara tomentosa has its stronghold in Lough Derg. The lake is rated as nationally important for waterfowl. The entire lake, including all of the islands, is a designated SPA (Special Protection Area). Counts from 1995/96 carried out at seven locations on the lake indicate that the lake holds nationally important numbers for Mute Swan, Cormorant, Mallard, Teal, Tufted Duck and Goldeneye. The lake also supports a

				number of Greenland White-fronted Goose, a bird species listed on Annex I of the E.U. Birds Directive. There is a Wildlife Sanctuary at the north western edge of the lake. Lough Derg is of conservation interest also for its fish and freshwater invertebrates. Lampreys, listed under Annex II of the E.U. Habitats Directive, are known to occur and the lake contains an apparently self-sustaining landlocked population of Sea Lamprey (Petromyzon marinus). A landlocked population, where the fish are feeding and not completing a seaward migration, is unique in an Irish context, though there are several such populations in the U.S. and one is known from Loch Lomond in Scotland. Brook Lamprey (Lampetra planeri) is known to be common in the lower Shannon catchment where all three lamprey species breed. The endangered fish species Pollan (Coregonus autumnalis pollan) is recorded from Lough Derg, one of only three sites in Ireland and in western Europe. The Pollan is a landlocked species of Coregonid or 'White Fish', thought to have colonised Irish waters after the last Ice Age. Its nearest relative, the Arctic Cisco, is found as far away as Alaska, Northern Canada and Siberia. Although it is anadromous throughout most of its northern range, the Irish population are all non-migratory and purely freshwater. Lough Derg is also a well known fishing lake with a good Trout (Salmo trutta) fishery. Atlantic Salmon (Salmo salar) also use the lake as a spawning ground. Although this species is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the E.U. Habitats Directive. Otter and Badger have been recorded within the site. Both of these species are listed in the Irish Red Data Book and are legally protected by the Wildlife Act, 1976. **Threats** Land use within the site is mainly of a recreational nature with many boat hire companies, holiday home schemes and angling clubs located at the lake edge. Recreational disturbance may pose a threat to the wintering wildfowl

				populations, though tourism is scaled down during the winter. The water body is surrounded mainly by improved pastoral farmland to the south and east, with areas of bog to the south-west and west. Coniferous plantations are present along the west and northwest shore and small areas of these are included within the site. If these areas are felled no further planting should take place as afforestation damages the wetland habitats between the plantation and lake edge. The main threats to the quality of the site are water polluting activities resulting from intensification of agricultural activities around the lake shore, uncontrolled discharge of sewage, which is causing eutrophication of the lake, and housing and boating development which has resulted in the destruction of lakeshore habitats. There is also significant fishing and shooting pressure on and around the lake. Forestry can result in the loss of some areas of wetland habitat. The spread of Zebra Mussel (Dreissena polymorpha) in Lough Derg also poses a threat the ecology of the lake. This is a site of significant ecological interest, with six habitats listed on Annex I of the E.U. Habitats Directive. Four of these are priority habitats - Cladium fen, alluvial woodland, limestone pavement and Yew woodland. Other annexed habitats present include alkaline fen and Juniper scrub formations on heath and calcareous grasslands. In addition, the lake itself is an SPA that supports important numbers of wintering wildfowl, Greenland White-fronted Goose, Common Tern and Cormorant, a number of which are listed under Annex I of the E.U. Birds Directive.
Lough Derg (Shannon) SPA	004058	Duniry Bridge is 10.84 km upstream of site	Cormorant, Tufted Duck, Goldeneye Common Tern.	Lough Derg lies within counties Tipperary, Galway and Clare and is the largest of the River Shannon Lakes, being some 40 km long. Its maximum breadth across the Scarriff Bay -Youghal Bay transect is 13 km but for most of its length it is less than 5 km wide. The lake is relatively shallow at the northern end being mostly 6 m in depth but in the middle region it has an

				axial trench and descends to over 25 m in places. The narrow southern end of the lake has the greatest average depth, with a maximum of 34 m. Most of the lower part of the lake is enclosed by hills on both sides, the Slieve Aughty Mountains to the west and the Arra Mountains to the east. The northern end is bordered by relatively flat, agricultural country. The lake shows the high hardness levels and alkaline pH to be expected from its mainly limestone catchment basin, and it has most recently been classified as a mesotrophic system. The lake has many small islands, especially on its western and northern sides. The shoreline is often fringed with swamp vegetation. Aquatic vegetation includes a range of charophyte species, including the Red Data Book species, Chara tomentosa. The shoreline is often fringed by swamp vegetation, comprised of such species as Common Reed (Phragmites australis), Great Fen-sedge (Cladium mariscus) and Bottle Sedge (Carex rostrata). The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Cormorant, Tufted Duck, Goldeneye 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 Derg is of importance for both breeding and wintering birds. The site supports a nationally important breeding colony of Common Tern (55 pairs recorded in 1995). Management of one of the islands used for nesting has increased the area of suitable habitat available and prevented nests being destroyed by fluctuating water levels. Large numbers of Black-headed Gull have traditionally bred on the many islands (2,176 pairs in 1985) but the recent status of this species is not known. The islands in the lake also support a nationally important Cormorant colony - 167 pairs were recorded in 1995; a partial survey of the lake in 2010 recorded 113 pairs. Lough Derg is also a noted breeding site for Great Crested Grebe (47 pairs in

				1995) and Tufted Duck (169 pairs in May 1995). In winter, the lake is important for a range of waterfowl species, including nationally important populations of Tufted Duck (776) and Goldeneye (157) – all figures are mean peaks for 4 of the 5 seasons between 1995/96 and 1999/2000. Areas to north and south west of Lough Derg have been utilised in the past by small numbers of Greenland Whitefronted Goose – 19 geese were recorded on callowland near Portumna in 1996/97. A relatively small flock based in the Lough Derg-Lough Graney area and possibly further afield have been recorded in the Scarriff Bay area – 20 geese recorded in 2004. Few sightings, at either location have been made in recent years. Hen Harrier are also known to roost in the reedbeds on the margins of the site during the winter. Lough Derg (Shannon) SPA is of high ornithological importance as it supports nationally important breeding populations of Cormorant and Common Tern. In winter, it has nationally important populations of Tufted Duck and Goldeneye, as well as a range of other species including Whooper Swan. The presence of Whooper Swan, Greenland White-fronted Goose, Hen Harrier and Common Tern is of particular note as these are listed on Annex I of the E.U. Birds Directive. Parts of Lough Derg (Shannon) SPA are a Wildfowl Sanctuary.
Barroughter Bog SAC	000231	Duniry 2 Bridge is 7.9 km upstream of Barroughter Bog SAC	[7110] Raised Bog (Active)* [7120] Degraded Raised Bog [7150] Rhynchosporion Vegetation	Barroughter Bog is a relatively small raised bog, situated on the shores of Lough Derg in Co. Galway, a few kilometres east of Woodford, and bounded in the north by the Cappagh River. The bog has a good dome, which is slightly hollowed towards the eastern side. The north-eastern corner (cut off by an old drain and track) and a narrow area in the south-east are fairly dry due to drainage and burning. 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). Part of the central area of the peat dome contains active raised bog, with such species as Heather (Calluna vulgaris), Hare's-tail Cottongrass (Eriophorum vaginatum), Deergrass, Bog Asphodel and Carnation Sedge. Within wet, quaking areas of the active bog, Rhynchosporion is represented. This habitat tends to be dominated by White Beak-sedge, Common Cottongrass (Eriophorum angustifolium), Bogbean (Menyanthes trifoliata), sundews and a good cover of bog mosses, including S. cuspidatum and the relatively rare S. pulchrum. A small flushed area occurs in the centre and towards the edge of the quaking area. This flush adds diversity to the bog, with a few small Downy Birch (Betula pubescens) trees, Bilberry (Vaccinium myrtillus), Crowberry (Empetrum nigrum) and Cranberry (Vaccinium oxycoccos) occurring in abundance, and a range of moss species.

Table 2 - Details of connected sites within 15 km of Duniry 2 Bridge and their qualifying features

<u>Barroughter Bog SAC/ Lough Derg North East Shore SAC/ Lough Derg (Shannon) SPA</u>

The Cappagh River flows in a southerly direction under Duniry 2 Bridge to flow south along the eastern boundary of Barroughter Bog SAC. The river flows into the north shore of Lough Derg a further 1km downstream (Lough Derg North East Shore SAC / Lough Derg (Shannon) SPA).

The Habitats Directive protects important habitats and species within Special Areas of Conservation (SACs). It lists certain habitats (Annex I) and species (Annex II) for special protection. A second European Directive – the Birds Directive – seeks to protect birds of conservation importance by the designation of Special Protection Areas (SPA's).

European and national legislation places an obligation on Ireland to maintain at favourable conservation status sites designated as Special Areas of Conservation and Special Protection Areas.
Favourable conservation status of a habitat is achieved when:

- Its natural range, and the area it covers within that range, is stable of increasing, and
- The ecological factors that 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 data on the species concerned indicate that it is maintaining itself, and
- The natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and
- There is, and probably will continue to be a sufficiently large habitat to maintain its populations on a long-term basis.

This report assesses the likely significant effects of the proposed maintenance of Duniry 2 Bridge on Barroughter Bog SAC, Lough Derg North East Shore SAC and Lough Derg (Shannon) SPA.

Article 6 assessments are required under the Habitat's Directive (92/43/EEC) where a project may have significant effects on a Natura 2000 site (a European compilation of Special Areas of Conservation - SAC's and Special Protection Areas – SPAs - for birds).

A Conservation Objectives document was prepared in 2015 for Barroughter Bog SAC (NPWS, 2015) and site synopsis in 2013. A Conservation Objectives document was prepared for Lough Derg North East Shore SAC in 2019 (NPWS, 2019) and site synopsis in 2014.
A generic Conservation Objectives document was prepared for Lough Derg (Shannon) SPA in 2022 and Site Synopsis in 2014.

2. METHODOLOGY OF SCREENING

This screening report examines whether the proposed maintenance works on Duniry 2 Bridge will have a significant impact on Barroughter Bog SAC, Lough Derg North East Coast SAC and Lough Derg (Shannon) SPA which lie between 7.9 and 10.84 km downstream of the bridge.

Appropriate Assessment

The assessment of a proposed project likely to affect a Natura 2000 site is a 4-stage process.

The relevant guidance documents for Appropriate Assessment set out a staged process for carrying out Appropriate Assessment, the first of which is referred to as screening.

Stage 1 - The screening stage identifies the likely impacts on Natura 2000 sites, if any, which would arise from a proposed plan or project, either alone, or in combination with other plans and projects, and further considers whether these impacts are likely to be significant.

If it can be concluded during the screening exercise that there is no likelihood of significant impacts occurring on any Natura 2000 sites, as a result of the proposed development either alone or in combination with other plans and projects, then there is no requirement to proceed to subsequent stages of Appropriate Assessment.

If it is not possible to conclusively rule out significant impacts on Natura 2000 sites, the assessment should proceed to Stage 2: Appropriate Assessment for which a Natura Impact Statement (NIS) must be prepared.

Stage 3 of the process is Assessment of Alternative Solutions which examines alternative ways of achieving the objectives of the plan or project that avoid adverse impacts on the integrity of the Natura 2000 site.

Stage 4 Assessment where Adverse Impacts Remain is an assessment of compensatory measures where, in the light of an assessment of Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed.

This report is comprised of the ecological impact assessment and testing required under the provisions of Article 6(3) by means of the first stage of Appropriate Assessment – **Stage 1 - the screening process**.

EU Guidance states:

"*This stage examines the likely effects of a project or plan, either alone or in combination with other projects or plans, upon a Natura 2000 site and considers whether it can be objectively concluded that these effects will not be significant*".

This report also provides the information required for the Competent Authority to complete the Appropriate Assessment (Stage 2) should this be necessary in the opinion of the Competent Authority. Screening has been undertaken in accordance with the European Commission's Guidance on Appropriate Assessment (European Commission, 2001) which comprises the following:

1. Description of the Plan
2. Identification of Natura 2000 Sites potentially affected by the Plan
3. Identification and Description of Individual and Cumulative impacts likely to result from the Plan
4. Assessment of the Significance of the impacts identified on the Conservation Objectives of the site(s)
5. Exclusion of sites where it can be objectively concluded that there will be no significant impacts on conservation objectives

Following the guidelines set out by NPWS (2009), Appropriate Assessment Screening (Phase 1 - Appropriate Assessment) is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3) of the EU Habitats Directive –

(1) Is the plan or project directly connected to or necessary for the management of the site?
(2) Is the plan or project, alone or in combination with other such plans or projects likely to have significant negative effects on a Natura 2000 site(s) in view of the conservation objectives of that site(s)?

The proposed bridge maintenance work does not comply with the first screening test as the proposed development is not directly connected to, or necessary for the management of any Natura 2000 site. This screening exercise will therefore inform the Appropriate Assessment process in determining whether the proposed development, alone or in combination with other plans or projects, is likely to have significant effects on the Natura 2000 sites within the study area.
If effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overtly complicated, then the Appropriate Assessment process must proceed to Stage 2 Appropriate Assessment and the preparation of a Natura Impact Statement (NIS).

3. DESCRIPTION OF THE PROJECT

Galway County Council plan to conduct essential repair works to Duniry 2 Bridge, Tynagh, Co. Galway. This work may have the potential to impact upon Barroughter Bog SAC, Lough Derg North East Coast SAC and Lough Derg (Shannon) SPA which lie 7.9/10.4km downstream.
This screening report examines whether the proposed bridge repair works will have a significant impact on these three protected sites.

Proposed Works at Duniry 2 Bridge
Removal of all vegetation from structure
Masonry repairs including parapets, arches, spandrel walls and piers
Repointing of masonry elements

4. SITE VISIT

Bridge Name: Duniry 2 Bridge
Watercourse: Cappagh River
Grid Reference: 53.1341667, -8.4139167
Date of Survey: 19.05.24
Results: Nursery roost of Daubenton's bats, Dipper, Wren, Otter, Freshwater crayfish

Recommendations: A derogation licence from NPWS is required for repair works to be carried out. Resurvey prior to works commencing. Works to be supervised by licenced ecologist.

Dipper nest box to be mounted under centre arch.

Description: Duniry 2 Bridge is a 3 span skewed masonry arch bridge which spans the Cappagh River approximately 3.27km south west of Tynagh village.
The Cappagh River flows under Duniry 2 Bridge in a southerly direction.

The bridge was surveyed on 19th May 2024. The arches are numbered 1-3 from west to east for the purpose of this report.
Arch 1 (western arch) was dry on the date of the survey. No bats were recorded roosting in any of the crevices under this arch but several crevices had staining by bats. Four crevices were marked for retention for bats with red paint. Otter spraints were recorded on a rock under the arch.
Arch 2 – An active dipper's nest was recorded under the middle arch. And one crevice was marked for retention for bats.
Arch 3 – A maternity roost of c 8 Daubenton's bats were recorded in a crevice under the arch. This crevice and one other small crevice were marked for retention.

Otters were surveyed by searching for otter spraints deposited in prominent places on rocks/ledges, otter tracks in mud or trails/slides adjacent to the site. Otter spraints were recorded on a rock under Arch 1.

It was known from consultation with National Biodiversity Data Centre (NBDC) maps that Freshwater crayfish *Austropotamobius pallipes* have been recorded previously at Duniry 2 Bridge.
There are no records of Freshwater Pearl Mussels from the Cappagh River.
No invasive plants were recorded in the vicinity of the bridge.

PHOTOGRAPHS TAKEN DURING SITE VISIT

Photo 1 – looking east across bridge showing grassy verges on both sides of road

Photo 2 - downstream. Parapet wall heavily overgrown with vegetation

Photo 3 – upstream parapet wall with heavy vegetation

Photo 4 – upstream elevation of Duniry 2 Bridge. The westernmost arch is obscured by vegetation

Photo 5 – view under western arch – practically dry on date of survey

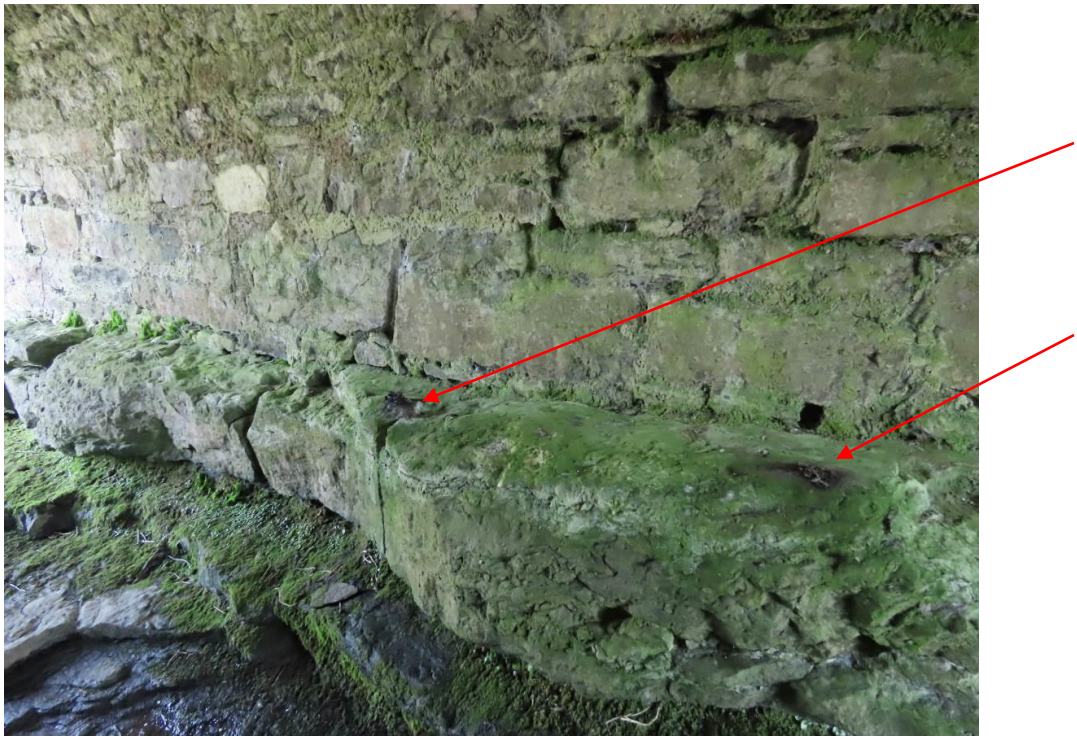

Photo 6 – Otter spraints on stone ledge under western arch

Photo 7 – close up of otter spraints containing crayfish remains

Photo 8 – wren's nest in ivy at upstream face of arch 1

Photo 9 – stone plinth under westernmost arch

Photo 10 – upstream face of middle arch and western arch. Breakwater pier undermined

Photo 11 – view under middle arch from upstream

Photo 12 – flood debris trapped at upstream pier between middle arch and eastern arch

Photo 13 – crevice containing maternity roost of Daubenton's bats midway under eastern arch

Photo 14 – close up of void containing maternity roost. This void must be retained

5. SCOPE OF WORKS

Proposed Works to Duniry 2 Bridge

The works proposed by Galway County Council include removal of vegetation from the structure, removal of grassy verges, masonry repairs to parapets, arches and undermined piers, repointing masonry

Environmental Risks and Control Procedures

- An Environmental Method Statement will be prepared by the contractor
- The work teams shall be inducted on the ecological considerations listed in this Environmental Method Statement by the site foreman. Advance notice of all works and associated Method Statements to be provided to NPWS.

Hydrocarbon Spillage Control and Response Plan

- Refuelling of machinery not to take place within 50m of watercourse. Where necessary, storage of hydrocarbons on site is to be within bunded containers or delivered to site on an "as required" basis.
- All mechanical plant to be regularly maintained and serviced. Major services to be conducted off site
- Bio-degradable maintenance oils and greases to be used where possible
- Where hydraulic oil changes are necessary to take place on site, works are to be carried out over an impermeable drip tray and any hazardous material to be disposed of off-site in a bunded container or spill kit bags for disposal by an approved and registered environmental waste disposal contractor
- Spill kits to be held on site with machine operators
- Machinery to be turned off when not in use

6. DESCRIPTION OF THE RECEIVING ENVIRONMENT

Appropriate Assessment screening is required by National Parks and Wildlife Service (NPWS) to determine the potential for significant effects on any Natura 2000 site (SAC or SPA) or its conservation objectives as a result of this bridge repair project.
Three Natura 2000 sites have the potential to be adversely affected by the bridge repairs work – Barroughter Bog SAC, Lough Derg North East Shore SAC and Lough Derg (Shannon) SPA.

Barroughter Bog SAC

Barroughter Bog is a relatively small raised bog, situated on the shores of Lough Derg in Co. Galway, a few kilometres east of Woodford, and bounded in the north by the Cappagh River. The bog has a good dome, which is slightly hollowed towards the eastern side. The north-eastern corner (cut off by an old drain and track) and a narrow area in the south-east are fairly dry due to drainage and burning.

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):
[7110] Raised Bog (Active)*

[7120] Degraded Raised Bog
[7150] Rhynchosporion Vegetation

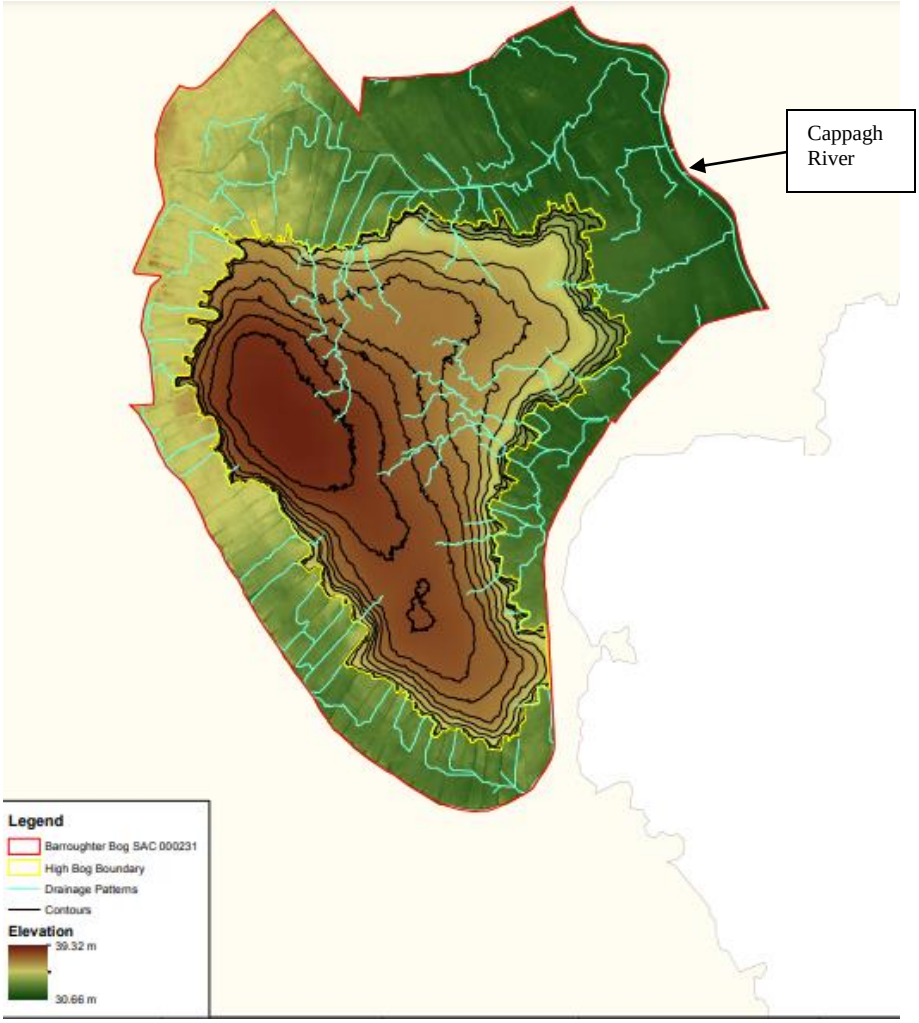

Figure 3 – drainage pattern of Barroughter Bog (from Conservation Objectives document (NPWS 2015). The Cappagh River flows past the north east edge of the bog along the site boundary

Lough Derg North East Shore SAC
Lough Derg, the lowest order lake on the River Shannon, is one of the largest bodies of freshwater in Ireland. This SAC, however, only includes the northern shore of the lake from the mouth of the Cappagh River in the north-west to just below Black Lough at the north-eastern shore.
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):
[5130] Juniper Scrub

[7210] Cladium Fens*
[7230] Alkaline Fens
[8240] Limestone Pavement*
[91E0] Alluvial Forests*
[91J0] Yew Woodlands*

Lough Derg (Shannon) SPA
Lough Derg lies within counties Tipperary, Galway and Clare and is the largest of the River Shannon Lakes, being some 40 km long. Its maximum breadth across the Scarriff Bay -Youghal Bay transect is 13 km but for most of its length it is less than 5 km wide. The lake is relatively shallow at the northern end being mostly 6 m in depth but in the middle region it has an axial trench and descends to over 25 m in places.
The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Cormorant, Tufted Duck, Goldeneye 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.

7. DESCRIPTION OF POTENTIAL IMPACTS

The proposed bridge repair works will be conducted 7.9 km upstream of the boundary of Barroughter Bog SAC and 10.4 km upstream of Lough Derg North East Shore SAC and 10.8 km upstream of Lough Derg (Shannon) SPA.
The Cappagh River flows past the north east boundary of Barroughter Bog SAC. Works to Duniry 2 Bridge upstream will have no impact on Barroughter Bog SAC or on its qualifying interests - Raised Bog (Active), Degraded Raised Bog and Rhynchosporion Vegetation.

None of the birds listed as Features of Interest for Lough Derg (Shannon) SPA will be adversely affected by the bridge repair work (Cormorant, Tufted Duck, Goldeneye and Common Tern). These birds will not be disturbed by works on the bridge approximately 10 km to the north. However, it must be ensured that the water quality of the Cappagh River downstream is not adversely affected which would impact on the water plants on which these species feed.

The qualifying features of Lough Derg, North east shore SAC are listed as Juniper Scrub, Cladium Fens, Alkaline Fens, Limestone Pavement, Alluvial Forests and Yew Woodlands. None of these habitats will be adversely affected by repair works to Duniry 2 Bridge.

Works are scheduled for Summer 2024.
Sediment may inadvertently enter the watercourse during works including raking out of old mortar and repointing of stonework. This would impact on the watercourse and in turn on the SPA.

It is considered that otters will not be adversely affected by the bridge repair works. Otters are mainly nocturnal and will continue to commute along river systems after the works have been completed each evening.
Freshwater crayfish were recorded in otter spraints during this survey and have been previously recorded at Duniry 2 Bridge. If Freshwater crayfish are inadvertently removed during works they must be returned immediately to the watercourse.
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8. RECOMMENDATIONS
These recommendations will provide effective means to reduce or eliminate potential impacts of the proposed bridge repair works on the watercourse running under Duniry 2 Bridge.

- A derogation licence is required from NPWS for bridge repair works to Duniry 2 Bridge.

- Duniry 2 Bridge must be resurveyed immediately prior to works commencing. Works to be supervised by a licenced ecologist

- Galway County Council/Contractor must produce a detailed **Construction Method Statement** in relation to the proposed bridge repair works. The contractor must adhere strictly to this Construction Method Statement.
  This statement details the exact methodology being employed, the timing and duration of works and measures used to protect water quality.
  In their method statement Galway County Council will clearly outline the measures they will take to prevent sediment moving down the watercourse during work processes. "Sedi-mats" should be placed downstream of the works area to trap suspended sediment created by any in-stream works.

- Access to the watercourse should be restricted to one route to avoid unnecessary damage to the river banks and bank vegetation.

- Removal of vegetation on channel banks should be kept to a minimum. Only trees branches that are hanging into the river to be removed.
  .
- Any equipment or machinery which will enter the water bodies during works must be fully treated to prevent the spread of non-native invasive species of plant or animal.

9. CUMULATIVE EFFECTS
Article 6(3) of the habitat's Directive requires an assessment of a plan/project to consider other plans/projects that might, in combination with the proposed plan/project, have the potential to adversely impact upon Natura 2000 sites.

Galway County Council have confirmed that there are no additional works planned in the area of Duniry 2 Bridge. Therefore, there is no significant potential for cumulative impact associated with the proposed repair works.

10. ASSESSMENT OF SIGNIFICANCE

The potential impacts of the proposed bridge repair works on Natura 2000 sites within 15km radius of site are assessed using the following factors (European Commission 2001). Assessment of plans and projects significantly affecting Natura 2000 sites – methodological guidance on the provisions of Article 6(3) and 6 (4) of the Habitats Directive 92/43/EEC

- Size and Scale
- Land-take
- Distance from Natura 2000 site or key features of the site
- Resource requirements (Water abstraction etc)
- Emissions (disposal to land, water or air)
- Excavation requirements
- Transportation requirements
- Duration of construction, operation, decommissioning etc
- Reduction of habitat area
- Disturbance to key species
- Habitat or species fragmentation
- Reduction in species density
- Changes in key indicators of conservation value (water quality etc)
- Climate change
- Key relationships that define the structure of the sites
- Key relationships that define the function of the sites

Table 2 - Likely direct, indirect or secondary impacts of the proposed works (either alone or in combination with any other plans or projects) on Natura 2000 sites within 15km radius of the site by virtue of:

Size and scale	Works area is confined to Duniry 2 Bridge which spans a watercourse ca. 7.9 km upstream of Barroughter Bog SAC and ca. 10.6 km upstream of Lough Derg North East Shore SAC and Lough Derg (Shannon) SPA
Land-take	No land take
Distance from Natura 2000 site	The closest Natura 2000 site is Barroughter Bog SAC (site code 000231), the boundary of which lies 7.9

	km downstream. Lough Derg North East Shore SAC (site code) 002241 and Lough Derg (Shannon) SPA (site code 004058) lie approximately 10.6km downstream of works site.
Resource requirements (water extraction etc.)	There are no resource requirements such as water extraction required for this bridge repair work.
Emissions (disposal to land, water or air)	There are no significant emissions or disposal to land, water or air from this bridge repair work.
Excavation requirements	No excavation required
Transportation requirements	Equipment to be brought to site
Duration of construction, operation, decommissioning etc	Works are estimated to take two weeks
Reduction of habitat area	None within any Natura 2000 site

Changes to the Natura 2000 site arising as a result of disturbance, fragmentation etc are summarized below in Table 3

Table 3

Disturbance to key species	There is potential for short term disturbance to birds using this site but not to key species of any SPA. The crevice used by the maternity roost of Daubenton's bat will be retained. Works will take place outside of the breeding season.
Habitat or species fragmentation	There will be no direct fragmentation of habitat or species as a result of this bridge repair work.
Reduction in species density	There is no potential for reduction in species density.
Changes in key indicators of conservation value (water quality etc)	Silt traps will be employed to trap suspended silt downstream of works site.
Climate change	There will be no impact on climate

Likely impacts on the Natura 2000 sites as a whole, in terms of structure and functions are described in Table **4**

Table 4

Key relationships that define the structure of the sites	There is no risk of negative impact on water quality in Lough Derg downstream. There is a risk of short-term disturbance to birds and otter on site for the short duration of the works
Key relationships that define the function of the sites	As above

11. CONCLUSIONS OF SCREENING

This Appropriate Assessment screening report has evaluated the proposed bridge repairs to Duniry 2 Bridge which spans the Cappagh River, to determine whether or not significant negative impacts on Natura 2000 sites are likely to arise.
The report identified 12 Natura sites within a 15km radius of the site.
Significant impacts on 9 of these sites were ruled out on account of their distance from the site, their qualifying interests, conservation objectives and the fact that they are not hydrologically linked to the works site.
In view of best scientific knowledge and in light of the conservation objectives of the relevant European sites, it is concluded that the proposed bridge repair works, whether individually or in combination with other plans or projects will **not** have significant effects on the following European sites

- Barroughter Bog SAC 000231
- Lough Derg North East Shore SAC
- Lough Derg (Shannon) SPA

Screening has identified that, assuming all codes of best practice and management are complied with, there is no potential for significant effects affecting the Natura 2000 network. Therefore, Stage II Appropriate Assessment and the preparation of a Natura Impact Statement is not required in this case.

12. REFERENCES

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NPWS (2019) Conservation objectives: Lough Derg, North-east shore SAC 002241. Version 1. National Parks and Wildlife Service. Department of Culture, Heritage and the Gaeltacht.

NPWS (2022) Conservation Objectives for Lough Derg (Shannon) SPA [004058]. First order Site-specific Conservation Objectives Version 1. Department of Housing. Local Government and Heritage

Wildlife Act 1976 including all other amendments 1979 – 2010. Number 39 of 1976 and Number 38 of 2000. Dublin: Government Publications.

Websites

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www.nbdc.ie – website of the National Biodiversity Data Centre

www.epa.ie – website of the Environmental Protection Agency

APPENDIX

Site Synopsis

Site Name: Barroughter Bog SAC
Site Code: 000231
Barroughter Bog is a relatively small raised bog, situated on the shores of Lough Derg in Co. Galway, a few kilometres east of Woodford, and bounded in the north by the Cappagh River. The bog has a good dome, which is slightly hollowed towards the eastern side. The north-eastern corner (cut off by an old drain and track) and a narrow area in the south-east are fairly dry due to drainage and burning.
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):
[7110] Raised Bog (Active)*
[7120] Degraded Raised Bog
[7150] Rhynchosporion Vegetation

Active raised bog comprises areas of high bog that are wet and actively peatforming, 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).
Part of the central area of the peat dome contains active raised bog, with such species as Heather (Calluna vulgaris), Hare's-tail Cottongrass (Eriophorum vaginatum), Deergrass, Bog Asphodel and Carnation Sedge. Within wet, quaking areas of the active bog, Rhynchosporion is represented. This habitat tends to be dominated by White Beak-sedge, Common Cottongrass (Eriophorum angustifolium), Bogbean (Menyanthes trifoliata), sundews and a good cover of bog mosses, including S. cuspidatum and the relatively rare S. pulchrum. A small flushed area occurs in the centre and towards the edge of the quaking area. This flush adds diversity to the bog, with a few small Downy Birch (Betula pubescens) trees, Bilberry (Vaccinium myrtillus), Crowberry (Empetrum nigrum) and Cranberry (Vaccinium oxycoccos) occurring in abundance, and a range of moss species.

Site Name: Lough Derg, North-east Shore SAC
Site Code: 002241

Lough Derg, the lowest order lake on the River Shannon, is one of the largest bodies of freshwater in Ireland. This SAC, however, only includes the northern shore of the lake from the mouth of the Cappagh River in the north-west to just below Black Lough at the north-eastern shore. The greater part of this site lies on Carboniferous limestone, although there is Old Red Sandstone on the southern shores of the eastern section.

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):

[5130] Juniper Scrub
[7210] Cladium Fens*
[7230] Alkaline Fens
[8240] Limestone Pavement*
[91E0] Alluvial Forests*
[91J0] Yew Woodlands*

The geology of the lake shore is principally limestone and in places this protrudes at the surface in the form of boulders and rubble, and can be classified as limestone pavement. These are often bryophyte-rich surfaces or else support a calcareous grassland or heath flora, as well as some woody species, such as Yew (Taxus baccata) and Juniper (Juniperus communis). Examples occur at Cornalack, Kylenamelly and Portumna. The last two named areas were partly afforested but are proposed for restoration under a Coillte E.U. LIFE Programme. The geographical location of these examples of limestone pavement within the country is notable.

A second priority Annex I habitat, Cladium fen, occurs occasionally along the lake margins, mainly in association with alkaline fens, Common Reed (Phragmites australis) and other swamp vegetation. Typically, Great Fen-sedge (Cladium mariscus), which can be up to 2 m in height, forms dense stands. Associated species include Common Reed, Black Bog-rush (Schoenus nigricans), Water Horsetail (Equisetum fluviatile), Bottle Sedge (Carex rostrata) and occasional Slender Sedge (Carex lasiocarpa). This community generally merges with alkaline fen dominated by Black Bog-rush, with Purple Moor-grass (Molinia caerulea), Marsh Horsetail (E. palustre), Meadowsweet (Filipendula ulmaria) and scattered tussocks of Greater Tussock-sedge (Carex paniculata).

Yew woods in Ireland are mostly confined to the west of the country. However, a substantial area of Yew is located on limestone at Cornalack, where Yew forms a scrub woodland along the east shore of Lough Derg. Here, Yew is found in association with small amounts of Juniper, which forms protection against grazing for the young Yew. Other notable species present include Hawthorn (Crataegus monogyna), Hazel (Corylus avellana), Holly (Ilex aquifolium), Small-leaved Cotoneaster (Cotoneaster microphyllus), along with occasional Ivy (Hedera helix), Wild Strawberry (Fragaria vesca), Bramble (Rubus fruticosus agg.) and Wood-sorrel (Oxalis acetosella). Elsewhere, small stands of Yew up to 5 m high occur with

Spindle (Euonymus europaeus), Blackthorn (Prunus spinosa), Gorse (Ulex europaeus) and Ash (Fraxinus excelsior). Due to shading, and in places cattle trampling, the ground flora supports few herbs. However, the bryophyte layer is well developed with many moss covered rocks present. Juniper occurs throughout this site in a range of habitats, associated with calcareous grasslands, heath and limestone outcrops. Some of the finest examples of Juniper formations in Ireland occur along the lake edge where upright, bushy Juniper shrubs up to 3 m tall are found. Typically, Juniper forms dense hedges with Ash, Hawthorn, Gorse, Hazel and Bramble, and occasional Yew. These tall Juniper shrubs are a unique feature in Ireland, where it is more typically found growing in prostrate form. In places along the lake shore Juniper forms a mosaic with Black Bog-rush and Great Fen-sedge fen. The best examples are seen at the north and north-east of the site. On drier ground above the flood level, Juniper occurs in association with species-rich calcareous grassland with Mouse-ear Hawkweed (Hieracium pilosella), Daisy (Bellis perennis), Lady's Bedstraw (Galium verum), Wild Thyme (Thymus praecox) and Blue Moor-grass (Sesleria albicans). An extensive area of this vegetation is seen north of Kilgarvan Quay. Many of the islands also support significant Juniper cover. This is particularly evident on Bounla Island. Juniper generally occurs as fringing vegetation around the islands, which typically have wooded centres. At Cornalack, along the eastern shore of Lough Derg, tall Juniper is found in association with loose limestone rubble with a significant cover of Yew.

Deciduous woodlands are also a notable feature of the site, dominated by oak (Quercus spp.), as at Bellevue, and Hazel/Ash at many of the examples along the north-eastern shore. Typically the ground layer includes Early-purple Orchid (Orchis mascula), violets (Viola spp.), Ivy, Lesser Celandine (Ranunculus ficaria), Bluebell (Hyacinthoides non-scripta), Wood Anemone (Anemone nemorosa), Wood-sorrel, Primrose (Primula vulgaris), Bramble, Ground Ivy (Glechoma hederacea), Pignut (Conopodium majus) and Honeysuckle (Lonicera periclymenum).

Wet woodland is frequent along the lake shore, and in some areas this conforms well with the E.U. Annex I habitat, alluvial woodland. At Kylenamelly wood, where some planting of commercial forestry has occurred, there are extensive areas of alluvial woodland which are subject to flooding. These woods are dominated by willows (Salix spp.) and Alder (Alnus glutinosa), with Downy Birch (Betula pubescens) and Ash also present. The ground flora of the undisturbed alluvial sites is often dominated by Yellow Iris (Iris pseudacorus), with a range of other species commonly present, including Bogbean (Menyanthes trifoliata), Marsh-marigold (Caltha palustris), Meadowsweet, Purple Loosestrife (Lythrum salicaria), horsetails (Equisetum spp.), Wild Angelica (Angelica sylvestris), Greater Tussock-sedge and Remote Sedge (Carex remota). Further examples of alluvial woodland occur at Portumna. Beech (Fagus sylvatica) and Scots Pine (Pinus sylvestris) are often present at the lake edge along areas which were once parts of estates. Some areas of coniferous forestry have been included within the site. The only known site in the country for the Red Data Book plant Irish Fleabane (Inula salicina) occurs along the lake shore. This plant is legally protected under the Flora (Protection) Order, 1999. Other Red Data Book species present within this site are Marsh Pea (Lathyrus

palustris) and Ivy Broomrape (Orobanche hederae). The Red Data Book stonewort Chara tomentosa has its stronghold in Lough Derg.

The lake is rated as nationally important for waterfowl. The entire lake, including all of the islands, is a designated SPA (Special Protection Area). Counts from 1995/96 carried out at seven locations on the lake indicate that the lake holds nationally important numbers for Mute Swan, Cormorant, Mallard, Teal, Tufted Duck and Goldeneye. The lake also supports a number of Greenland White-fronted Goose, a bird species listed on Annex I of the E.U. Birds Directive.

There is a Wildlife Sanctuary at the north western edge of the lake. Lough Derg is of conservation interest also for its fish and freshwater invertebrates. Lampreys, listed under Annex II of the E.U. Habitats Directive, are known to occur and the lake contains an apparently self-sustaining landlocked population of Sea Lamprey (Petromyzon marinus). A landlocked population, where the fish are feeding and not completing a seaward migration, is unique in an Irish context, though there are several such populations in the U.S. and one is known from Loch Lomond in Scotland. Brook Lamprey (Lampetra planeri) is known to be common in the lower Shannon catchment where all three lamprey species breed. The endangered fish species Pollan (Coregonus autumnalis pollan) is recorded from Lough Derg, one of only three sites in Ireland and in western Europe. The Pollan is a landlocked species of Coregonid or 'White Fish', thought to have colonised Irish waters after the last Ice Age. Its nearest relative, the Arctic Cisco, is found as far away as Alaska, Northern Canada and Siberia. Although it is anadromous throughout most of its northern range, the Irish population are all non-migratory and purely freshwater.

Lough Derg is also a well known fishing lake with a good Trout (Salmo trutta) fishery. Atlantic Salmon (Salmo salar) also use the lake as a spawning ground. Although this species is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the E.U. Habitats Directive.

Otter and Badger have been recorded within the site. Both of these species are listed in the Irish Red Data Book and are legally protected by the Wildlife Act, 1976. Land use within the site is mainly of a recreational nature with many boat hire companies, holiday home schemes and angling clubs located at the lake edge. Recreational disturbance may pose a threat to the wintering wildfowl populations, though tourism is scaled down during the winter. The water body is surrounded mainly by improved pastoral farmland to the south and east, with areas of bog to the south-west and west.

Coniferous plantations are present along the west and northwest shore and small areas of these are included within the site. If these areas are felled no further planting should take place as afforestation damages the wetland habitats between the plantation and lake edge. The main threats to the quality of the site are water polluting activities resulting from intensification of agricultural activities around the lake shore, uncontrolled discharge of sewage, which is causing eutrophication of the lake, and housing and boating development which has resulted in the destruction of lakeshore habitats. There is also significant fishing and shooting pressure on and around the lake. Forestry can result in the loss of some areas of wetland habitat. The

spread of Zebra Mussel (Dreissena polymorpha) in Lough Derg also poses a threat the ecology of the lake.
This is a site of significant ecological interest, with six habitats listed on Annex I of the E.U. Habitats Directive. Four of these are priority habitats - Cladium fen, alluvial woodland, limestone pavement and Yew woodland. Other annexed habitats present include alkaline fen and Juniper scrub formations on heath and calcareous grasslands. In addition, the lake itself is an SPA that supports important numbers of wintering wildfowl, Greenland White-fronted Goose, Common Tern and Cormorant, a number of which are listed under Annex I of the E.U. Birds Directive.

Conservation objectives for Lough Derg (Shannon) SPA [004058]
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
A017	Cormorant	Phalacrocorax carbo
A061	Tufted Duck	Aythya fuligula
A067	Goldeneye	Bucephala clangula

A193 Common Tern Sterna hirundo

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 Derg (Shannon) SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Citation: NPWS (2022) Conservation objectives for Lough Derg (Shannon) SPA [004058]. Generic Version 9.0. Department of Housing, Local Government and Heritage.

SITE SYNOPSIS
SITE NAME: LOUGH DERG (SHANNON) SPA
SITE CODE: 004058

Lough Derg lies within counties Tipperary, Galway and Clare and is the largest of the River Shannon Lakes, being some 40 km long. Its maximum breadth across the Scarriff Bay -Youghal Bay transect is 13 km but for most of its length it is less than 5 km wide. The lake is relatively shallow at the northern end being mostly 6 m in depth but in the middle region it has an axial trench and descends to over 25 m in places. The narrow southern end of the lake has the greatest average depth, with a maximum of 34 m. The greater part of the lake lies on Carboniferous limestone but the narrow southern section is underlain by Silurian strata. Most of the lower part of the lake is enclosed by hills on both sides, the Slieve Aughty Mountains to the west and the Arra Mountains to the east. The northern end is bordered by relatively flat, agricultural country. The lake shows the high hardness levels and alkaline pH to be expected from its mainly limestone catchment basin, and it has most recently been classified as a mesotrophic system. The lake has many small islands, especially on its western and northern sides. The shoreline is often fringed with swamp vegetation. Aquatic vegetation includes a range of charophyte species, including the Red Data Book species, Chara tomentosa. The shoreline is often fringed by swamp vegetation, comprised of such species as Common Reed (Phragmites australis), Great Fen-sedge (Cladium mariscus) and Bottle Sedge (Carex rostrata).

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Cormorant, Tufted Duck, Goldeneye 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 Derg is of importance for both breeding and wintering birds. The site supports a nationally important breeding colony of Common Tern (55 pairs recorded in 1995). Management of one of the islands used for nesting has increased the area of suitable habitat available and prevented nests being destroyed by fluctuating water levels. Large numbers of Black-headed Gull have traditionally bred on the many islands (2,176 pairs in 1985) but the recent status of this species is not known. The islands in the lake also support a nationally important Cormorant colony - 167 pairs were recorded in 1995; a partial survey of the lake in 2010 recorded 113 pairs. Lough Derg is also a noted breeding site for Great Crested Grebe (47 pairs in 1995) and Tufted Duck (169 pairs in May 1995).

In winter, the lake is important for a range of waterfowl species, including nationally important populations of Tufted Duck (776) and Goldeneye (157) – all figures are mean peaks for 4 of the 5 seasons between 1995/96 and 1999/2000. Other species which occur in winter include Mute Swan (164), Whooper Swan (18), Wigeon (249), Teal (301), Mallard (376), Little Grebe (14), Cormorant (90), Coot (173), Lapwing (922), Curlew (66) and Black-headed Gull (732). Areas to north and south west of Lough Derg have been utilised in the past by small numbers of Greenland Whitefronted Goose – 19 geese were recorded on callowland near Portumna in 1996/97. A relatively small flock based in the Lough Derg-Lough Graney area and

possibly further afield have been recorded in the Scarriff Bay area – 20 geese recorded in 2004. Few sightings, at either location have been made in recent years.

Hen Harrier are also known to roost in the reedbeds on the margins of the site during the winter.
Lough Derg (Shannon) SPA is of high ornithological importance as it supports nationally important breeding populations of Cormorant and Common Tern. In winter, it has nationally important populations of Tufted Duck and Goldeneye, as well as a range of other species including Whooper Swan. The presence of Whooper Swan, Greenland White-fronted Goose, Hen Harrier and Common Tern is of particular note as these are listed on Annex I of the E.U. Birds Directive. Parts of Lough Derg (Shannon) SPA are a Wildfowl Sanctuary.