SCREENING STATEMENT

IN SUPPORT OF THE

APPROPRIATE ASSESSMENT

FOR THE

PROPOSED PLATFORM FOR GROWTH: SHARED COMMUNITY FACILITIES PROJECT

AT

ACRES LAKE BOARDWALK

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1. Introduction

1.1. Background

This Screening Statement has been prepared in support of the Appropriate Assessment (AA) of the Platform for Growth; Shared Community Facilities [the proposed project] in accordance with the requirements of Article 6(3) of Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (hereafter referred to as the "Habitats Directive").

This report specifically relates to the Acres Lake Boardwalk site which is being progressed and developed by Leitrim County Council through a funding scheme offered by Failte Ireland. Full details relating to the scope of the project and associated sites can be found in Section 2 below. However, given the distances between each of the shared facilities locations there are no interactions between each of the sites. A consistent approach has been taken for all projects.

1.2. Report Structure

This report sets out the legislative context for the assessment process with reference to relevant guidelines and highlight the experience and qualifications of the author. It then details the proposed project and the works associated with this which are then interrogated to identify any possible effects which may be ecologically relevant. Following this, the metrics for the assessment of 'significance' of these effects are explained and applied to each of the European sites identified to be ecologically connected to the proposed scheme area. This assessment is undertaken in view of the conservation objectives and known sensitivities of the qualifying interests and special conservation interests for each European site. Other plans and projects are then considered to identify any likely in combination effects which may result in significant adverse effects to European sites.

1.3. Legislative Context

The Habitats Directive provides legal protection for habitats and species of European importance. The overall aim of the Habitats Directive is to maintain or restore the "favourable conservation status" of habitats and species of European Community Interest. These habitats and species are listed in the Habitats and Birds Directives (Council Directive 2009/147/EC on the conservation of wild birds) with Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated to afford protection to the most vulnerable of them. These two designations are collectively known as European sites and Natura 2000.

AA is required by the Habitats Directive, as transposed into Irish legislation by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) and the Planning and Development Act (as amended). AA is an assessment of the potential for adverse or negative effects of a plan or project, in combination with other plans or projects, on the conservation objectives of a European Site. These sites consist of SACs and SPAs and provide for the protection and long-term survival of Europe's most valuable and threatened species and habitats.

Article 6(3) of the Habitats Directive States:

> *'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public'.*

The AA process relates to the protection of species listed in Annex I and Annex II of the Habitats Directive which form the Natura 2000 network (Article 3(1)). Species breeding and resting places of species listed in Annex IV of the Habitats Directive are nationally protected in Ireland as per Articles 15 and 16 of the Habitats Directive. The species listed in Annex IV do not form part of the Natura 2000 network as they are not mentioned in Article 3(1) of the Directive which defines the Natura 2000 network.

Article 3(1) of the Habitats Directive States:

> *'A coherent European ecological network of special areas of conservation shall be set up under the title Natura 2000. This network, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range'.*

AA is an assessment of the potential for adverse or negative effects of a plan or project, in combination with other plans or projects, on the conservation objectives of a European site. These sites consist of SACs and SPAs and provide for the protection and long-term survival of Europe's most valuable and threatened species and habitats.

1.4. Approach

This Screening Statement is based on best scientific knowledge and has utilised ecological and hydrological expertise. In addition, a detailed online review of published scientific literature and 'grey' literature was conducted. This included a detailed review of the National Parks and Wildlife Website including mapping and available reports for relevant sites and in particular sensitive qualifying interests/special conservation interests described and their conservation objectives. The EPA Envision map viewer (www.epa.ie) and available reports were also reviewed, as was the NPWS (2019) publication "The Status of Protected EU Habitats and Species in Ireland".

The ecological desktop study that has been completed for the AA screening of the proposed project, comprised the following elements:

- Identification of European sites within 15km[1] of the subject lands;
- Identification of European sites within 15km of the site with identification of potential pathways to specific sites (if relevant) greater than 15km from the subject lands;
- Review of the NPWS site synopses and conservation objectives for European sites within 15km and for which potential pathways from the proposed site have been identified; and
- Examination of available information on protected species.

There are four main stages in the AA process as follow:

Stage One: Screening
The process that identifies the likely impacts upon a European site of a project or plan, either alone or in combination with other projects or plans and considers whether these impacts are likely to be significant.

Stage Two: Appropriate Assessment
The consideration of the impact on the integrity of the European site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse effects mitigation measures are required to avoid or minimise potential effects. The details of these mitigation measures are then assessed in the context of the ecological integrity of the plan/project characteristics to ensure no significant adverse effects on European sites. If this assessment process shows there are no residual significant effect, then the process may end at this stage, stage two, of the AA process which are formalised in Natura Impact Statements (NIS) reports which support the overall AA process. However, if the likelihood of significant impacts remains, then the process must proceed to Stage Three.

Stage Three: Assessment of Alternative Solutions
The process that examines alternative ways of achieving the objectives of the project or plan that avoids adverse impacts on the integrity of the European site.

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain
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.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. This approach aims to avoid any effects on European sites by identifying possible effects early in the plan-making process and avoiding such effects. Second, the approach involves the application of mitigation measures, if necessary, during the AA process to the point where no adverse effects on the site(s) remain. If potential affects on European sites remain, the approach requires the consideration of alternative solutions. If no alternative solutions are identified and the plan/project is required for imperative reasons of overriding public interest, then compensation measures are required for any remaining adverse effect(s).

[1] While the actual zone of impact is likely to be much smaller, the default 15km zone extent has been applied on a precautionary basis

Source-Pathway-Receptor Model
The assessment of potential effects on European sites is conducted following a standard source-pathway-receptor model[2], where, in order for an effect to be established all three elements of this mechanism must be in place. The absence or removal of one of the elements of the model is sufficient to conclude that a potential effect is not of any relevance or significance.

In the interest of this report, receptors are the ecological features that are known to be utilised by the qualifying interests or special conservation interests of a European site. A source is any identifiable element of the proposed project provision that is known to interact with ecological processes. The pathways are any connections or links between the source and the receptor. This report provides information on whether direct, indirect and cumulative adverse effects could arise from the proposed project.

Guidance
The NIS has been prepared taking into account legislation including the aforementioned legislation and guidance including the following:

- *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government, 2009;*
- *Commission Notice: Managing Natura 2000 sites - The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC", European Commission 2018;*
- *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC", European Commission Environment DG, 2002; and*
- *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC", European Commission, 2000.*

1.5. Author details

Andrew Torsney is a Senior Ecologist with 8 years' experience working on major national and local scale projects. Andrew graduated from University College Dublin in 2011 with a B.Sc. degree in Zoology and obtained Master's degree in Biodiversity and Conservation from the University of Leeds in 2012. He has a range of ecological skills which include habitat mapping, ecological surveying, data interpretation and report writing. Andrew is a vegetative plant specialist, who has a wealth of experience classifying riparian habitats and identifying rare floral species. Andrew has a vast knowledge of riparian and freshwater ecosystems and undertakes freshwater surveys regularly. Andrew holds 4 national protected species licenses and has a lot of experience optioning surveying licenses for aquatic species such as the white clawed crayfish. He is also a Bat specialist with a wealth of experience, in acoustic surveying and monitoring of bats. Throughout Andrews's career he has worked on a number of large-scale multifaceted projects such as the Killaloe to Dublin water supply project NIS. For this work, Andrew designed and oversaw all ecological field work relating to the Environmental Impact Assessment (EIA) and AA.

[2] Source(s) – e.g. pollutant run-off from proposed works; Pathway(s) – e.g. groundwater connecting to nearby qualifying wetland habitats; and Receptor(s) – qualifying aquatic habitats and species of European Sites

2. Description of proposed project and receiving environment at Acres Lake Boardwalk

2.1. Shared facilities overview

Failte Ireland aim to support the development of shared facilities at waterways in the Republic of Ireland through the provision of funding. The funding is made available to County Councils only and there are a series of terms and conditions associated with the application process. Included in this is that the sites selected must have existing water sports operators such as surf schools and/or stand-up paddle boarding (SUP) schools in situe. This is to consolidate existing tourism offerings and elevate the appeal of these areas by providing adequate facilities. The funding is supported by detailed design specifications and additional supports; however, each site has potential for site specific alterations.

Ecological considerations were built into the site selection process with over 47 proposed locations for shared facilities structures to be placed. Phase 1 and Phase 2 of the ecological considerations (constraints and opportunities assessments) can be seen in appendix III.

2.2. Project specifics at Acres Lake Boardwalk

The planning report and associated documents which support this assessment contain the intricate details of the works proposed. It is advised that all supporting material be read in conjunction with this report.

The project description is summarised below to facilitate a general understanding of the overall scope of the proposed project. The shared facilities structure will contain a number of resources such as indoor and outdoor shower which are heated through solar power, serviced toilets as well as seating both external to the roofed structure and internal. The facilities also include a communal communication area which is intended to be used as a briefing area for the operators that use the facilities. In addition to these there are additional amenities such as lockers for storage and washdown areas.

The structure itself is small in scale and has a discrete footprint; the specific location can be observed in the map below as well as design specs for the building.

At Acres Lake there are a number of existing facilities such as an outdoor swimming pool, tennis courts and a playground area. The application at this site includes improvement works to these facilities as well as the construction of a new carparking area at the site and raised controlled pedestrian crossing on the R207. See the attached planning application for full specs of the design; however, the figure below contains a full site layout of the proposed works. Overall, the full scope of the project is seen to be small in scale (see below for layout).

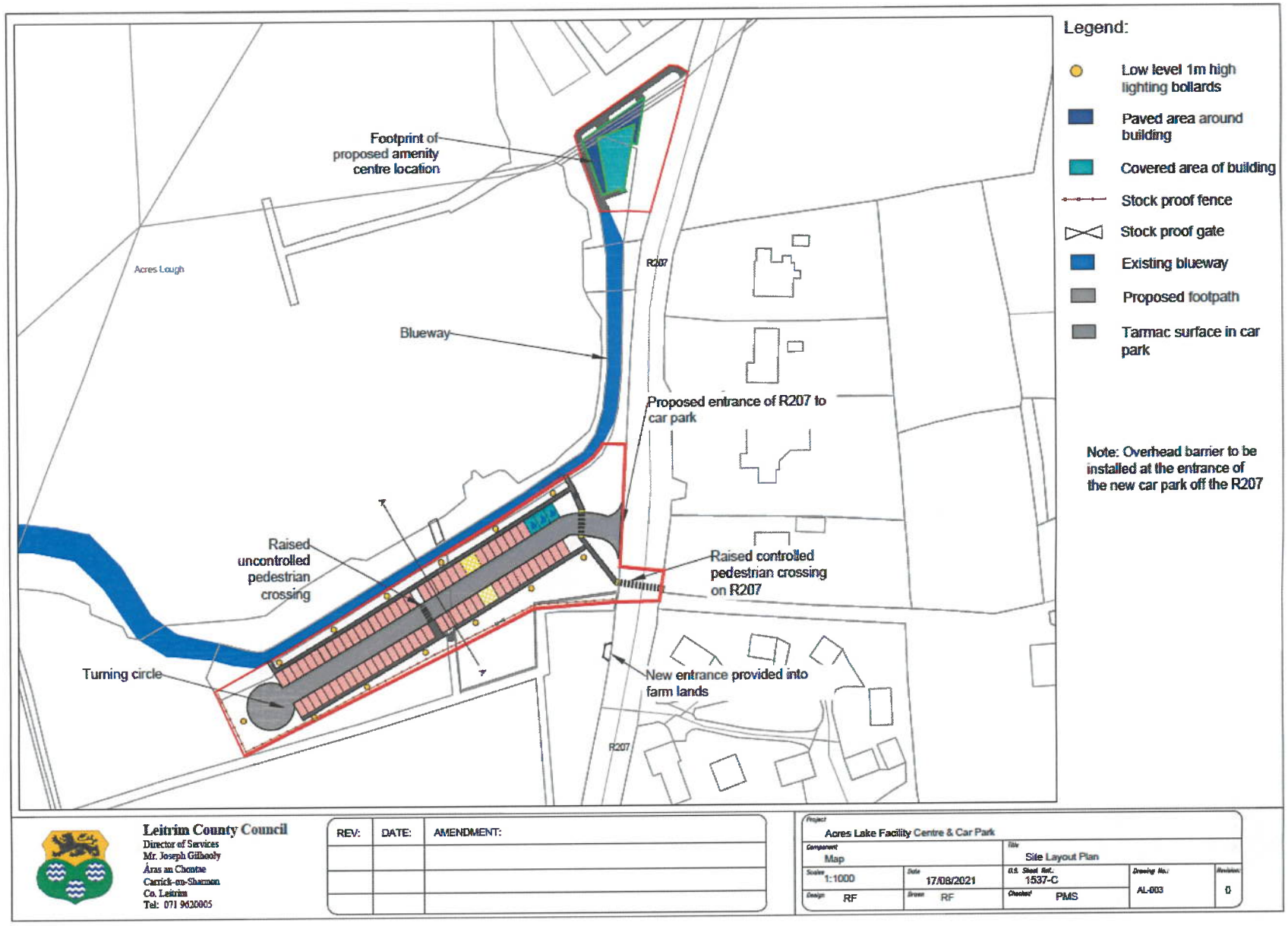

Figure 2.1 Proposed site layout and location of the facility and associated carparking area

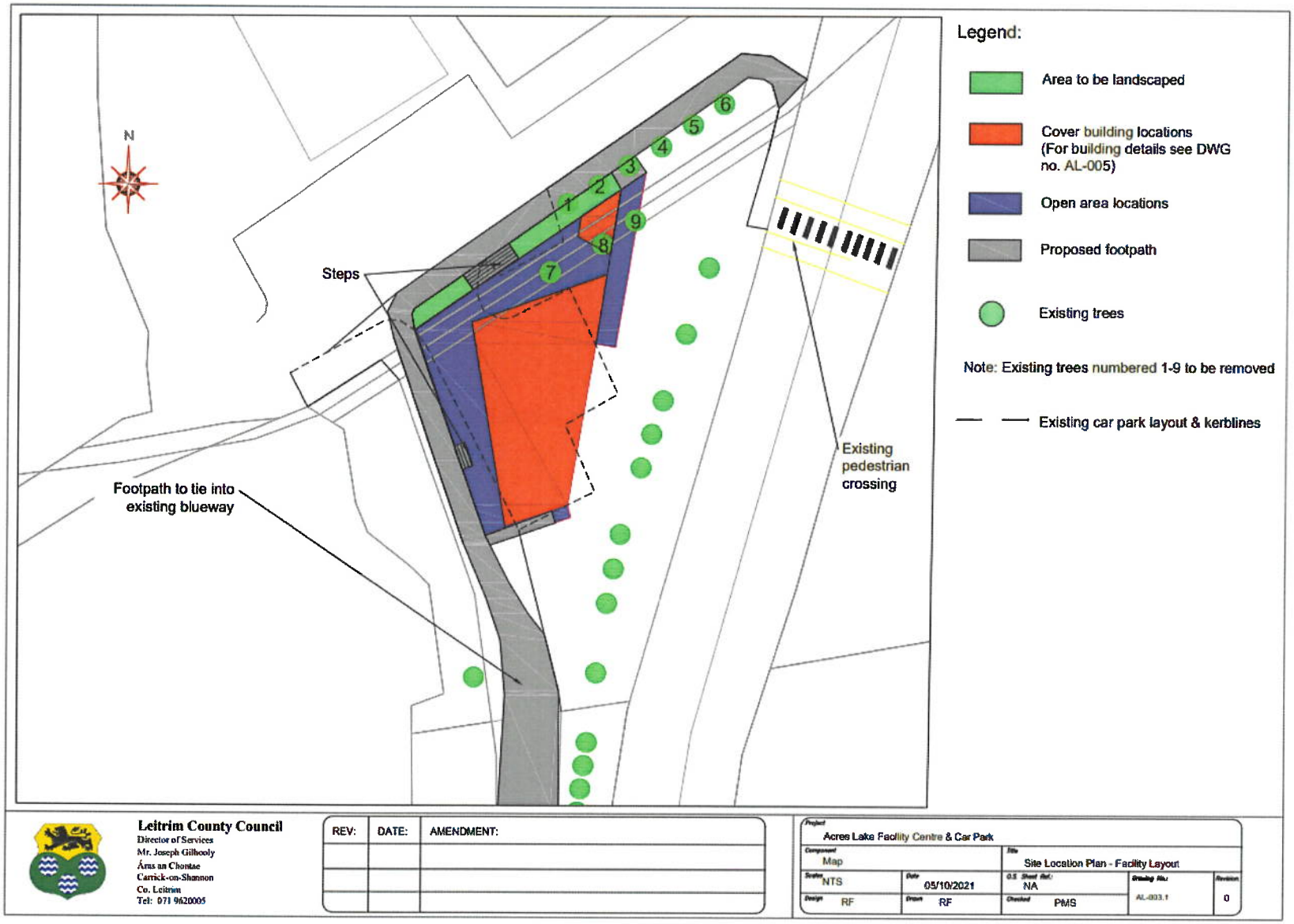

Figure 2.2 Proposed facility layout

Figure 2.3 Illustration of the proposed facility when completed

2.3. Survey methods

Data was collected through a series of surveys conducted between August 2020 and April 2021. This data covered the whole Acres Lake Boardwalk area and was not limited to the footprint of the proposed project. A habitat survey of the site was conducted following standard guidelines set out in 'Best practice guidance for habitat surveys and mapping' developed by the Heritage Council of Ireland. Habitats were classified using habitat descriptions and codes published by the Heritage Council in 'A Guide to Habitat Types in Ireland'. Plant species nomenclature follows Rose's 'The Wild Flower Key: How to identify wild flowers, trees and shrubs in Britain and Ireland'. A list of the dominant and notable plant species was taken for each habitat type. Particular emphasis was given to the possible occurrence of rare or legally protected plant species (as listed in Flora Protection Order 1999) or Red-listed plant species (Curtis & McGough 1985, Wyse Jackson et al. 2016).

Broader ecological data was collected to assess the ecological context of the site. Observations were made for fauna species present or likely to occur on-site. Emphasis was placed on mammals and birds, and especially for species listed in the respective Red lists, namely Colhoun and Cummins (2013), and Marnell et al. (2009). For mammals, search was focused on signs of their presence, such as tracks, feeding marks and droppings, as well as direct observations. For bats, the main focus was on evaluation of suitable habitats to support roosting bats; however, an ecological assessment of habitat suitability was undertaken throughout the site. The assessment process undertaken for bats followed the BCT Guidelines. Chapter 4 of these guidelines identify the approach to assess 'preliminary ecological appraisal for bats'. This chapter sets out methods for identifying habitat suitability which do not constitute assumptions. Bird species were recorded by sight and sound during all field visits.

A dedicated winter bird assessment was undertaken on-site on following the SNH Guidelines[3]. This approach is standard practice when assessing potential impacts on winter wading birds. A total of 36 hours of surveys were completed at the site over a 6-month period (between October and March) to identify the site usage from bird species. Specific attention was placed on recording foraging and roosting areas that may be used by SCI species relating to SPAs within commuting range of Acres Lake Boardwalk.

During all surveys, particular attention was given to assessing the presence of rare or protected species. Each species identified was assessed in term of the EU Habitat Directive (92/43/EEC), Bird Directive (2009/147/EC), the Wildlife Act (1976), the Wildlife Amendment Act (2000) and the Red Data Lists for threatened and protected species, published on the NPWS website (www.npws.ie).

2.3.1. Limitations

The biodiversity assessment was carried out in autumn which is not the optimum time for some botanical species as species such as orchids have a limited blooming period. However, vegetative ID was used for all surveys which broadens the survey season beyond the flowering season and the species ID were used to inform the broad habitat type classification. The precautionary principal was used to assume all habitats that could align with Annex I priority habitats will be treated as such. Therefore overall, it is considered that there are no significant limitations to the present assessment of the ecological importance of the site.

2.4. Receiving environment at Acres Lake Boardwalk

Acre's lake is a semi natural lake that has been excavated to improve the flow and provide canal channels. This area is long established and has been managed to create tall herb swamp areas. The far bank is a riparia woodland area. The site has a small existing carpark and a robust boardwalk to control visitor movements on site. The site is an existing pier with activities taking place on site already.

The habitats on-site were surveyed and classified using the Fossit Level 3 coding system which are presented in the map below.

[3] SNH (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms; Scottish Natural Heritage

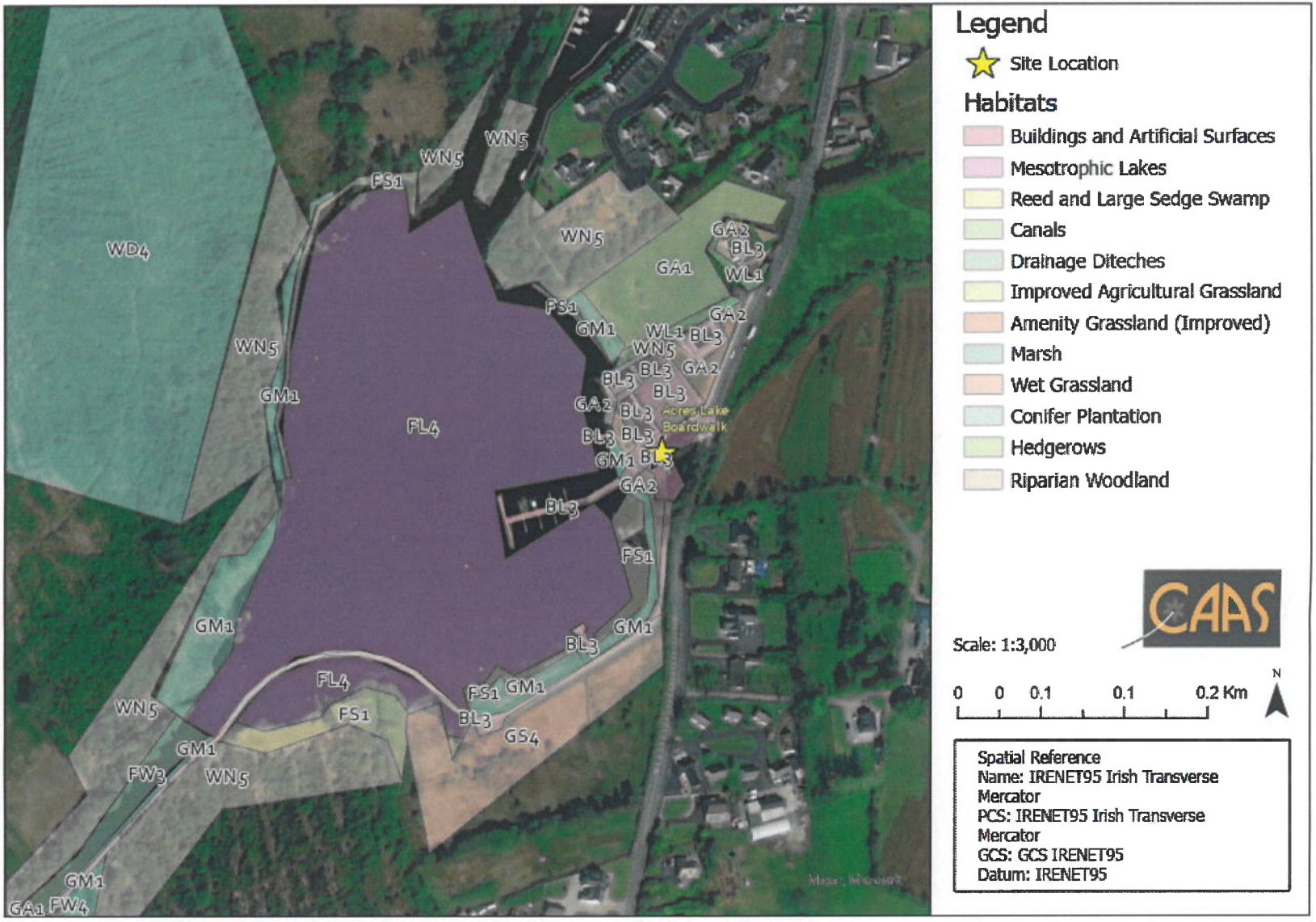

Figure 2.4 Habitat map (fossit level 3) within the Acres Lake Boardwalk area

2.4.1. Winter bird data for Acres Lake Boardwalk

Data was collected for the Acres Lake Boardwalk from October 2020 to April 2021 which recorded the foraging and roosting locations of all birds on-site as well as all bird flight patterns. All species identified on-site can be seen below:

Black-headed Gull	*Chroicocephalus ridibundus*	BH
Cormorant	*Phalacrocorax carbo*	CA
Lesser Black-backed Gull	*Larus fuscus*	LB
Mallard	*Anas platyrhynchos*	MA
Moorhen	*Gallinula chloropus*	MH
Mute Swan	*Cygnus olor*	MS
Snipe	*Gallinago gallinago*	SN

The main areas of note for birds at Acres Lake Boardwalk are identified in Figure 2.5 and discussed below:

Mesotrophic lake surrounded by reed beds providing foraging and roosting habitat. Roosting features include the jetty, the boardwalk, the reed beds. Birds using the site are accustomed to constant flow of walkers.

The following three tables present a summary of the occurrence records of each species recorded to be foraging, roosting and/or flying around the Acres Lake Boardwalk area; the full suite of observations recorded can be seen in Appendix II.

The deeper areas of the lake were used primarily by gull species such as lesser blackback gull and black headed gulls (foraging area B). The reed beds and shallows (foraging area A) were used by all species identified on site. These species are regularly fed by locals and are habitualised to human interactions. Birds congregated at the jetty dock area and are clearly habitualised to human interactions (roost area A). Swans ducks and snipe were seen roosting in the reeds areas (roost area B).

Most activity centred at the jetty, which is used by mallards and black headed guls to roost on. Duck species on site tend to forage in the water and reed beds around the jetty and along the shore-side of the boardwalk. Cormorant forage in centre of lake and roost on top of signposts in the water at the entrance to the canal on north side. Snipe and mallard roost in the reed beds particularly in a section of flattened reeds just south of the jetty and behind the boardwalk. Relatively busy spot with walkers presents throughout the day. Active jetty with boats moored up. Playground at carpark in use. People often came to feed the birds at the jetty, which attracted the gulls, mallards and swans.

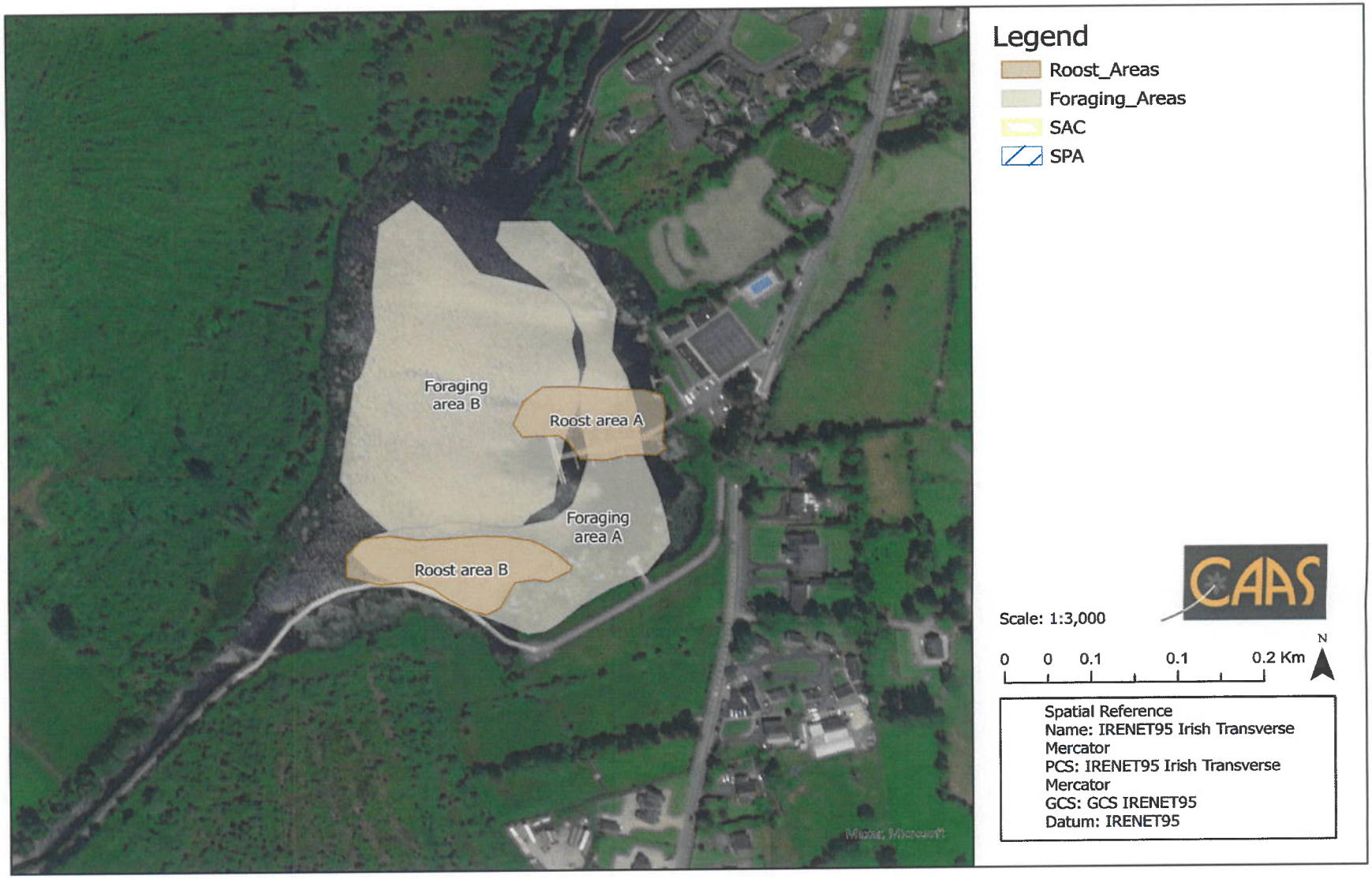

Figure 2.5 Map of all foraging and roosting activity at Acres Lake Boardwalk area

Table 2.1 Summary of all birds observed foraging in the Acres Lake Boardwalk area

Common Name	Scientific Name	Largest Group Observed	Total Numbers Observed	Common Group Size
Black-headed Gull	*Chroicocephalus ridibundus*	9	108	1
Cormorant	*Phalacrocorax carbo*	1	4	1
Lesser Black-backed Gull	*Larus fuscus*	2	4	2
Mallard	*Anas platyrhynchos*	8	86	4
Moorhen	*Gallinula chloropus*	1	3	1
Mute Swan	*Cygnus olor*	2	18	2

Table 2.2 Summary of all birds observed roosting in the Acres Lake Boardwalk area

Common Name	Scientific Name	Largest Group Observed	Total Numbers Observed	Common Group Size
Black-headed Gull	*Chroicocephalus ridibundus*	4	57	2
Cormorant	*Phalacrocorax carbo*	1	2	1
Lesser Black-backed Gull	*Larus fuscus*	2	2	2
Mallard	*Anas platyrhynchos*	7	51	2
Mute Swan	*Cygnus olor*	2	5	2
Snipe	*Gallinago gallinago*	5	9	2

Table 2.3 Summary of all birds observed flying overhead in the Acres Lake Boardwalk area

Common Name	Scientific Name	Largest Group Observed	Total Numbers Observed	Common Group Size
Black-headed Gull	*Chroicocephalus ridibundus*	4	22	1
Cormorant	*Phalacrocorax carbo*			1
Mallard	*Anas platyrhynchos*			1
Mute Swan	*Cygnus olor*	2	4	2
Snipe	*Gallinago gallinago*	1	4	1

3. Screening for Appropriate Assessment

3.1. Introduction to Screening

This stage of the process identifies any potential significant affects to European sites from a project or plan, either alone or in combination with other projects or plans. A series of questions are asked in order to determine:

- Whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a European site.
- Whether the project will have a potentially significant effect on a European site, either alone or in combination with other projects or plans, in view of the site's conservation objectives or if residual uncertainty exists regarding potential impacts.

An important element of the AA process is the identification of the "'conservation objectives", "Qualifying Interests" (QIs) and/ or "Special Conservation Interests" (SCIs) of European sites requiring assessment. QIs are the habitat features and species listed in Annexes I and II of the Habitats Directive for which each European Site has been designated and afforded protection. SCIs are wetland habitats and bird species listed within Annexes I and II of the Birds Directive. It is also vital that the threats to the ecological / environmental conditions that are required to support QIs and SCIs are considered as part of the assessment.

Site-Specific Conservation Objectives (SSCOs) have been designed to define favourable conservation status for a particular habitat or species at that site. According to the European Commission interpretation document 'Managing Natura 2000 sites: The provisions of Article 6 of the Habitats Directive 92/43/EEC', paragraph 4.6(3):

> *"The integrity of a site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives."*

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing;
- 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;
- 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.

Where available, Site-Specific Conservation Objectives (SSCOs) designed to define favourable conservation status for a particular habitat[4] or species[5] at that site have been considered.

3.2. Identification of Relevant European Sites

The Department of the Environment (2009) Guidance on AA recommends a 15 km buffer zone to be considered. Although sites beyond this buffer zone would be considered if relevant, a review of all sites within this zone has allowed a determination to be made that in the absence of significant hydrological links the characteristics of the proposed project will not impose effects beyond the 15 km buffer. Given the scale and nature of the site, sites beyond 15km which are hydrologically connected are not identified to have significant effects due to the dilution effects and the localised sources for effects.

[4] Favourable conservation status of a habitat is achieved when: its natural range, and area it covers within that range, are stable or increasing; 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.

[5] 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; 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.

Details of European sites that occur within 15 km of the proposed project boundary are provided in Table 3.1. European sites and EPA Rivers Catchments are also mapped in Figure 3.2 below. Information on QIs, SCIs and site-specific vulnerabilities and sensitivities (see Appendix I) and background information (such as that within Ireland's Article 17 Report to the European Commission, site synopses and Natura 2000 standard data forms) have been considered by both the AA screening assessment. Conservation objectives that have been considered by the assessment are included in the following National Parks and Wildlife Service documents:

NPWS (2016) Conservation Objectives for Cuilcagh - Anierin Uplands SAC [IE0000584] Version 1.

The assessment considers available conservation objectives. Since conservation objectives focus on maintaining the favourable conservation condition of the QIs/SCIs of each site, the screening process concentrated on assessing the potential effects of the proposed project against the QIs/SCIs of each site. The conservation objectives for each site were consulted throughout the assessment process.

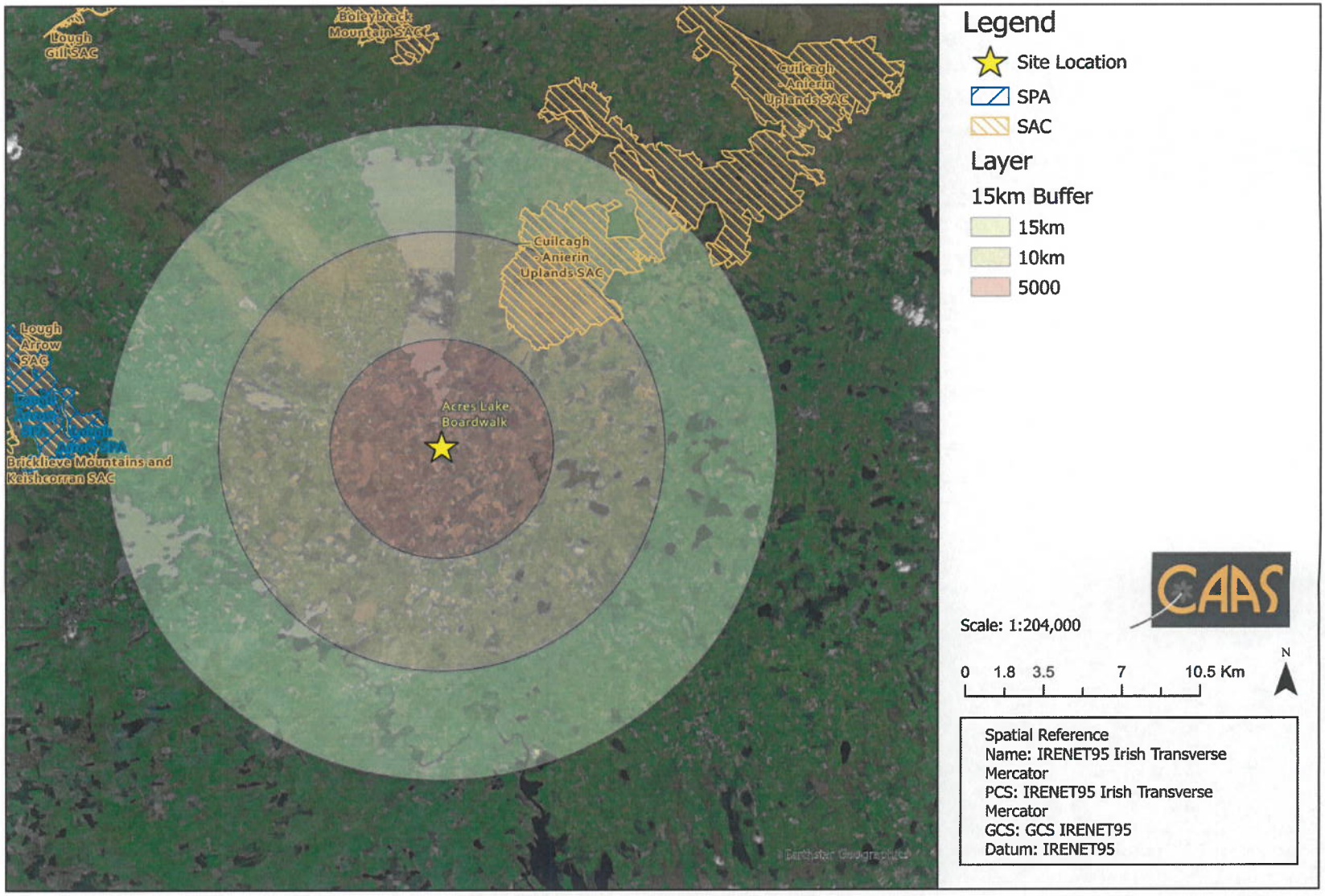

Figure 3.1 European sites within 15km of the boundary[6]

[6] Source: NPWS (datasets downloaded 23rd May 2021)

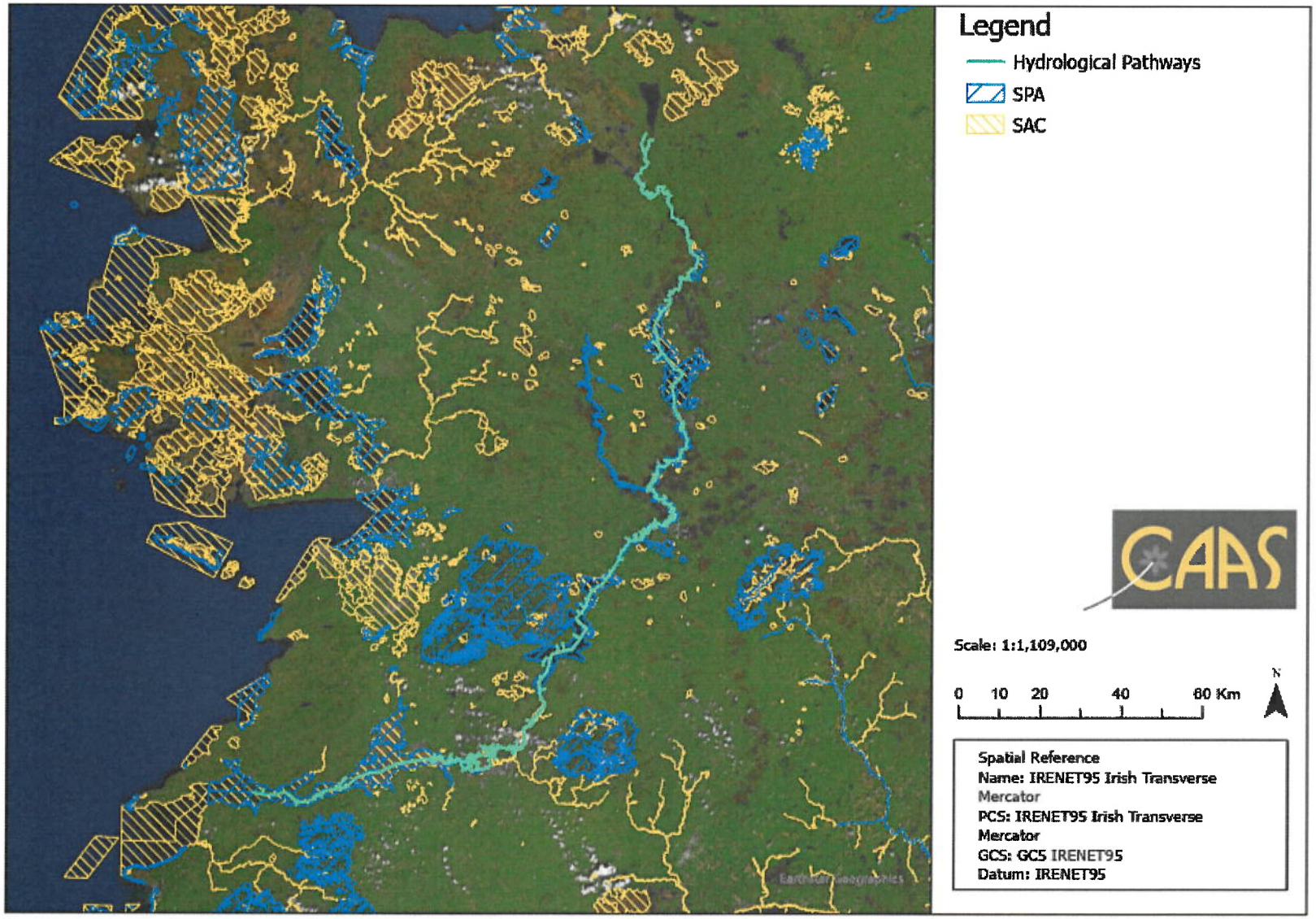

Figure 3.2 Hydrological connectivity of the site, showing significant dilution effects before reaching any European site

3.3. Assessment Criteria and Screening

3.3.1. Is the proposed project Necessary to the Management of European Sites?

The overarching objective of the proposed project is not the nature conservation management of the sites, but to provide shared facilities for water-based sports such as Stand-Up Paddle boarding, surfing and swimming including shower facilities and locker. Therefore, the proposed project is not considered to be directly connected with or necessary to the management of European sites.

3.3.2. Elements of the proposed project with Potential to Give Rise to Effects

The proposed project has two primary avenues for potential effects; relating to the construction phase and the operational phase. The construction phase introduces sources for potential effects such as habitat loss, disturbance through noise pollution, hydrological interactions through surface run off etc. The key areas for concern in this regard are:

- Augmentation of existing habitats within the footprint of the proposed structure itself and relating to construction compounds etc.;
- Construction and Earthworks sources such as Dust;
- Surface Water Management; and
- Noise and vibration.

Due to the nature and extent of the proposed project the construction phase will be small scale temporary; however, these potential effects are considered throughout the assessment process.

The operational phase of the shared facilities will comprise of toilets, shower facilities (both indoors and outdoors), equipment washdown facilities etc. The overall structure will consolidate existing tourism facilities to a communal hub to centralise the offerings for the area. This will act as a hub for the area which presents an opportunity to broaden awareness of the sensitive features of the landscape. The presence of the facility has the potential to increase the site use from tourist and local recreation. Therefore, associated effects must be considered. This is particularly relevant when assessing potential movement patterns of visitors from the facility to the closest access point to the waters-edge.

All potential sources for effects are considered in this assessment with respect to each of the European sites identified. Considering the sensitivities/vulnerabilities of the QIs and SCIs in relation to all potential sources for effects and potential pathways for such effects. Where sources and pathways for effects are identified potential effects will be assessed in relation to the SSCOs.

3.3.3. Characterising Visitor Interactions at Tourist Destinations

Fáilte Ireland regularly engages with environmental research that is used to make informed management decisions and produce robust guidelines to facilitate the protection of the environment. From its inception in 2014, the Wild Atlantic Way (WAW) Operational Programme Monitoring Programme (undertaken to date by CAAS on behalf of Fáilte Ireland guided by relevant stakeholders) has been conducting research into the impacts of tourism on the receiving environment. To date the surveys have covered 57 sites and monitored the activities and effects of over 26,000 visitors to WAW discovery points.

This data was reviewed to inform the AA process to identify and characterise potential effects and interactions from tourists along the WAW. It is assumed that visitor interactions within the Draft Plan area will be consistent with the trends, activities and effects recorded in this dataset.

This research characterises visitor movements at each site while examining the ecological features and sensitives present. A detailed assessment of the site facilities and management actions on-site is also undertaken. From this data, impacts to ecological features are quantified in a systematic way and management recommendations are made. Over the 5 years of the monitoring, the data has shown that visitors themselves cause low level effects, and high-level effects are predominantly caused by the mismanagement of sites. As well as the site-specific data being collected, the monitoring program collates and interprets existing national environmental indicator data compiling the results into annual macro monitoring reports. The WAW monitoring research is guided by an independent working group which steers the research and develops the program as the data is collected. This working group comprises of members from the EPA, NPWS, the Environmental Pillar and a representative from each of the County Councils along the WAW.

Each year the results are refined and published online in the form of Visitor Observation Reports, Ecological Impact Reports and the Macro Monitoring Reports. The reports are then dissected and detailed reports containing all relevant site-specific information are sent to each of the County Councils along the WAW; as well as any site management teams at sites not under the management of the County Council. This ensures that the research can be harnessed on-site by those responsible while contributing towards informed management plans and guidelines created by Fáilte.

This extensive database demonstrates that over 85% of visitors observed at WAW discovery points are having low or no effects on the ecological features or processes at these sites. Ecological impacts observed comprise:

- Destruction of structures, vegetation or fauna;
- Trampling of herbaceous vegetation;
- Disturbance of wildlife;
- Heavy littering or dumping quantities of waste;
- Addition/alteration of site features, transient emissions, noise;
- Harvesting of large quantities of shells from beach sites;
- Fishing activities;
- Removal and throwing of large rocks; and
- Unrestricted dogs causing disturbances to wildlife.

The Monitoring Programme has identified that dunes, machair, maritime grasslands and upland habitats such as heathlands are the most sensitive/vulnerable to visitor effects. Therefore, the operational phase elements of the proposed project may result in visitor movements within sensitive habitats causing the effects identified above. This is considered with respect to the typology and context of the site and the ecological integrity of the European sites connected to the site (see below).

It is important to note that visitor movements and associated effects are localised and do not extend beyond the receiving environment. The WAW monitoring data identified that over 90% of visitors stayed within 500m of the discovery point, 97% within 1.2km from the discovery point and less than 1% of visitors extended beyond 2km away from the discovery point. For these reasons, SACs beyond 2km are not considered with respect to potential effects from visitor movements. Similarly, sites beyond 500m are thought to be a sufficient distance to minimise potential effects such that there would be no likely significant effect to the ecological integrity of the European site on foot of visitor movement patterns. Where European sites are within 500m of the proposed facilities detailed considerations related to the visitor management processes are required.

3.4. Characterising potential significant effects

The following parameters are described when characterising impacts (following guidance from the Chartered Institute of Ecology and Environmental Management, Environmental Protection Agency and National Roads Authority):

- **Direct and Indirect Impacts** - An impact can be caused either as a direct or as an indirect consequence of a Plan/Project.
- **Magnitude** - Magnitude measures the size of an impact, which is described as high, medium, low, very low or negligible.
- **Extent** - The area over that the impact occurs – this should be predicted in a quantified manner
- **Duration** - The time that the effect is expected to last prior to recovery or replacement of the resource or feature.
  - Temporary: Up to 1 Year;
  - Short Term: The effects would take 1-7 years to be mitigated;
  - Medium Term: The effects would take 7-15 years to be mitigated;
  - Long Term: The effects would take 15-60 years to be mitigated; and
  - Permanent: The effects would take 60+ years to be mitigated.
- **Likelihood** – The probability of the effect occurring taking into account all available information.
  - Certain/Near Certain: >95% chance of occurring as predicted;
  - Probable: 50-95% chance as occurring as predicted;
  - Unlikely: 5-50% chance as occurring as predicted; and
  - Extremely Unlikely: <5% chance as occurring as predicted.

The Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines for ecological impact assessment (2016) define: an ecologically significant impact as an impact (negative or positive) on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a given geographic area; and the integrity of a site as the coherence of its ecological structure

and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.

The Habitats Directive requires the focus of the assessment at this stage to be on the integrity of the site as indicated by its Conservation Objectives. It is an aim of NPWS to draw up conservation management plans for all areas designated for nature conservation. These plans will, among other things, set clear objectives for the conservation of the features of interest within a site.

SSCOs have been prepared for a number of European sites. These detailed SSCOs aim to define favourable conservation condition for the qualifying habitats and species at that site by setting targets for appropriate attributes which define the character habitat. The maintenance of the favourable condition for these habitats and species at the site level will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

> Favourable conservation status of a species can be described as being 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 will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.'*
>
> 'Favourable conservation status of a habitat can be described as being achieved when: *'its natural range, and area it covers within that range, is stable or 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'.*

A Generic Conservation Objective for a cSAC is provided below:

- To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

A Generic Conservation Objective for a SPA is provided below:

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

EC guidance[7] outlines the types of effects that may affect European sites. These include effects from the following activities.

3.4.1. Types of Potential Effects

Assessment of potential effects on European sites is conducted utilising a standard source-pathway model (see approach referred to under Sections 1.3 and 3). The 2001 European Commission AA guidance outlines the following potential changes that may occur at a designated site, which may result in effects on the integrity and function of that site: loss/reduction of habitat area; habitat or species fragmentation; disturbance to key species; reduction in species density; changes in key indicators of conservation value (water quality etc.); and climate change. Each of these potential changes are considered below and in Table 4.1 with reference to the QIs/SCIs of all of the European sites brought forward from Stage 1 of the AA process (see Section 3).

3.4.2. Loss/Reduction of Habitat Area

The closest SAC to the Acres Lake Boardwalk is 7.1 km away and the closest SPA is beyond 15 km from the site and therefore, identified to be ecologically isolated from the site in the context of potential significant effects. Due to the distances between the site and the nearest European site, there are no sources for effects in this regard.

3.4.3. Habitat or species Fragmentation

As previously stated, the proposed project provides for infrastructure developments which have associated effects. These effects could result in the fragmentation of habitat and or species through light pollution, habitat loss, removal of stepping stone habitats etc. There are no sites within 15km of Acres Lake that have sensitive receptors that may use the area as a stepping stone location. Site use at scales greater that 15km will not result in significant effects due to the availability of alternative resources elsewhere. Therefore, there are no habitat or species fragmentation effects identified.

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[7] Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission Environment DG, 2001

3.4.4. Disturbance to Key Species

Disturbance effects are cause by any activity that has potential to alter the movement patterns/distribution of species. Disturbance effects can relate to direct disturbance through human activity/movement or noise pollution. However, there are no European sites within 7 km and the site is not noted to be of particular importance of any of the SCI species of SPAs beyond 15km from the site. Therefore, there are no significant effects relating to disturbance effects to any European site identified.

3.4.5. Reduction in species density

Species densities are reliant on species distributions, habitat condition, connectivity of ecological resources and availability of resources such as prey/food. The proposed project introduces potential sources for effects to affect these four determinant factors for species densities in the form of construction phase effects such as habitat destruction, light pollution, hydrological interaction or operational effects such as disturbance effects, habitat encroachment, trampling etc.

Detailed survey work has been undertaken at the site, particularly in relation to the QIs and SCIs of the nearby European sites. Hydrological interactions are likely to cause alterations to the trophic structure of a site; however, these interactions are discussed below. The site is known to be an existing tourism destination with existing water-based activities being facilitated on-site. There are no annex I habitats or supporting habitats for annex II species - relevant to the European sites identified in the area - that were identified during the field surveys within the footprint of the development. Therefore, there are no mitigation measures required to avoid effects to species density.

3.4.6. Changes of Indicators of Conservation Value

Water quality is the primary macro indicator of conservation value. The proposed project is adjacent to the water's edge and therefore construction phase effects could introduce sources for effects with respect to water quality. Sources such as surface water run-off and dust could interact with the ecological integrity of European sites. However, there is an extensive hydrological pathway which introduces considerable dilution effects. Given the scale and nature of the works, combined with the temporary construction phase and the dilution potential of the pathway, there are no significant effects to water quality of any European site downstream identified.

Increased development pressures could place additional loadings onto the existing waste water treatment plant facilities. It has been confirmed in communication with Leitrim County Council that the local WWTP has capacity to accept the additional loadings within the existing infrastructure.

3.4.7. Climate change

The proposed works will not result in any greenhouse gas emissions to air during the operational phase. The construction phase works will have increased temporary emissions which will be localised however, given the distance to the nearest European site these are determined to be negligible. Such effects upon greenhouse gas emissions will not affect changes projected to arise from climate change to the degree that it would affect the QIs or SCIs of the European sites considered.

Table 3.1 Screening of European Sites within 15km

Site Code	Site Name	Distance	Qualifying Feature	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects
000584	Cuilcagh - Anierin Uplands SAC	7.1	Siliceous scree of the montane to snow levels *(Androsacetalia alpinae and Galeopsietalia ladani)* [8110], Transition mires and quaking bogs [7140], Slender green feather-moss *(Hamatocaulis vernicosus)* [6216], Alpine and Boreal heaths [4060], European dry heaths [4030], Siliceous rocky slopes with chasmophytic vegetation [8220], Petrifying springs with tufa formation *(Cratoneurion)* [7220], Natural dystrophic lakes and ponds [3160], Northern Atlantic wet heaths with Erica tetralix [4010], Species-rich Nardus grasslands, on siliceous substrates in mountain areas - and submountain areas in Continental Europe [6230], Blanket bogs * if active bog [7130], Oligotrophic waters containing very few minerals of sandy plains *(Littorelletalia uniflorae)* [3110]	This site is designated for terrestrial habitats sensitive to direct land use management interactions and some habitats which are sensitive to hydrological interactions. There are no hydrological pathways or other pathways for effects from the proposed project to the European site. Therefore, no further consideration is required.	No	No

Table 3.2 Screening of European Sites with potential hydrological connectivity to the site

Site Code	Site Name	Qualifying Feature	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects
002354	Tullaghanrock Bog SAC	Degraded raised bogs still capable of natural regeneration [7120], Active raised bogs [7110], Depressions on peat substrates of the Rhynchosporion [7150]	The site is indirectly linked to this SAC. The site is sensitive to hydrological interactions and direct on-site land use management. There are no provisions of the proposed public realms project that will interact with the on-site management practices. Due to the temporary nature of the construction phase, the small-scale nature of the works and the dilution effects introduced by the indirect hydrological pathways, there are no significant effects identified. Therefore, no further consideration is required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
000595	Callow Bog SAC	Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120], Active raised bogs [7110]	The site is indirectly linked to this SAC. The site is sensitive to hydrological interactions and direct on-site land use management. There are no provisions of the proposed public realms project that will interact with the on-site management practices.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose	No

Site Code	Site Name	Qualifying Feature	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects
			Due to the temporary nature of the construction phase, the small-scale nature of the works and the dilution effects introduced by the indirect hydrological pathways, there are no significant effects identified. Therefore, no further consideration is required.	significant effects at this distance.	
004048	Lough Gara SPA	Greenland White-fronted Goose *(Anser albifrons flavirostris)* [A395], Whooper Swan *(Cygnus cygnus)* [A038]	The site is indirectly linked to this SAC. The SCI Species are sensitive to disturbance effects and hydrological interactions influencing the trophic structure of the site. Given the distances involved, there are no disturbance effects identified to be likely, especially considering the urban context of the works. Furthermore, the lung river introduces considerable dilution effects. Considering the scale and temporary nature of the constructure phase works and the operational phase will be consistent with existing condition of Ballaghaderreen, there are no significant effects identified for the SPA. Therefore, there are no further considerations required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
000604	Derrinea Bog SAC	Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120], Active raised bogs [7110]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
002338	Drumalough Bog SAC	Depressions on peat substrates of the Rhynchosporion [7150], Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No

Site Code	Site Name	Qualifying Feature	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects
000592	Bellanagare Bog SAC	Active raised bogs [7110], Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
000497	Flughany Bog SAC	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
004105	Bellanagare Bog SPA	Greenland White-fronted Goose *(Anser albifrons flavirostris)* [A395]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
001571	Urlaur Lakes SAC	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
001899	Cloonakillina Lough SAC	Transition mires and quaking bogs [7140]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary	No

Site Code	Site Name	Qualifying Feature	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects
				works will not impose significant effects at this distance.	
000597	Carrowbehy/ Caher Bog SAC	Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120], Active raised bogs [7110]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
000607	Errit Lough SAC	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
000614	Cloonshanville Bog SAC	Active raised bogs [7110], Depressions on peat substrates of the Rhynchosporion [7150], Bog woodland [91D0], Degraded raised bogs still capable of natural regeneration [7120]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
000600	Cloonchambers Bog SAC	Depressions on peat substrates of the Rhynchosporion [7150], Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120]	There are no groundwater interactions identified from the proposed public realms project. There is no hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
000492	Doocastle Turlough SAC	Turloughs [3180]	There are no groundwater interactions identified from the proposed public realms project. There is no	Indirect pathway, however the dilution effects introduce	No

Site Code	Site Name	Qualifying Feature	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects
			hydrological connectivity and given the distances involved there are no ecological pathways identified. Therefore, no further considerations are required.	by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	
000440	Lough Ree SAC	Alkaline fens [7230], Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150], Active raised bogs [7110], Limestone pavements [8240], Otter *(Lutra lutra)* [1355], Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)* * important orchid sites [6210], Degraded raised bogs still capable of natural regeneration [7120], Alluvial forests with Alnus glutinosa and Fraxinus excelsior *(Alno-Padion, Alnion incanae, Salicion albae)* [91E0], Bog woodland [91D0]	The effects from the proposed development are identified to be small scale temporary, localised to the Acres Lake area. The assessment of hydrological pathways identifies an indirect hydrological pathway to this European site at a landscape scale. There is considerable dilution effects associated with this pathway and therefore any potential effects will be negligible. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
000216	River Shannon Callows SAC	Alluvial forests with Alnus glutinosa and Fraxinus excelsior *(Alno-Padion, Alnion incanae, Salicion albae)* [91E0], Molinia meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)* [6410], Alkaline fens [7230], Otter *(Lutra lutra)* [1355], Lowland hay meadows *(Alopecurus pratensis, Sanguisorba officinalis)* [6510], Limestone pavements [8240]	The effects from the proposed development are identified to be small scale temporary, localised to the Acres Lake area. The assessment of hydrological pathways identifies an indirect hydrological pathway to this European site at a landscape scale. There is considerable dilution effects associated with this pathway and therefore any potential effects will be negligible. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
002165	Lower River Shannon SAC	Salicornia and other annuals colonising mud and sand [1310], River lamprey *(Lampetra fluviatilis)* [1099], Atlantic salt meadows *(Glauco-Puccinellietalia maritimae)* [1330], Mudflats and sandflats not covered by seawater at low tide [1140], Perennial vegetation of stony banks [1220], Sea lamprey *(Petromyzon marinus)* [1095], Mediterranean salt meadows *(Juncetalia maritimi)* [1410], Molinia meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)* [6410], Bottlenose dolphin *(Tursiops truncatus)* [1349], Freshwater pearl mussel *(Margaritifera margaritifera)* [1029], Alluvial forests with Alnus glutinosa and Fraxinus excelsior *(Alno-Padion, Alnion incanae, Salicion albae)* [91E0], Reefs [1170], Brook lamprey *(Lampetra planeri)* [1096], Sandbanks which are slightly covered by sea	The effects from the proposed development are identified to be small scale temporary, localised to the Acres Lake area. The assessment of hydrological pathways identifies an indirect hydrological pathway to this European site at a landscape scale. There is considerable dilution effects associated with this pathway and therefore any potential effects will be negligible. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No

Site Code	Site Name	Qualifying Feature	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects
		water all the time [1110], Atlantic salmon *(Salmo salar)* [1106], Coastal lagoons [1150], Large shallow inlets and bays [1160], Vegetated sea cliffs of the Atlantic and Baltic coasts [1230], Estuaries [1130], Otter *(Lutra lutra)* [1355], Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]			
004058	Lough Derg (Shannon) SPA	Common tern *(Sterna hirundo)* [A193], Tufted Duck *(Aythya fuligula)* [A061], Cormorant *(Phalacrocorax carbo)* [A017], Wetland and Waterbirds [A999], Goldeneye *(Bucephala clangula)* [A067]	The effects from the proposed development are identified to be small scale temporary, localised to the Acres Lake area. The assessment of hydrological pathways identifies an indirect hydrological pathway to this European site at a landscape scale. There is considerable dilution effects associated with this pathway and therefore any potential effects will be negligible. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
004064	Lough Ree SPA	Golden Plover *(Pluvialis apricaria)* [A140], Wigeon *(Anas penelope)* [A050], Wetland and Waterbirds [A999], Mallard *(Anas platyrhynchos)* [A053], Common Scoter *(Melanitta nigra)* [A065], Goldeneye *(Bucephala clangula)* [A067], Common tern *(Sterna hirundo)* [A193], Lapwing *(Vanellus vanellus)* [A142], Whooper Swan *(Cygnus cygnus)* [A038], Little Grebe *(Tachybaptus ruficollis)* [A004], Shoveler *(Anas clypeata)* [A056], Coot *(Fulica atra)* [A125], Teal *(Anas crecca)* [A052], Tufted Duck *(Aythya fuligula)* [A061]	The effects from the proposed development are identified to be small scale temporary, localised to the Acres Lake area. The assessment of hydrological pathways identifies an indirect hydrological pathway to this European site at a landscape scale. There is considerable dilution effects associated with this pathway and therefore any potential effects will be negligible. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
004077	River Shannon and River Fergus Estuaries SPA	Lapwing *(Vanellus vanellus)* [A142], Greenshank *(Tringa nebularia)* [A164], Curlew *(Numenius arquata)* [A160], Ringed Plover *(Charadrius hiaticula)* [A137], Cormorant *(Phalacrocorax carbo)* [A017], Knot *(Calidris canutus)* [A143], Light-bellied Brent Goose *(Branta bernicla hrota)* [A046], Wetland and Waterbirds [A999], Wigeon *(Anas penelope)* [A050], Whooper Swan *(Cygnus cygnus)* [A038], Redshank *(Tringa totanus)* [A162], Black-headed Gull *(Chroicocephalus ridibundus)* [A179], Shelduck *(Tadorna tadorna)* [A048], Dunlin *(Calidris alpina)* [A149], Scaup *(Aythya marila)* [A062], Grey Plover *(Pluvialis squatarola)* [A141], Golden Plover *(Pluvialis apricaria)* [A140], Pintail *(Anas acuta)* [A054], Black-tailed Godwit *(Limosa limosa)*	The effects from the proposed development are identified to be small scale temporary, localised to the Acres Lake area. The assessment of hydrological pathways identifies an indirect hydrological pathway to this European site at a landscape scale. There is considerable dilution effects associated with this pathway and therefore any potential effects will be negligible. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No

Site Code	Site Name	Qualifying Feature	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects
		[A156], Teal *(Anas crecca)* [A052], Bar-tailed Godwit *(Limosa lapponica)* [A157], Shoveler *(Anas clypeata)* [A056]			
004096	Middle Shannon Callows SPA	Wigeon *(Anas penelope)* [A050], Corncrake *(Crex crex)* [A122], Whooper Swan *(Cygnus cygnus)* [A038], Lapwing *(Vanellus vanellus)* [A142], Black-headed Gull *(Chroicocephalus ridibundus)* [A179], Black-tailed Godwit *(Limosa limosa)* [A156], Golden Plover *(Pluvialis apricaria)* [A140], Wetland and Waterbirds [A999]	The effects from the proposed development are identified to be small scale temporary, localised to the Acres Lake area. The assessment of hydrological pathways identifies an indirect hydrological pathway to this European site at a landscape scale. There is considerable dilution effects associated with this pathway and therefore any potential effects will be negligible. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
004101	Ballykenny-Fisherstown Bog SPA	Greenland White-fronted Goose *(Anser albifrons flavirostris)* [A395]	The effects from the proposed development are identified to be small scale temporary, localised to the Acres Lake area. The assessment of hydrological pathways identifies an indirect hydrological pathway to this European site at a landscape scale. There is considerable dilution effects associated with this pathway and therefore any potential effects will be negligible. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No
001818	Lough Forbes Complex SAC	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150], Alluvial forests with Alnus glutinosa and Fraxinus excelsior *(Alno-Padion, Alnion incanae, Salicion albae)* [91E0], Active raised bogs [7110], Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120]	The effects from the proposed development are identified to be small scale temporary, localised to the Acres Lake area. The assessment of hydrological pathways identifies an indirect hydrological pathway to this European site at a landscape scale. There is considerable dilution effects associated with this pathway and therefore any potential effects will be negligible. Therefore, no further considerations are required.	Indirect pathway, however the dilution effects introduce by the extensive distance and volume of water ensure that the small-scale temporary works will not impose significant effects at this distance.	No

4. Other plans and projects

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or projects that might, in combination with the plan or project, have the potential to adversely affect European sites.

As part of this assessment each plan or project is considered within a radius of the red line boundary of the proposed area as defined by the ecologist. The distance of this radius works from a standard 500m, but can be extended if the ecologist deems it necessary depending on whether certain characteristics are present, such as:

- Direct or indirect connectivity to a European site;
- In close proximity to a European site;
- The proposal is of a substantial scale relative to the conditions and/or current works taking place in the surrounding landscape.

These factors are considered particular to each proposal for each particular location and specification.

Plans of relevance in the context of this proposal include:

- Leitrim County Development Plan 2015-2021
- A growth strategy for tourism in Leitrim 2015-2021
- No specific Local Area Plan

There are no specific policies or objectives that conflict with the proposed project. The proposed project is aligned with the development goals set out in the above-mentioned plans and therefore in combination effects are not identified. Furthermore, all policies and objectives contained within the County Development Plan relating to sustainable development etc. must be complied with.

Projects of relevance to this development:

To identify projects for consideration for the in-combination effects section, the National Planning and Housing development database was used[8]. A review of all planning applications within the identified zone was conducted focusing on all application within the past 5 years[9].

The only projects in the area relate to retention applications and internal works. There are no sources for effects identified from these projects; therefore, there are no in combination effects identified.

[8] https://data-housinggovie.opendata.arcgis.com/datasets/planning-application-sites-2010-onwards;

[9] planning application have a standard lifespan of 5 years as per Section 40 (3)(b) of the Planning & Development Act 2000, as amended; therefore, these are viewed to be the 'live' applications, all other projects are considered as part of the site context

Table 3.2 Local planning applications within the receiving environment of the proposed facility

Project Code	Status	Overview	Project Area (sq m)	Possible significant effects from plan or project	Is there a risk of in-combination effects	Possible Significant in-combination effects
1848	Conditional	Retain existing garage including open storage area to side.	3,299	There are no sources for effects identified from this project; therefore, there are no in combination effects identified.	No	No
1821	Conditional	(a) retention of change of use from games room to restaurant seating area, (b) retention of free-standing sign (c) alterations to existing restaurant building consisting of new entrance door with external access ramp, internal modifications to provide en	2,147	There are no sources for effects identified from this project; therefore, there are no in combination effects identified.	No	No

5. AA Screening Conclusion

This stage one screening for AA of the Platform for Growth; Shared Community Facilities at Acres Lake Boardwalk has identified that the proposed project is not likely to have significant effects on any European site.

The AA screening process has considered potential effects which may arise during the construction and operational phases as a result of the implementation of the project. Through an assessment of the pathways for effects and an evaluation of the project characteristics, taking account of the processes involved and the distance of separation from European sites, it has been evaluated that there are no likely significant adverse effects on the qualifying interests, special conservation interest or the conservation objectives of any designated European site.

The proposed project is 7.1 km away from the closest SAC and over 15 km away from the closest SPA. Given the nature of the proposed work, the scale and the localised and temporary nature of the potential effects, the proposed project will not lead to any significant effects in-combination with effects arising from any other plans or projects.

It is concluded that the proposed project is not foreseen to give rise to any significant adverse effects on any designated European sites, alone or in combination with other plans or projects. This evaluation is made in view of the conservation objectives of the habitats or species for which these sites have been designated. Consequently, a Stage Two AA (NIS) is not required.

Appendix I Background information on European sites

Site characteristics and quality of European sites within 15km of the subject lands

Site Code	Site.Name	Documentation	Quality of Site
000584	Cuilcagh - Anierin Uplands SAC	Farrell L. (1972). A Preliminary Report on Areas of Scientific Interest in County Cavan. Unpublished report to Cavan County Council An Foras Forbartha Dublin.Douglas C. Dunnells D. Scally L. and Wyse Jackson M.B. (1990). A Survey to Locate Lowland-highland Blanket Bogs of Scientific Interest in Counties Leitrim Cavan Leitrim and Leitrim. Unpublished report to the Wildlife Service Dublin.Praeger R.L. (1934). The Botanist in Ireland. Hodges Figgis Dublin.Reilly P.A. (2001). The Flora of County Cavan. National Botanic Gardens Glasnevin.	One of the more extensive areas of intact montane blanket bog in Ireland with exceptionally well-developed vegetation cover in flat plateau areas including dystrophic lakes hummock and hollow complexes and large areas of wet heath and to a lesser extent dry heath. Inland cliffs support a range of locally rare mountain plants. The site is an important breeding area for several upland birds.

Qualifying features and known threats and pressures for each of the European sites within 15km of the subject l

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats
000584	Cuilcagh - Anierin Uplands SAC	Siliceous scree of the montane to snow levels [8110], Transition mires and quaking bogs [7140], Slender green feather-moss [6216], Alpine and Boreal heaths [4060], European dry heaths [4030], Siliceous rocky slopes with chasmophytic vegetation [8220], Petrifying springs with tufa formation [7220], Natural dystrophic lakes and ponds [3160], Northern Atlantic wet heaths with Erica tetralix [4010], Species-rich Nardus grasslands, on siliceous substrates in mountain areas - and submountain areas in Continental Europe [6230], Blanket bogs * if active bog [7130], Oligotrophic waters containing very few minerals of sandy plains [3110]	A01, A04.01.02, A04.01.03, A04.02.03, A07, B, B01.02, B02.01, C01.03, D01.01, D01.02, F03.02.02, G01.02, G01.03.02, G05.01, G05.07, G05.09, H01.05, H05.01, I02, J01, K01.01	Cultivation, Inter intensive horse g Sylviculture, fore trees), Forest rep Roads, motorway horseriding and r Trampling, overu measures, Fence agricultural and f Problematic nativ

Known threats pressures and sensitivities of Qualifying Interests identified from the SACs within 15km of the subject lands

Qualifying Interests	EU Code	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	[3110]	Nutrient enrichment; afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
Natural dystrophic lakes and ponds	[3160]	Nutrient alterations; management shifts in the associated peatland habitat, afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution
Northern Atlantic wet heaths with Erica tetralix	[4010]	Reclamation, afforestation and burning; overstocking; invasion by non-heath species; exposure of peat to severe erosion.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
European dry heaths	[4030]	Afforestation, overburning, over-grazing, under-grazing and bracken invasion.	Moderately sensitive to hydrological change. Changes in management. Changes in nutrient status.
Alpine and Boreal heaths	[4060]	Abandonment; overgrazing; burning; outdoor recreation; quarries; communication networks; and wind farm developments.	Changes in management. Changes in nutrient or base status. Moderately sensitive to hydrological change.
Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)	[6230]	Bracken encroachment, succession, inappropriate grazing, afforestation; drainage; and infrastructural development.	Erosion, overgrazing and recreation.
Blanket bogs (* if active bog)	[7130]	Land reclamation, peat extraction; afforestation; erosion and landslides triggered by human activity; drainage; burning and infrastructural development.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
Transition mires and quaking bogs	[7140]	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface and groundwater dependent. Low sensitivity to hydrological changes. Erosion, land-use changes.
Petrifying springs with tufa formation (Cratoneurion)	[7220]	Ground water interactions, on site management activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	[8110]	Overgrazing, undergrazing and succession were recorded as medium-importance pressures in this reporting period, and Structure and functions were again assessed as Inadequate, the trend is considered to be stable rather than improving. This change is due to improved knowledge and the habitat is considered to have been stable since before the last assessment.	Erosion, overgrazing and recreation.
Siliceous rocky slopes with chasmophytic vegetation	[8220]	Pressures associated with the non-native invasive species New Zealand willowherb (Epilobium brunnescens).	Erosion, overgrazing and recreation.

Qualifying features and known threats and pressures for each of the European sites considered for potential hydrological connectivity from the subject lands

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known threats and pressures
000216	River Shannon Callows SAC	Alluvial forests with Alnus glutinosa and Fraxinus excelsior *(Alno-Padion, Alnion incanae, Salicion albae)* [91E0], Limestone pavements [8240], Alkaline fens [7230], Molinia meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)* [6410], Lowland hay meadows *(Alopecurus pratensis, Sanguisorba officinalis)* [6510], Otter *(Lutra lutra)* [1355]	A07, A08, J02.01, A03, C01.03.02, A03.03, G01, F03.01, B02.02, J02.05, G05.01, A04.02.05, J02.05.02, J02.11, A04.03, J02.04.01, A04.01, A10.01, D01.01, B06, K03.04	Use of biocides, hormones and chemicals, fertilisation, landfill, land reclamation and drying out, general, mowing or cutting of grassland, mechanical removal of peat, abandonment or lack of mowing , outdoor sports and leisure activities, recreational activities, hunting, forestry clearance, modification of hydrographic functioning, general, trampling, overuse, non-intensive mixed animal grazing, modifying structures of inland water courses, siltation rate changes, dumping, depositing of dredged deposits, abandonment of pastoral systems lack of grazing, flooding, intensive grazing, removal of hedges and copses or scrub, paths, tracks, cycling tracks, grazing in forests or woodland, predation
000440	Lough Ree SAC	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150], Degraded raised bogs still capable of natural regeneration [7120], Alluvial forests with Alnus glutinosa and Fraxinus excelsior *(Alno-Padion, Alnion incanae, Salicion albae)* [91E0], Limestone pavements [8240], Active raised bogs [7110], Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)* * important orchid sites [6210], Bog woodland [91D0], Otter *(Lutra lutra)* [1355], Alkaline fens [7230]	E01.03, A03.03, G02.09, B02, G01.02, G01.01, A04, J02.04, F03.01, L08, F02.03, I01, A08, H02.06, H01.08, K03.05, H06.03, D03.01.02, J02.11.02	Dispersed habitation, abandonment or lack of mowing , wildlife watching, forest and plantation management & use, walking, horseriding and non-motorised vehicles, nautical sports, grazing, flooding modifications, hunting, inundation (natural processes), leisure fishing, invasive non-native species, fertilisation, diffuse groundwater pollution due to agricultural and forestry activities, diffuse pollution to surface waters due to household sewage and waste waters, antagonism arising from introduction of species, thermal heating of water bodies, piers or tourist harbours or recreational piers, other siltation rate changes
000492	Doocastle Turlough SAC	Turloughs [3180]	A04, A08, F03.01	Grazing, fertilisation, hunting
000497	Flughany Bog SAC	Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120], Active raised bogs [7110]	A08, C01.03, D01.02, A04, A10, D05	Fertilisation, peat extraction, roads, motorways, grazing, restructuring agricultural land holding, improved access to site
000592	Bellanagare Bog SAC	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150]	I01, J02.05, C01.03.02, E03.01	Invasive non-native species, modification of hydrographic functioning, general, mechanical removal of peat, disposal of household or recreational facility waste
000595	Callow Bog SAC	Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150], Active raised bogs [7110]	B, J01.01, J02.15, J02.04, C01.03.02	Sylviculture, forestry, burning down, other human induced changes in hydraulic conditions, flooding modifications, mechanical removal of peat
000597	Carrowbehy/Caher Bog SAC	Active raised bogs [7110], Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120]	E03.01, A04, B02.02, I01, J02.05	Disposal of household or recreational facility waste, grazing, forestry clearance, invasive non-native species, modification of hydrographic functioning, general
000600	Cloonchambers Bog SAC	Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120], Active raised bogs [7110]	A04, C01.03.02, E03.01, I01, J02.05	Grazing, mechanical removal of peat, disposal of household or recreational facility waste, invasive non-native species, modification of hydrographic functioning, general
000604	Derrinea Bog SAC	Active raised bogs [7110], Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120]	J02.05, E03.01, A04, I01	Modification of hydrographic functioning, general, disposal of household or recreational facility waste, grazing, invasive non-native species

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known threats and pressures
000607	Errit Lough SAC	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	G05	Other human intrusions and disturbances
000614	Cloonshanville Bog SAC	Degraded raised bogs still capable of natural regeneration [7120], Bog woodland [91D0], Depressions on peat substrates of the Rhynchosporion [7150], Active raised bogs [7110]	J02.04, C01.03.02, B	Flooding modifications, mechanical removal of peat, sylviculture, forestry
001571	Urlaur Lakes SAC	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	D01.02, A04, E01.03, C01.03.02, J02, E03.01, C01.03.01, A08, F02.03	Roads, motorways, grazing, dispersed habitation, mechanical removal of peat, human induced changes in hydraulic conditions, disposal of household or recreational facility waste, hand cutting of peat, fertilisation, leisure fishing
001818	Lough Forbes Complex SAC	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150], Alluvial forests with Alnus glutinosa and Fraxinus excelsior *(Alno-Padion, Alnion incanae, Salicion albae)* [91E0], Active raised bogs [7110], Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120]	J02.07.02, F02.03, I01, A03.03, G02.09, A04.03, A03.02, J02.15, F03.01, H02.06	Groundwater abstractions for public water supply, leisure fishing, invasive non-native species, abandonment or lack of mowing , wildlife watching, abandonment of pastoral systems lack of grazing, non intensive mowing, other human induced changes in hydraulic conditions, hunting, diffuse groundwater pollution due to agricultural and forestry activities
001899	Cloonakillina Lough SAC	Transition mires and quaking bogs [7140]	B, A04, J01, A03, F02.03	Sylviculture, forestry, grazing, fire and fire suppression, mowing or cutting of grassland, leisure fishing
002165	Lower River Shannon SAC	Reefs [1170], Sea lamprey *(Petromyzon marinus)* [1095], Brook lamprey *(Lampetra planeri)* [1096], Atlantic salt meadows *(Glauco-Puccinellietalia maritimae)* [1330], Alluvial forests with Alnus glutinosa and Fraxinus excelsior *(Alno-Padion, Alnion incanae, Salicion albae)* [91E0], River lamprey *(Lampetra fluviatilis)* [1099], Perennial vegetation of stony banks [1220], Sandbanks which are slightly covered by sea water all the time [1110], Freshwater pearl mussel *(Margaritifera margaritifera)* [1029], Salicornia and other annuals colonising mud and sand [1310], Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260], Large shallow inlets and bays [1160], Atlantic salmon *(Salmo salar)* [1106], Mediterranean salt meadows *(Juncetalia maritimi)* [1410], Molinia meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)* [6410], Vegetated sea cliffs of the Atlantic and Baltic coasts [1230], Bottlenose dolphin *(Tursiops truncatus)* [1349], Mudflats and sandflats not covered by seawater at low tide [1140], Coastal lagoons [1150], Otter *(Lutra lutra)* [1355], Estuaries [1130]	B, A04, C01.01.02, E03, F03.01, J02.10, D01.01, G01.01, J02.01.02, F01, C01.03.01, A08, J02.01.01, H04, F02.03, J02.12.01, K02.03, E01, I01	Sylviculture, forestry, grazing, removal of beach materials, discharges, hunting, management of aquatic and bank vegetation for drainage purposes, paths, tracks, cycling tracks, nautical sports, reclamation of land from sea, estuary or marsh, marine and freshwater aquaculture, hand cutting of peat, fertilisation, polderisation, air pollution, air-borne pollutants, leisure fishing, sea defense or coast protection works, tidal barrages, eutrophication (natural), urbanised areas, human habitation, invasive non-native species
002298	River Moy SAC	Otter *(Lutra lutra)* [1355], Brook lamprey *(Lampetra planeri)* [1096], Sea lamprey *(Petromyzon marinus)* [1095], White-clawed crayfish *(Austropotamobius pallipes)* [1092], Degraded raised bogs still capable of natural regeneration [7120], Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0], Lowland hay meadows *(Alopecurus pratensis, Sanguisorba officinalis)* [6510], Alluvial forests with Alnus	A02.01, F03.02.04, B05, F02.03, I01, J02.04, C01.03, H01.05, B01, F03.02, D04.02	Agricultural intensification, predator control, use of fertilizers (forestry), leisure fishing, invasive non-native species, flooding modifications, peat extraction, diffuse pollution to surface waters due to agricultural and forestry activities, forest planting on open ground, taking and removal of animals (terrestrial), aerodrome, heliport

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known threats and pressures
		glutinosa and Fraxinus excelsior *(Alno-Padion, Alnion incanae, Salicion albae)* [91E0], Atlantic salmon *(Salmo salar)* [1106], Active raised bogs [7110], Depressions on peat substrates of the Rhynchosporion [7150], Alkaline fens [7230]		
002338	Drumalough Bog SAC	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150]	E03.01, J02.05, I01	Disposal of household or recreational facility waste, modification of hydrographic functioning, general, invasive non-native species
002354	Tullaghanrock Bog SAC	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150]	J02.04, A04.02.01, B	Flooding modifications, non intensive cattle grazing, sylviculture, forestry
004048	Lough Gara SPA	Whooper Swan *(Cygnus cygnus)* [A038], Greenland White-fronted Goose *(Anser albifrons flavirostris)* [A395]	A08, B	Fertilisation, sylviculture, forestry
004058	Lough Derg (Shannon) SPA	Common tern *(Sterna hirundo)* [A193], Cormorant *(Phalacrocorax carbo)* [A017], Wetland and Waterbirds [A999], Tufted Duck *(Aythya fuligula)* [A061], Goldeneye *(Bucephala clangula)* [A067]	G01.01, A08, F02.03, F03.01	Nautical sports, fertilisation, leisure fishing, hunting
004064	Lough Ree SPA	Mallard *(Anas platyrhynchos)* [A053], Common tern *(Sterna hirundo)* [A193], Coot *(Fulica atra)* [A125], Golden Plover *(Pluvialis apricaria)* [A140], Shoveler *(Anas clypeata)* [A056], Wigeon *(Anas penelope)* [A050], Little Grebe *(Tachybaptus ruficollis)* [A004], Wetland and Waterbirds [A999], Goldeneye *(Bucephala clangula)* [A067], Lapwing *(Vanellus vanellus)* [A142], Tufted Duck *(Aythya fuligula)* [A061], Common Scoter *(Melanitta nigra)* [A065], Teal *(Anas crecca)* [A052], Whooper Swan *(Cygnus cygnus)* [A038]	A08, G01.02, F03.01, G01.01, A04, F02.03, B, I01	Fertilisation, walking, horseriding and non-motorised vehicles, hunting, nautical sports, grazing, leisure fishing, sylviculture, forestry, invasive non-native species
004077	River Shannon and River Fergus Estuaries SPA	Knot *(Calidris canutus)* [A143], Curlew *(Numenius arquata)* [A160], Ringed Plover *(Charadrius hiaticula)* [A137], Lapwing *(Vanellus vanellus)* [A142], Whooper Swan *(Cygnus cygnus)* [A038], Greenshank *(Tringa nebularia)* [A164], Black-headed Gull *(Chroicocephalus ridibundus)* [A179], Shelduck *(Tadorna tadorna)* [A048], Cormorant *(Phalacrocorax carbo)* [A017], Grey Plover *(Pluvialis squatarola)* [A141], Light-bellied Brent Goose *(Branta bernicla hrota)* [A046], Wetland and Waterbirds [A999], Black-tailed Godwit *(Limosa limosa)* [A156], Shoveler *(Anas clypeata)* [A056], Golden Plover *(Pluvialis apricaria)* [A140], Bar-tailed Godwit *(Limosa lapponica)* [A157], Wigeon *(Anas penelope)* [A050], Dunlin *(Calidris alpina)* [A149], Redshank *(Tringa totanus)* [A162], Teal *(Anas crecca)* [A052], Pintail *(Anas acuta)* [A054], Scaup *(Aythya marila)* [A062]	G01.01, F01, D03.02, A08, E02, E01, E03	Nautical sports, marine and freshwater aquaculture, shipping lanes, fertilisation, industrial or commercial areas, urbanised areas, human habitation, discharges
004096	Middle Shannon Callows SPA	Golden Plover *(Pluvialis apricaria)* [A140], Lapwing *(Vanellus vanellus)* [A142], Wigeon *(Anas penelope)* [A050], Whooper Swan *(Cygnus cygnus)* [A038], Wetland and Waterbirds [A999], Black-tailed Godwit *(Limosa limosa)* [A156], Black-headed Gull *(Chroicocephalus ridibundus)* [A179], Corncrake *(Crex crex)* [A122]	D01.05, E01, F03.01, A08, G01.02, A04, A03, A04.03, F02.03, D01.01, G01.01	Bridge, viaduct, urbanised areas, human habitation, hunting, fertilisation, walking, horseriding and non-motorised vehicles, grazing, mowing or cutting of grassland, abandonment of pastoral systems lack of grazing, leisure fishing, paths, tracks, cycling tracks, nautical sports

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known threats and pressures
004101	Ballykenny-Fisherstown Bog SPA	Greenland White-fronted Goose *(Anser albifrons flavirostris)* [A395]	F03.01, B, F02.03, A04, G01.01	Hunting, sylviculture, forestry, leisure fishing, grazing, nautical sports
004105	Bellanagare Bog SPA	Greenland White-fronted Goose *(Anser albifrons flavirostris)* [A395]	A04, C01.03, D01.02, J02.05.02, B01	Grazing, peat extraction, roads, motorways, modifying structures of inland water courses, forest planting on open ground

Known threats pressures and sensitivities of Qualifying Interests identified from the SACs considered for potential hydrological connectivity from the subject lands

Qualifying Interests	EU Code	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Active raised bogs	[7110]	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface and groundwater dependent. Low sensitivity to hydrological changes. Erosion, land-use changes.
Alkaline fens	[7230]	Land reclamation, peat extraction; afforestation; erosion and landslides triggered by human activity; drainage; burning and infrastructural development.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
Atlantic salt meadows *(Glauco-Puccinellietalia maritimae)*	[1330]	Overgrazing; erosion; invasive species, particularly common cordgrass (Spartina anglica); infilling and reclamation.	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion.
White-clawed Crayfish *(Austropotamobius pallipes)*	[1092]	Poor substrate quality due to increased growth of algal and macrophyte vegetation as a result of severe nutrient enrichment, as well as physical siltation.	Invasive species, disease, surface water dependent. Highly sensitive to hydrological change. Very highly sensitive to pollution.
Bog woodland	[91D0]	The introduction of alien species; sub-optimal grazing patterns; general forestry management; increases in urbanisation and human habitation adjacent to oak woodlands; and the construction of communication networks through the woodland.	Changes in management. Changes in nutrient or base status. Introduction of alien species.
Coastal lagoons	[1150]	Pollution, fishing /aquaculture and habitat quality.	Inappropriate development, changes in turbidity
Degraded raised bogs still capable of natural regeneration	[7120]	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface and groundwater dependent. Low sensitivity to hydrological changes. Erosion, land-use changes.
Depressions on peat substrates of the Rhynchosporion	[7150]	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface and groundwater dependent. Low sensitivity to hydrological changes. Erosion, land-use changes.
Estuaries	[1130]	Pollution, fishing /aquaculture and habitat quality.	Inappropriate development, changes in turbidity
Hard oligo-mesotrophic waters with benthic vegetation of muskgrass*(Chara spp.)*	[3140]	Hydrological changes, afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
River Lamprey *(Lampetra fluviatilis)*	[1099]	Channel maintenance, barriers, passage obstruction, gross pollution and specific pollutants.	Surface water dependent Highly sensitive to hydrological change.
Brook Lamprey *(Lampetra planeri)*	[1096]	Channel maintenance, barriers, passage obstruction, gross pollution and specific pollutants.	Surface water dependent Highly sensitive to hydrological change.
Large shallow inlets and bays	[1160]	Pressures on the habitat include nutrient enrichment, dredging and invasive alien species. Overall Status is assessed as Bad and deteriorating, a genuine decline since the 2013 assessment of Inadequate and improving, and is based on more detailed information.	Inappropriate development, changes in turbidity, surface water runoff, discharge etc. On site management activities.
Limestone pavements	[8240]	Overgrazing; extractive industries; recreational activities and improved access.	Erosion, overgrazing and recreation.
Lowland hay meadows *(Alopecurus pratensis, Sanguisorba officinalis)*	[6510]	Agricultural intensification; drainage; abandonment of pastoral systems.	Surface and groundwater dependent. Moderately sensitive to hydrological change. Changes in management. Changes in nutrient status.
Otter *(Lutra lutra)*	[1355]	Decrease in water quality: Use of pesticides; fertilization; vegetation removal; professional fishing (including lobster pots and fyke nets); unting; poisoning; sand and gravel extraction; mechanical removal of peat; urbanised areas; human habitation; continuous urbanization; drainage;	Surface and marine water dependent. Moderately sensitive to hydrological change. Sensitivity to pollution.

Qualifying Interests	EU Code	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
		management of aquatic and bank vegetation for drainage purposes; and canalization or modifying structures of inland water course.	
Freshwater Pearl Mussel *(Margaritifera margaritifera)*	[1029]	In stream works, hydrological and morphological alterations, sediment and enrichment, pollution due urbanisation etc. Poor substrate quality due to increased growth of algal and macrophyte vegetation as a result of severe nutrient enrichment, as well as physical siltation.	Surface water dependent. Highly sensitive to hydrological change. Very highly sensitive to pollution.
Mediterranean salt meadows *(Juncetalia maritimi)*	[1410]	Over-grazing by cattle or sheep; infilling and reclamation.	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Coastal development and reclamation.
Molinia meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)*	[6410]	Agricultural intensification; drainage; abandonment of pastoral systems.	Surface and groundwater dependent. Moderately sensitive to hydrological change. Changes in management. Changes in nutrient status.
Mudflats and sandflats not covered by seawater at low tide	[1140]	Aquaculture, fishing, bait digging, removal of fauna, reclamation of land, coastal protection works and invasive species, particularly cord-grass; hard coastal defence structures; sea-level rise.	Surface and marine water dependent. Moderately sensitive to hydrological change. Moderate sensitivity to pollution. Changes to salinity and tidal regime. Coastal development.
Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	[3150]	Hydrological changes, afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
Old sessile oak woods with Ilex and Blechnum in the British Isles	[91A0]	The introduction of alien species; sub-optimal grazing patterns; general forestry management; increases in urbanisation and human habitation adjacent to oak woodlands; and the construction of communication networks through the woodland.	Changes in management. Changes in nutrient or base status. Introduction of alien species.
Perennial vegetation of stony banks	[1220]	Disruption of the sediment supply, owing to the interruption of the coastal processes, caused by developments such as car parks and coastal defence structures including rock armour and sea walls. The removal of gravel.	Marine water dependent. Low sensitivity to hydrological changes. Coastal development, trampling from recreational activity and gravel removal.
Sea Lamprey *(Petromyzon marinus)*	[1095]	Barriers to upstream migration (e.g. weirs), which limit access to spawning beds and juvenile habitat are main threats to this species.	Marine water dependent. Low sensitivity to hydrological changes. Coastal development, trampling from recreational activity.
Reefs	[1170]	Professional fishing; taking for fauna; taking for flora; water pollution; climate change; and change in species composition.	Sensitive to disturbance and pollution.
Salicornia and other annuals colonising mud and sand	[1310]	Invasive Species; erosion and accretion.	Marine water dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Infilling, reclamation, invasive species.
Salmon *(Salmo salar)*	[1106]	Marine survival rates are of concern for the populations.	Disease, parasites and barriers to movement.
Sandbanks which are slightly covered by sea water all the time	[1110]	Invasive Species; erosion and accretion.	Marine water dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Infilling, reclamation, invasive species.
Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)** important orchid sites	[6210]	Land reclamation, afforestation; drainage; and infrastructural development.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
Transition mires and quaking bogs	[7140]	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface and groundwater dependent. Low sensitivity to hydrological changes. Erosion, land-use changes.
Turloughs	[3180]	Nutrient enrichment; afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.

Qualifying Interests	EU Code	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Tursiops truncatus	[1349]	Vessel movements, fisheries activities and marine development	Prey availability disturbance effects.
Vegetated sea cliffs of the Atlantic and Baltic coasts	[1230]	A number of significant pressures were identified, including trampling by walkers, invasive non-native species, gravel extraction, and sea-level and wave exposure changes due to climate change. There have been no significant losses in sea cliff habitat since the Directive came into force.	Land use activities such as tourism and/or agricultural practices. Direct alteration to the habitat or effects such as burning or drainage.
Water courses of plain to montane levels with vegetation *(Ranunculion fluitantis and Callitricho-Batrachion)*	[3260]	Hydrological and morphological changes, water quality, enrichment, and surface water discharges from industrial site and/or agriculture.	Surface water dependent Highly sensitive to hydrological change and direct physical interactions.

SCI Species identified within from SPAs within 15km of the subject land area

Special Conservation Interests
No SPAs within 15km of the site

SCI Species identified within from SPAs considered for potential hydrological connectivity to the subject lands area

Special Conservation Interest *(SCI)* Species
Great cormorant *(Phalacrocorax carbo)* [A017]
Whooper swan *(Cygnus cygnus)* [A038]
Common shelduck *(Tadorna tadorna)* [A048]
Eurasian wigeon *(Anas penelope)* [A050]
Eurasian teal *(Anas crecca)* [A052]
Mallard *(Anas platyrhynchos)* [A053]
Northern pintail *(Anas acuta)* [A054]
Northern shoveler *(Anas clypeata)* [A056]
Tufted duck *(Aythya fuligula)* [A061]
Greater scaup *(Aythya marila)* [A062]
Black *(common)* scoter *(Melanitta nigra)* [A065]
Common goldeneye *(Bucephala clangula)* [A067]
Corn crake *(Crex crex)* [A122]
Common coot *(Fulica atra)* [A125]
Ringed plover *(Charadrius hiaticula)* [A137]
European golden plover *(Pluvialis apricaria)* [A140]
Grey plover *(Pluvialis squatarola)* [A141]
Northern lapwing *(Vanellus vanellus)* [A142]
Red knot *(Calidris canutus)* [A143]
Bar-tailed godwit *(Limosa lapponica)* [A157]
Eurasian curlew *(Numenius arquata)* [A160]
Common redshank *(Tringa totanus)* [A162]
Common greenshank *(Tringa nebularia)* [A164]
Black-headed gull *(Larus ridibundus)* [A179]
Common tern *(Sterna hirundo)* [A193]
Greenland white-fronted goose *(Anser albifrons flavirostris)* [A395]

Vulnerabilities of Special Conservation Interests

- Bird species are particularly vulnerable to direct disturbance due to noise and/or vibration. These effects are localised, and disturbance effects are foreseen to be low at distances beyond 2km[10].
- Direct habitat loss is a serious concern for bird species, as well as the reduction in habitat quality. Habitat degradation could occur through effects such as local enrichment due to agricultural practices or damage to habitat through activities such as trampling.
- Prey species diversity and availability is a key element of species conservation. Community dynamics and ecosystem functionality are complex concepts and require site specific information. The site synopsis and conservation objectives for the SPAs identified within the ZOI were used to identify any specific prey sensitivities.
- Availability of nesting/roosting habitat. Particularly for the Hen Harrier.
- Vegetation composition, structure and functionality.

Wetland and Waterbirds [A999] Direct land take is a common vulnerability to all sites; as well as significant water quality effects. The conservation objective of all SPAs designated for Wetland and Waterbirds is to maintain the favourable conservation condition of the wetland habitat as a resource for the regularly occurring migratory waterbirds using it.

[10] SNH (2007) A Review of Disturbance Distances in Selected Bird Species: Scottish Natural Heritage; M. Ruddock & D.P. Whitfield

Appendix II Winter Bird Data

Appendix II Table 1 All bird foraging behaviours observed in the Acres Lake Boardwalk area

BTO Code	Number of Individuals	Common Name	Scientific Name	Habitat Description	Tital Condition	Foraging Group Composition
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	jetty		BH1
BH	12	Black-headed Gull	*Chroicocephalus ridibundus*	FL4 - birds foraging in the water and reed beds bordering the lake		MA7, MS2, BH12
BH	20	Black-headed Gull	*Chroicocephalus ridibundus*	jetty		MA8, BH20
BH	12	Black-headed Gull	*Chroicocephalus ridibundus*	FL4- birds foraging in water and reed beds bordering the lake. Birds all flocked around family at benches feeding them bread at 13.30		MA11, BH12, MS2
BH	10	Black-headed Gull	*Chroicocephalus ridibundus*	lake		BH10, CA1
BH	23	Black-headed Gull	*Chroicocephalus ridibundus*	FL with reedbeds along the shore		BH23, MS2, CA1, MA8
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	lake		CA1, BH1
BH	14	Black-headed Gull	*Chroicocephalus ridibundus*	GA2		MS2, MA5, BH14
BH	9	Black-headed Gull	*Chroicocephalus ridibundus*	jetty. Man feeding birds at 15.22		MA6, BH9, LB2, MS2
BH	6	Black-headed Gull	*Chroicocephalus ridibundus*	FL		BH6, LB2
CA	1	Cormorant	*Phalacrocorax carbo*	lake		BH10, CA1
CA	1	Cormorant	*Phalacrocorax carbo*	lake		CA1, BH1
CA	1	Cormorant	*Phalacrocorax carbo*	FL		CA1
CA	1	Cormorant	*Phalacrocorax carbo*	FL with reedbeds along the shore		BH23, MS2, CA1, MA8
LB	2	Lesser Black-backed Gull	*Larus fuscus*	FL		BH6, LB2
LB	2	Lesser Black-backed Gull	*Larus fuscus*	jetty. Man feeding birds at 15.22		MA6, BH9, LB2, MS2
MA	7	Mallard	*Anas platyrhynchos*	FL4 - birds foraging in the water and reed beds bordering the lake		MA7, MS2, BH12
MA	5	Mallard	*Anas platyrhynchos*			MA5, M 2
MA	2	Mallard	*Anas platyrhynchos*	lake	Mid Tide	MS2, MA2
MA	12	Mallard	*Anas platyrhynchos*	patch of GA2 beside jetty and car park. Disturbed by dog at 15.56		MA12
MA	4	Mallard	*Anas platyrhynchos*	FL and reed beds along shore		MS1, MH1, MA4
MA	2	Mallard	*Anas platyrhynchos*	FL and Reed beds along shore		MS2, MA2, MH1

BTO Code	Number of Individuals	Common Name	Scientific Name	Habitat Description	Tital Condition	Foraging Group Composition
MA	11	Mallard	*Anas platyrhynchos*	FL4- birds foraging in water and reed beds bordering the lake. Birds all flocked around family at benches feeding them bread at 13.30		MA11, BH12, MS2
MA	4	Mallard	*Anas platyrhynchos*	FL with reedbeds along shore		MA4
MA	5	Mallard	*Anas platyrhynchos*	GA2		MS2, MA5, BH14
MA	4	Mallard	*Anas platyrhynchos*	lake		MA4
MA	8	Mallard	*Anas platyrhynchos*	jetty		MA8, BH20
MA	8	Mallard	*Anas platyrhynchos*	lake, reedbed		MA8, MS2, MH1
MA	8	Mallard	*Anas platyrhynchos*	FL with reedbeds along the shore		BH23, MS2, CA1, MA8
MA	6	Mallard	*Anas platyrhynchos*	jetty. Man feeding birds at 15.22		MA6, BH9, LB2, MS2
MH	1	Moorhen	*Gallinula chloropus*	lake, reedbed		MA8, MS2, MH1
MH	1	Moorhen	*Gallinula chloropus*	FL and reed beds along shore		MS1, MH1, MA4
MH	1	Moorhen	*Gallinula chloropus*	FL and Reed beds along shore		MS2, MA2, MH1
MS	2	Mute Swan	*Cygnus olor*	lake	Mid Tide	MS2, MA2
MS	2	Mute Swan	*Cygnus olor*	FL with reedbeds along the shore		BH23, MS2, CA1, MA8
MS	2	Mute Swan	*Cygnus olor*	lake, reedbed		MA8, MS2, MH1
MS	2	Mute Swan	*Cygnus olor*	jetty. Man feeding birds at 15.22		MA6, BH9, LB2, MS2
MS	2	Mute Swan	*Cygnus olor*	GA2		MS2, MA5, BH14
MS	2	Mute Swan	*Cygnus olor*	FL4 - birds foraging in the water and reed beds bordering the lake		MA7, MS2, BH12
MS	1	Mute Swan	*Cygnus olor*			MS1
MS	1	Mute Swan	*Cygnus olor*	FL and reed beds along shore		MS1, MH1, MA4
MS	2	Mute Swan	*Cygnus olor*	FL and Reed beds along shore		MS2, MA2, MH1
MS	2	Mute Swan	*Cygnus olor*	FL4- birds foraging in water and reed beds bordering the lake. Birds all flocked around family at benches feeding them bread at 13.30		MA11, BH12, MS2

Appendix II Table 2 All bird roosting behaviours observed in the Acres Lake Boardwalk area

BTO Code	Number of Individuals	Common Name	Scientific Name	Feature Type	Habitat Description	Roosts Group Composition
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	Acres_roost 1_ November	jetty, patch of GA2	BH1, MA7, MS2
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*		sign post in lake	BH1
BH	2	Black-headed Gull	*Chroicocephalus ridibundus*	boardwalk	posts of boardwalk	BH2
BH	10	Black-headed Gull	*Chroicocephalus ridibundus*		jetty	BH10, MA6, MS2
BH	2	Black-headed Gull	*Chroicocephalus ridibundus*		sign posts	CA1, BH2
BH	12	Black-headed Gull	*Chroicocephalus ridibundus*	Jetty	Jetty on Lake	BH12, MA10
BH	23	Black-headed Gull	*Chroicocephalus ridibundus*	Jetty	Jetty	BH23, MA15
BH	4	Black-headed Gull	*Chroicocephalus ridibundus*	jetty	jetty on lake	BH4, LB2, MA4
BH	2	Black-headed Gull	*Chroicocephalus ridibundus*	jetty	jetty on lake	BH2
CA	1	Cormorant	*Phalacrocorax carbo*		sign post in water	CA1
CA	1	Cormorant	*Phalacrocorax carbo*		sign posts	CA1, BH2
LB	2	Lesser Black-backed Gull	*Larus fuscus*	jetty	jetty on lake	BH4, LB2, MA4
MA	3	Mallard	*Anas platyrhynchos*		jetty	MA3
MA	2	Mallard	*Anas platyrhynchos*	boardwalk	boardwalk over the water	MA2
MA	10	Mallard	*Anas platyrhynchos*	Jetty	Jetty on Lake	BH12, MA10
MA	4	Mallard	*Anas platyrhynchos*	jetty	jetty on lake	BH4, LB2, MA4
MA	7	Mallard	*Anas platyrhynchos*	Acres_roost 1_ November	jetty, patch of GA2	BH1, MA7, MS2
MA	2	Mallard	*Anas platyrhynchos*		reed bed	MA2
MA	15	Mallard	*Anas platyrhynchos*	Jetty	Jetty	BH23, MA15
MA	6	Mallard	*Anas platyrhynchos*		jetty	BH10, MA6, MS2
MA	2	Mallard	*Anas platyrhynchos*	Reed beds	Reed beds bordering lake	MA2
MS	2	Mute Swan	*Cygnus olor*	Acres_roost 1_ November	jetty, patch of GA2	BH1, MA7, MS2
MS	1	Mute Swan	*Cygnus olor*	flattened tuft of Reed bed	flattened tuft of reed bed - MS nest building	MS 1
MS	2	Mute Swan	*Cygnus olor*		jetty	BH10, MA6, MS2
SN	2	Snipe	*Gallinago gallinago*		Reed bed	SN2
SN	5	Snipe	*Gallinago gallinago*	Reedbed	Reedbed bordering the lake	SN5
SN	2	Snipe	*Gallinago gallinago*	Reed beds behind boards walk	Reed beds bordering the lake	SN2

Appendix II Table 3 All birds observed flying overhead in the Acres Lake Boardwalk area

BTO Code	Number of Individuals	Common Name	Scientific Name	Group Size	Survey Date	Flight Duration in Seconds	Flight Height	Flight Direction	Brief Description	Flight Group Composition
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	29/12/2020	20	0	S	repeated by: BH2 at 10.27, BH1 at 10.32, BH1 at 12.51, BH1 at 15.22, BH1 at 15.54	BH1
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	20/11/2020	120	8			BH1
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	20/11/2020	60	7		foraging	BH1
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	20/11/2020	60	5		landed on post in water to roost	BH1
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	20/11/2020	25	25		travelling. repeated at 9.18 BH1,	BH1
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	20/11/2020	5	10			BH1
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	20/11/2020	120	5		getting up from water, circling area and landing back down - foraging.	BH1
BH	2	Black-headed Gull	*Chroicocephalus ridibundus*	2	29/12/2020	15	0	N	repeated by: BH9 at 11.48, BH1 at 15.22	BH2
BH	4	Black-headed Gull	*Chroicocephalus ridibundus*	4	29/12/2020	30	0		repeated by: BH3 at 10.10, BH7 at 10.21, BH2 at 10.36, BH2 at 10.45, BH1 at 10.55, BH11 at 11.00, BH2 at 11.16, BH1 at 11.23, BH1 at 11.30, BH2 at 12.02, BH1 at 12.12, BH1 at 12.40, BH1 at 13.00, BH4 at 13.15, BH2 at 13.44, BH2 at 14.28, BH2 at 14.54, BH	BH 4
BH	3	Black-headed Gull	*Chroicocephalus ridibundus*	3	29/12/2020	60	0			BH3
BH	2	Black-headed Gull	*Chroicocephalus ridibundus*	2	20/11/2020	10	10			BH2
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	20/11/2020	60	10		repeated BH 1 at 10.24, BH 2 at 11.51, BH 1 at 11.56, BH 1 at 12.04, BH 1 at 12.22, BH 1 at 14.10, BH1 at 14.31	BH1

BTO Code	Number of Individuals	Common Name	Scientific Name	Group Size	Survey Date	Flight Duration in Seconds	Flight Height	Flight Direction	Brief Description	Flight Group Composition
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	20/11/2020	8	15			BH1
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	20/11/2020	60	25			BH1
BH	1	Black-headed Gull	*Chroicocephalus ridibundus*	1	20/11/2020	120	15			BH1
CA	1	Cormorant	*Phalacrocorax carbo*	1	29/12/2020	0	0		same CA took up from sign post and flew from lake to southeast	CA1
CA	1	Cormorant	*Phalacrocorax carbo*	1	20/11/2020	5	7		landed in water	CA1
CA	1	Cormorant	*Phalacrocorax carbo*	1	20/11/2020	15	25			CA1
CA	2	Cormorant	*Phalacrocorax carbo*	2	29/12/2020	30	0	N	repeated by: CA2 at 10.09, CA1 at 11.12, CA3 at 11.36, CA1 at 11.37, CA2 at 13.17, CA1 at 13.20, CA1 at 13.36, CA1 at 14.26, CA1 at 14.42, CA1 at 16.02	CA2
CA	1	Cormorant	*Phalacrocorax carbo*	1	29/12/2020	50	0		travelling	CA1
CA	1	Cormorant	*Phalacrocorax carbo*	1	29/12/2020	0	0			CA1
CA		Cormorant	*Phalacrocorax carbo*	1	20/11/2020	10	10	SE	travelling	CA
CA	1	Cormorant	*Phalacrocorax carbo*	1	29/12/2020	0	0		landed to roost on sign post	CA1
CA	1	Cormorant	*Phalacrocorax carbo*	1	29/12/2020	25	0	S	repeated by: CA1 at 13.39, CA1 at 14.06, CA1 at 14.18	CA1
CA	1	Cormorant	*Phalacrocorax carbo*	1	29/12/2020	40	0		travelling	CA1
CA	1	Cormorant	*Phalacrocorax carbo*	1	29/12/2020	18	0		landed on sign post to roost	CA1
CA	1	Cormorant	*Phalacrocorax carbo*	1	29/12/2020	60	0			CA1
MA	1	Mallard	*Anas platyrhynchos*	1	20/11/2020	60	15		travelling	MA1
MA	6	Mallard	*Anas platyrhynchos*	6	20/11/2020	5	5		flew in from canal landed in water	MA6
MA	1	Mallard	*Anas platyrhynchos*	1	20/11/2020	15	10			MA1
MA	1	Mallard	*Anas platyrhynchos*	1	20/11/2020	4	5			MA1
MA	3	Mallard	*Anas platyrhynchos*	3	20/11/2020	8	5			MA 3

BTO Code	Number of Individuals	Common Name	Scientific Name	Group Size	Survey Date	Flight Duration in Seconds	Flight Height	Flight Direction	Brief Description	Flight Group Composition
MA	6	Mallard	*Anas platyrhynchos*	6	29/12/2020	5	0			MA6
MA	5	Mallard	*Anas platyrhynchos*	5	20/11/2020	8	5			MA5
MA	2	Mallard	*Anas platyrhynchos*	2	20/11/2020	12	8			MA2
MA	1	Mallard	*Anas platyrhynchos*	1	20/11/2020	10	8			MA1
MA	1	Mallard	*Anas platyrhynchos*	1	20/11/2020	4	5			MA1
MA		Mallard	*Anas platyrhynchos*	2	20/11/2020	7	5		flew across lake and landed back down	MA
MA	2	Mallard	*Anas platyrhynchos*	2	29/12/2020	5	0			MA2
MA	1	Mallard	*Anas platyrhynchos*	1	29/12/2020	0	0			MA1
MS	2	Mute Swan	*Cygnus olor*	2	29/12/2020	0	0		swans landed in lake but were immediately chased by 2 resident MS already in the lake	MS2
MS	2	Mute Swan	*Cygnus olor*	2	29/12/2020	0	0		swans were chased from lake by resident pair and flew away southeast	MS2
SN	1	Snipe	*Gallinago gallinago*	1	29/12/2020	4	0	E	travelling. landed in reedbed to roost	SN1
SN	1	Snipe	*Gallinago gallinago*	1	29/12/2020	1	0		second SN in reedbed	SN1
SN	1	Snipe	*Gallinago gallinago*	1	29/12/2020	40	0		travelling	SN1
SN	1	Snipe	*Gallinago gallinago*	1	29/12/2020	130	0		travelling	SN1

Appendix II Table 4 Survey details and comments for all surveys at Acres Lake Boardwalk

Site	Weather conditions	Surveyor	Date	Arrival Time	Survey Start Time	Survey End Time	Comments	Disturbance Events	Tourism Notes
Acres Lake Boardwalk	Fresh breeze from east. Dry. 100% cloud cover. Good visibility. Light snow towards end of survey. 1/0°C	Kate Bismilla	11/02/2021 12:00	11:10	11:20	14:20		Some disturbance to roosting and foraging MA, BH and MS from dogs and children at jetty. Although human activity brought birds over looking to be fed	
Acres Lake Boardwalk	Light air from N. 60% cloud cover. no rain. snow and frost on ground. good visibility	Kate Bismilla	23/01/2021 12:00	10:00	10:10	13:10			
Acres Lake Boardwalk	Moderate breeze from south in morning. Fresh breeze from south in afternoon. 100% cloud cover. No rain in morning, light and heavy showers in afternoon. Good visibility	Kate Bismilla	23/03/2021 12:00	09:50	10:00	13:00			
Acres Lake Boardwalk	Light breeze from south. no rain. cloud cover 50%. visibility good	Kate Bismilla	06/11/2020 12:00	07:50	08:00	11:00			
Acres Lake Boardwalk	Gentle breeze from SW. some drizzle. 100%cc. visibility good	Kate Bismilla	20/11/2020 12:00	08:20	08:30	11:30			
Acres Lake Boardwalk	Moderate breeze from NW. light showers. visibility good. cloud cover 80%	Kate Bismilla	29/12/2020 12:00	09:40	09:50	12:50			
Acres Lake Boardwalk	Fresh breeze from east. Dry. 100% cloud cover. Good visibility. Light snow towards end of survey. 1/0°C	Kate Bismilla	11/02/2021 12:00	14:50	15.00	18:00			
Acres Lake Boardwalk	Light air from N. 60% cloud cover. no rain. snow and frost on ground. good visibility	Kate Bismilla	23/01/2021 12:00	13:40	13:50	16:50			
Acres Lake Boardwalk	Moderate breeze from south in morning. Fresh breeze from south in afternoon. 100% cloud cover. No rain in morning, light and heavy showers in afternoon. Good visibility	Kate Bismilla	23/03/2021 12:00	13:20	13:30	17:30			
Acres Lake Boardwalk	Light breeze from south. no rain. cloud cover 50%. visibility good	Kate Bismilla	06/11/2020 12:00	12:20	12:30	15:30			
Acres Lake Boardwalk	Gentle breeze from SW. some drizzle. 100%cc. visibility good	Kate Bismilla	20/11/2020 12:00	12:50	13:00	15:00			
Acres Lake Boardwalk	Moderate breeze from NW. light showers. visibility good. cloud cover 80%	Kate Bismilla	29/12/2020 12:00	13:00	13:10	16:10			