APPROPRIATE ASSESSMENT (HABITATS DIRECTIVE) SCREENING REPORT FOR A PROPOSED DEVELOPMENT AT CHURCH VIEW, RATHMOLYON, CO MEATH

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Prepared
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EXECUTIVE SUMMARY

Meath Co. Council are proposing a development comprising:

Construction of 22 dwellings, comprising 8 No. Duplex dwellings, and 14 No. Dwellings associated roads, open space and site development works. The proposal retains existing tress at the entrance to the existing residential estate, Church View.

The proposed development location in situated within 15 km of three Natura 2000 sites:

- *River Boyne and River Blackwater Special Area of Conservation;*
- *Mount Hevey Bog Special Area of Conservation; and*
- *River Boyne and River Blackwater SPA.*

As such, the proposed development requires Appropriate Assessment (Habitats Directive) screening in accordance with Article 6(3) of the EU Habitats Directive.

Screening having identified no significant potential negative impacts Phase II Appropriate Assessment was deemed not to be required in this instance. Following an examination, analysis, and evaluation of the relevant information, and applying the precautionary principle, it is considered that there would be no potential for significant adverse impact of the proposed development on the Qualifying Interests, nor the attainment of specific conservation objectives, either alone or in-combination with other plans or projects on the Natura 2000 sites described herein.

1 Introduction

1.1 FERS Ltd. Company background

Forest, Environmental Research and Services have been conducting ecological surveys and research since the company's formation in 2005 by Dr Patrick Moran and Dr Kevin Black. Dr Moran, the principal ecologist with FERS, holds a 1st class honours degree in Environmental Biology (UCD), a Ph.D. in Ecology (UCD), a Diploma in EIA and SEA management (UCD) a Diploma in Environmental and Planning Law (King's Inn) and a M.Sc. in Geographical Information Systems and Remote Sensing (University of Ulster, Coleraine). Patrick has in excess of 20 years of experience in carrying out ecological surveys on both an academic and a professional basis. Dr Emma Reeves, senior ecologist with FERS holds a 1st class honours degree in Botany, and a Ph.D. in Botany. Emma has in excess of 10 years of experience in undertaking ecological surveys on an academic and professional basis. Ciarán Byrne, a senior ecologist with FERS holds a 1st class honours degree in Environmental Management (DIT) and a M.Sc. in Applied Science/Ecological Assessment (UCC). Ciarán has in excess of 5 years in undertaking ecological surveys on both an academic and a professional basis.

FERS client list includes National Parks and Wildlife Service, An Bord Pleanála, various County Councils, the Heritage Council, Teagasc, University College Dublin, the Environmental Protection Agency, Inland Waterways Association of Ireland, the Department of Agriculture, the Office of Public Works and Coillte in addition to numerous private individuals and companies. FERS Ltd. has prepared in excess of 300 Appropriate Assessment Screenings/Natura Impact Statements for a wide range of plans and projects.

1.2 The aim of this report

This report has been prepared in compliance with Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (DoEHLG 2009, February 2010) and the European Communities (Birds and Natural Habitats) Regulations 2011 (DoEHLG 2011) in support of the Appropriate Assessment of a proposed development at Church View, Rathmolyon, Co Meath. This report provides the information required in order to establish whether or not the proposed development is likely to have a significant ecological impact on any Natura 2000 sites, in the context

of their conservation objectives and specifically on the habitats and species for which the sites have been designated.

This report has similarly been prepared with regard to relevant rulings by the Court of Justice of the European Union (CJEU), the High Court, and the Supreme Court including but not limited to:

- [2013] C-258/11 Peter Sweetman and Others v An Bord Pleanála. The CJEU ruled that Article 6 (3) of Council Directive 92/43 / EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that a project not directly linked to it is not immediately necessary for the management of a site to prejudice the integrity of that site if it is likely to prevent the preservation of the constituent characteristics of the site concerned in relation to the presence of a natural priority habitat whose purpose is to maintain gave the reason for registering that site in the list of sites of Community importance within the meaning of that directive. For this verification, the precautionary principle must be applied;
- [2018] C – 164/17 Edel Grace and Peter Sweetman v An Bord Pleanála. The CJEU ruled that Article 6 of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that, where it is intended to carry out a project on a site designated for the protection and conservation of certain species, of which the area suitable for providing for the needs of a protected species fluctuates over time, and the temporary or permanent effect of that project will be that some parts of the site will no longer be able to provide a suitable habitat for the species in question, the fact that the project includes measures to ensure that, after an appropriate assessment of the implications of the project has been carried out and throughout the lifetime of the project, the part of the site that is in fact likely to provide a suitable habitat will not be reduced and indeed may be enhanced may not be taken into account for the purpose of the assessment that must be carried out in accordance with Article 6(3) of the directive to ensure that the project in question will not adversely affect the integrity of the site concerned; that fact falls to be considered, if need be, under Article 6(4) of the directive;
- [2018] C-323/17 People Over Wind and Sweetman v Coillte Teoranta - The (CJEU) ruled that Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the

screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site;

- [2018] C-461/17 Holohan v An Bord Pleanála – The CJEU ruled that:

1. Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that an 'appropriate assessment' must, on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has not been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site.

2. Article 6(3) of Directive 92/43 must be interpreted as meaning that the competent authority is permitted to grant to a plan or project consent which leaves the developer free to determine subsequently certain parameters relating to the construction phase, such as the location of the construction compound and haul routes, only if that authority is certain that the development consent granted establishes conditions that are strict enough to guarantee that those parameters will not adversely affect the integrity of the site.

3. Article 6(3) of Directive 92/43 must be interpreted as meaning that, where the competent authority rejects the findings in a scientific expert opinion recommending that additional information be obtained, the 'appropriate assessment' must include an explicit and detailed statement of reasons capable of dispelling all reasonable scientific doubt concerning the effects of the work envisaged on the site concerned.

4. Article 5(1) and (3) of, and Annex IV to, Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, must be interpreted as meaning that the developer is obliged to supply information that expressly addresses the significant effects of its project on all species identified in the statement that is supplied pursuant to those provisions.

5. Article 5(3)(d) of Directive 2011/92 must be interpreted as meaning that the developer must supply information in relation to the environmental impact of both the chosen option and of all the main alternatives studied by the developer, together with the reasons for his choice, taking into account at least the environmental effects, even if such an alternative was rejected at an early stage.

- [2018] IESC 31 Connelly v An Bord Pleanála – Appropriate Assessment must contain complete, precise, and definitive findings;
- [2019] IEHC 84 Kelly v An Bord Pleanála - The Irish High Court concluded that SUDS form part of the development and are not mitigation measures which a competent authority cannot consider at the screening for AA stage.

Furthermore, there have been a number of recent Judicial Reviews that are pertinent as regards this report (e.g. [2020] No. 238 J.R.).

1.3 An outline of the Appropriate Assessment process

The "Habitats Directive" (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) is the main legislative instrument for the protection and conservation of biodiversity within the European Union and lists certain habitats and species that must be protected within wildlife conservation areas, considered to be important at a European as well as at a national level. A "Special Conservation Area" or SAC is a designation under the Habitats Directive.

The "Birds Directive" (Council Directive 2009/147/EC on the Conservation of Wild Birds) provides for a network of sites in all member states to protect birds at their breeding, feeding, roosting, and wintering areas. This directive identifies species that are rare, in danger of extinction or vulnerable to changes in habitat and which need protection. A "Special Protection Area" or SPA, is a designation under The Birds Directive.

Special Areas of Conservation and Special Protection Areas form a pan-European network of protected sites known as Natura 2000 sites.

The Habitats Directive sets out the protocol for the protection and management of SACs. The Directive sets out key elements of the system of protection including the requirement for Appropriate Assessment of plans and projects. The requirements for an Appropriate Assessment are set out in the EU Habitats Directive. Articles 6(3) and 6(4) of the Directive respectively, state:

> "*…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….*"
>
> "*…If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of over-riding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted….*"

1.4 Methodology for Appropriate Assessment

A number of guidance documents on the appropriate assessment process have been consulted during the preparation of this NIS. These are:

- Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (2000);
- 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 (Nov. 2001 – published 2002);
- EU Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (2007);
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG 2009, Revised February 2010);
- European Communities (Birds and Natural Habitats) Regulations 2011 (DoEHLG 2011); and
- Commission notice "Managing Natura 2000 sites The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Brussels, 21.11.2018 C (2018) 7621 final.

The assessment requirements of Article 6 are generally dealt with in a stage-by-stage approach. The stages as outlined in "Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities" are:

1.4.1 Stage (1) Appropriate Assessment (Habitats Directive) Screening

This initial process identifies the likely impacts of a proposed project or plan upon a Natura 2000 site, either alone, or in combination with other projects or plans and considers whether these impacts are likely to be significant. A recent judgement in the ECJ (C323/17) that has large implications for appropriate assessment screening in Ireland has found that:

"…Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site…"

1.4.2 Stage (2) Preparation of Natura Impact Statement

The consideration of the impact of the project or plan on the integrity of the Natura 2000 Site, either alone or in combination with other projects or plans to the sites structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts.

1.4.3 Stage (3) Assessment of Alternative Solutions

The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site.

1.4.4 Stage (4) Assessment 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.

At each stage, there is a determination as to whether a further stage in the Appropriate Assessment process is required. If, for example, the conclusions of the Screening stage indicate that there will be no significant impacts on the Natura 2000 site, there is no requirement to proceed further. Appropriate Assessment stages 1 and 2 deal with the main requirements for assessment under Article 6.3. Stage 3 may be part of Article 6(3) or a necessary precursor for Stage 4. This report is comprised of the ecological impact assessment and testing required under the provisions of Article 6(3) by means of the first stage of Appropriate Assessment, the screening process (as set out in the EU Guidance documents).

EU guidance states:

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

This report has been undertaken in accordance with the European Commission's Guidance on Appropriate Assessment (European Commission, 2001) which comprises the following:

1. Description of the Plan.
2. Identification of Natura 2000 sites potentially affected by the Plan.
3. Identification and description of individual and cumulative impacts likely to result from the Plan.
4. Assessment of the significance of the impacts identified on the conservation objectives of the site(s).

5. Exclusion of sites where it can be objectively concluded that there will be no significant impacts on conservation objectives.

1.5 Consultations

1.5.1 NPWS

The primary body consulted with regard to matters involving Natura 2000 sites is the National Parks and Wildlife Service (NPWS). The role of the NPWS is:

- To secure the conservation of a representative range of ecosystems and maintain and enhance populations of flora and fauna in Ireland.
- To implement the EU Habitats and Birds Directives.
- To designate and advise on the protection of Natural Heritage Areas (NHA) having particular regard to the need to consult with interested parties.
- To make the necessary arrangements for the implementation of National and EU legislation and policies and for the ratification and implementation of the range of international Conventions and Agreements relating to the natural heritage.
- To manage, maintain and develop State-owned National Parks and Nature Reserves.

Information pertaining to Natura 2000 sites within the Republic of Ireland is typically held by NPWS and is publicly accessible through their on-line database at www.npws.ie . Consultations carried out involved querying the NPWS database for information pertaining to Natura 2000 sites within 15 km of the proposed development.

1.5.2 NBDC Database

The National Biodiversity Database Centre database was queried for records of species of conservation concern present within the immediate vicinity of the proposed development.

1.5.3 Other relevant data-sources

Other relevant data-sources were queried, as necessary.

2 Screening

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

(1) Is the plan or project directly connected to or necessary for the management of the site?

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

The proposed development does not comply with the first screening test (i.e., the proposed development is not directly connected to, or necessary for the management of any Natura 2000 site). The screening exercise will therefore inform the Appropriate Assessment process in determining whether the proposed plan, alone or in combination with other plans and projects, has any potential to have significant effects on the Natura 2000 sites within the study area. If the effects are deemed to be significant, potentially significant, or uncertain, or it the screening process becomes overly complicated, then applying the Precautionary Principle and in accordance with Article 6(3) of the Habitats Directive, a Stage 2 Appropriate Assessment is required stage, i.e., "*The consideration of the impact of the project or plan on the integrity of the Natura 2000 Site, either alone or in combination with other projects or plans to the sites structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts."*

2.1 Description of proposed development

The proposed development will comprise the construction of 22 dwellings, comprising 8 No. Duplex dwellings, and 14 No. Dwellings, associated roads, open space and site development works. The proposal retains existing tress at the entrance to the existing residential estate, Church View. Surface water and Foul waste will be managed through the existing public systems, the site being located within/adjacent to the Rathmolyon Agglomeration (see Figure 1).

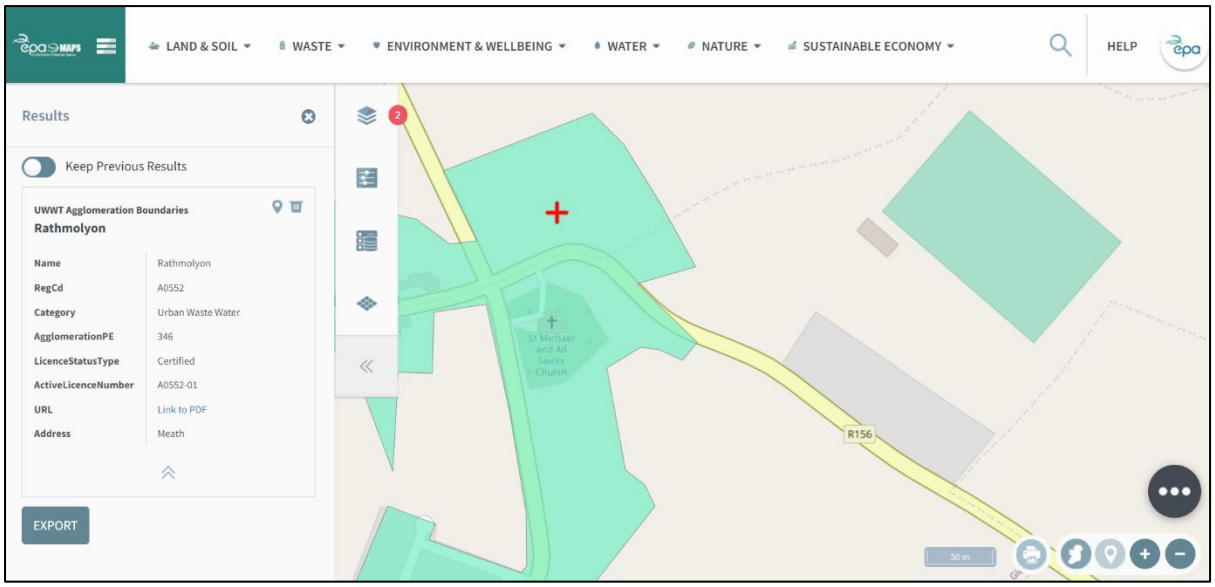

Figure 1: Excerpt from EPA online mapping resource

The approximate location of the proposed development site is indicated in Figure 2, Figure 3, Figure 4, Figure 5 and Figure 6. An excerpt from the Architect's drawings indicating the proposed layout is indicated in Figure 7.

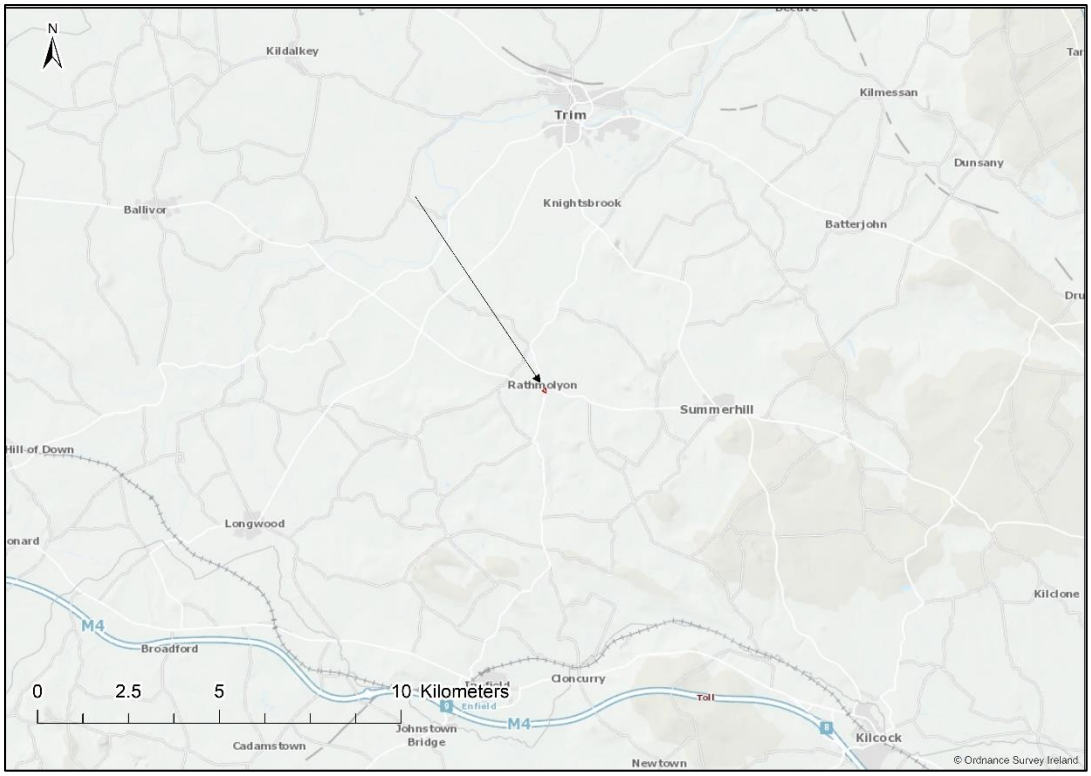

Figure 2: Approximate location of proposed development (1:100,000)

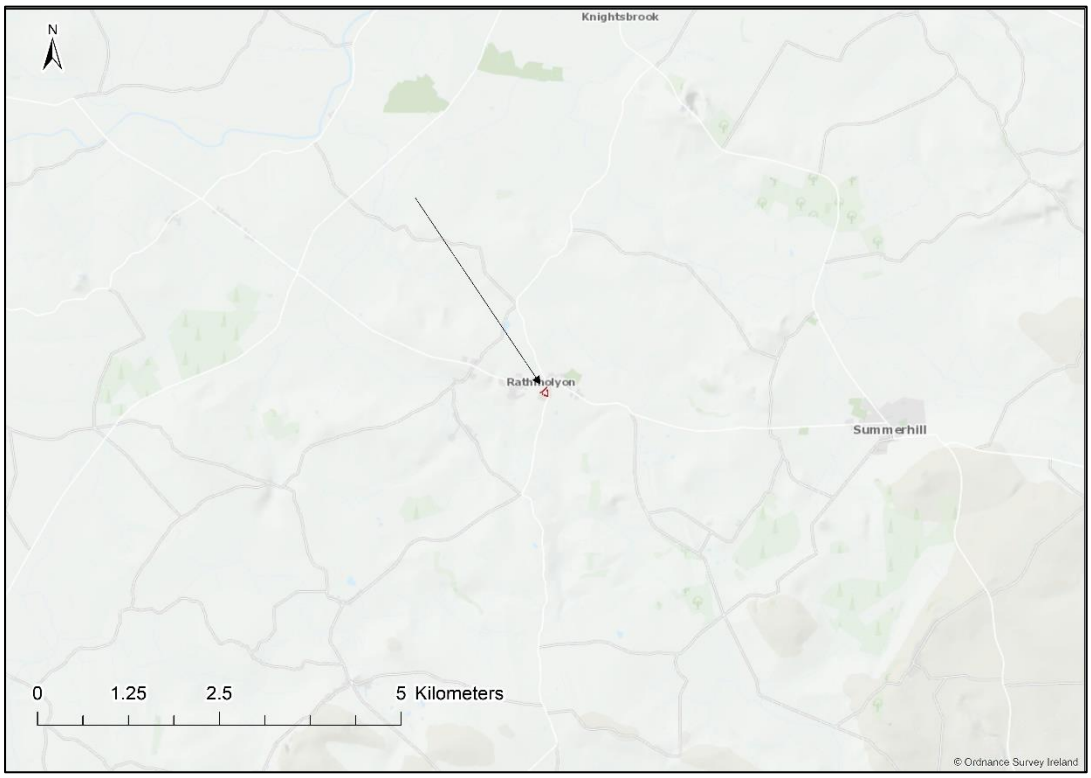

Figure 3: Approximate location of proposed development (1:50,000)

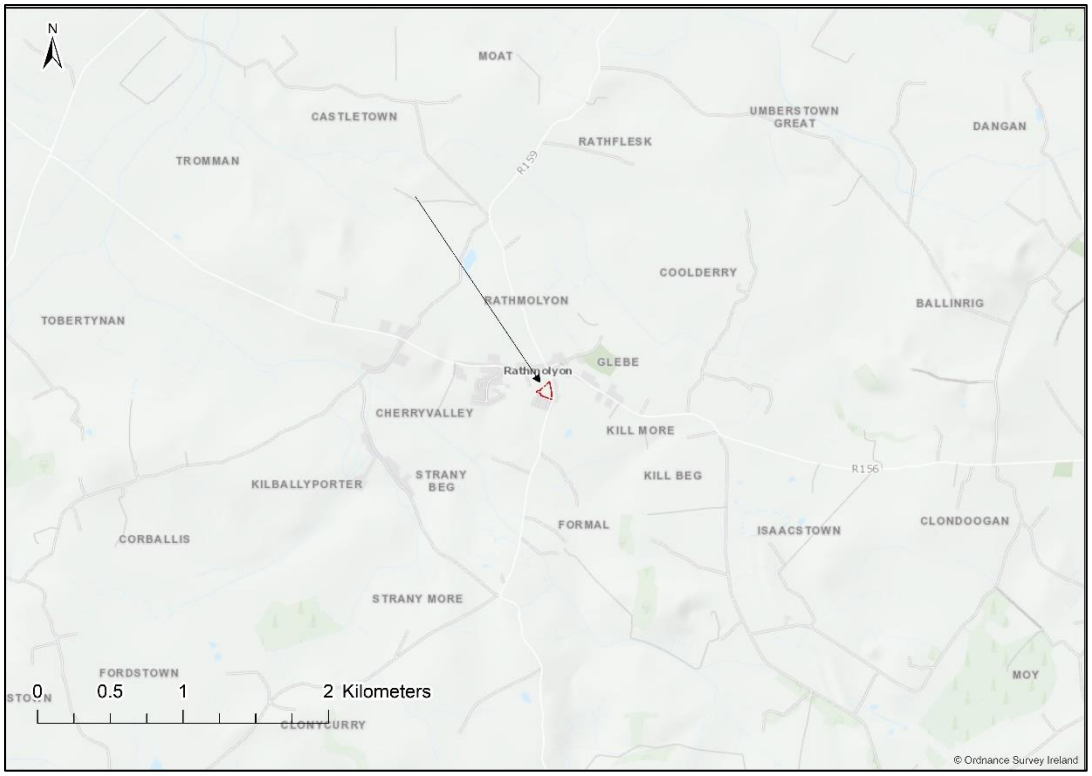

Figure 4: Approximate location of proposed development (1:25,000)

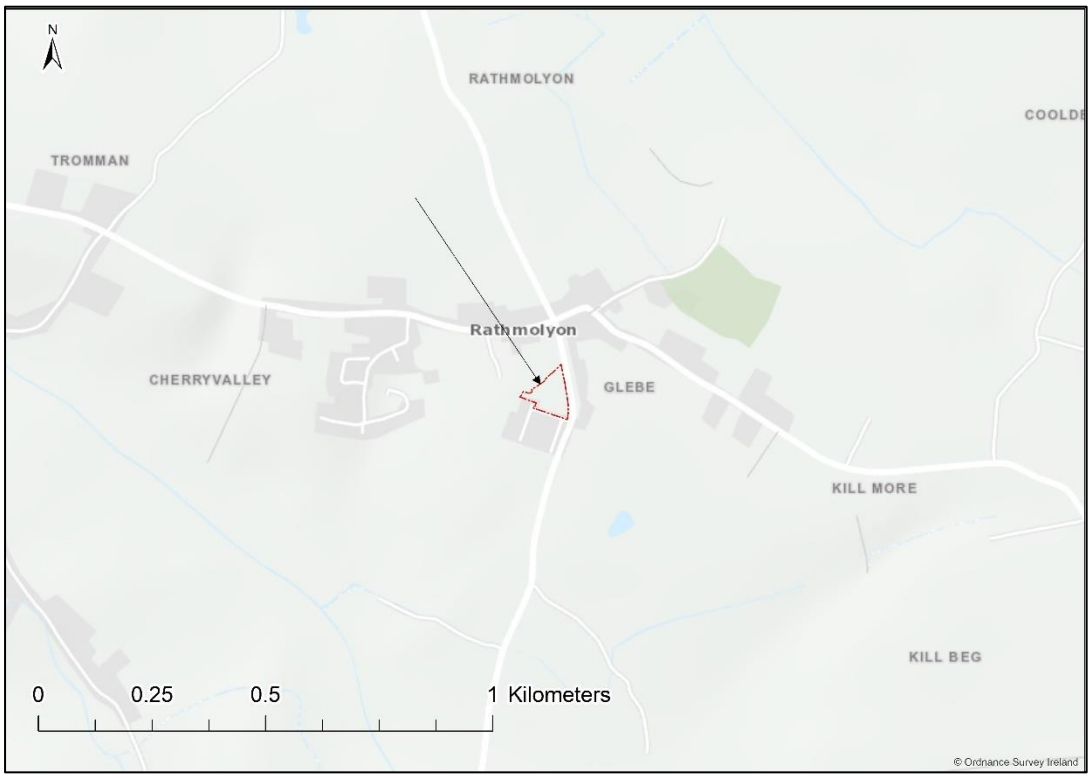

Figure 5: Approximate location of proposed development (1:8,000)

Figure 6: Approximate location of proposed development overlain on satellite imagery (1:2,500)

Figure 7: Excerpt from Architect's drawings indicating proposed layout of development

2.2 Description of existing conditions on site

A site visit was carried out on the morning of 16th February 2022, by Dr Patrick Moran. This is outside of the optimal window for undertaking ecological assessments. Given the nature and location of the proposed development, and the habitats present, however, a site assessment at within this period was deemed sufficient to determine any potential impact on Annex Habitats/Species.

Images of the habitats present and *environs* are provided in Figure 8, Figure 9, Figure 10, Figure 11, Figure 12 and Figure 13. None of the habitats present have the potential to support Annex I Habitat or Annex II species. Of note it is highly probable that bats (all Irish species of which are listed on Annex IV of the EU Habitats Directive) utilise the habitats present for foraging (given the proximity of the site to optimal roosting conditions within the church opposite.

Figure 8: Approximate location of site in question

Figure 9: Church immediately adjacent to site

Figure 10: Overview of primary habitats present – scrub, rank grassland and built land/artificial surface

Figure 11: Rank grassland habitat

Figure 12: Scrub habitat

Figure 13: Built land/artificial surface habitat

2.3 Description of scope

The geographical scope of the assessment is to determine if the proposed works/development has the potential to have any significant negative impact on the Natura 2000 sites occurring within 15 km of the proposed development.

The NBDC database was accessed on 04/02/22 to query records occurring within the vicinity of the proposed development (2 km square, N74Z see Figure 14). The species of conservation concern as recorded within this 2 km square are illustrated in Table 1. The list is quite sparse, and the paucity of species is likely owing to a lack of recording as opposed to indicating the absence of such species. Indeed, the map presented in Figure 15 indicates that as regards the "Habitat Suitability Index" for all bats, the proposed development is located in the middle category, indicating a strong likelihood of several species of bat are utilising the habitat present.

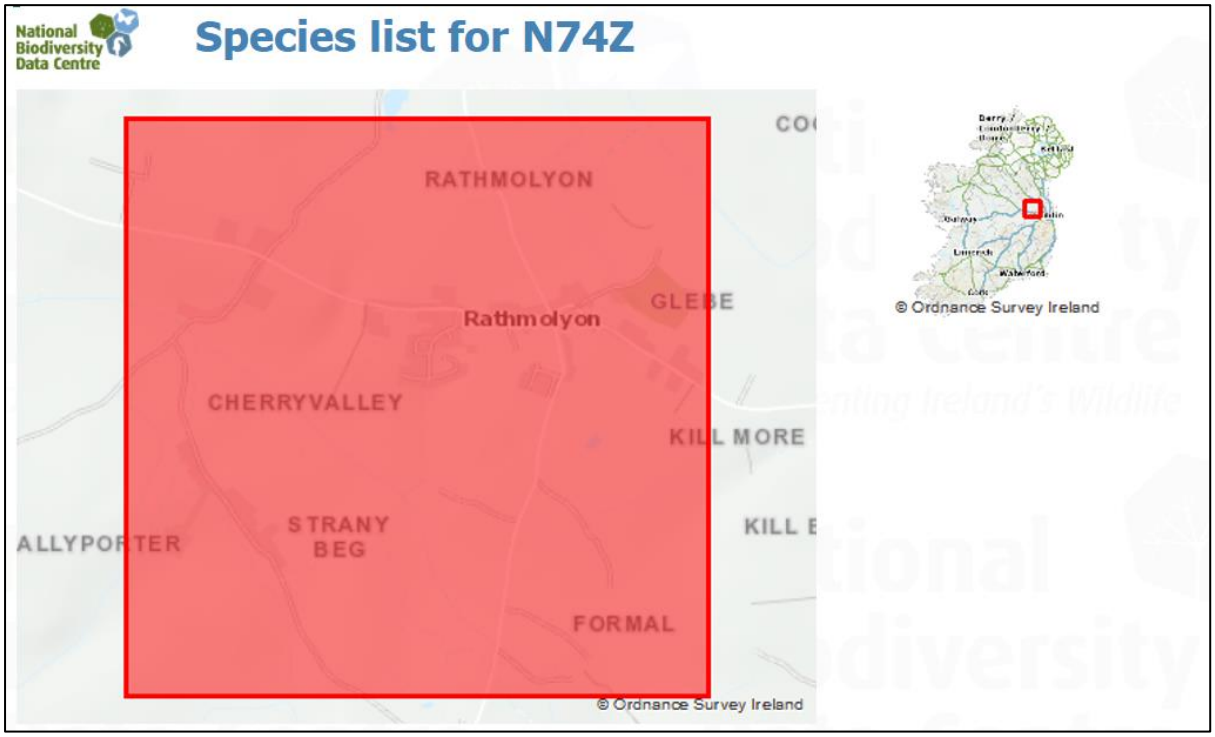

Figure 14: Location of 2 km square queried (National Biodiversity Data Centre)

Table 1: Species of conservation concern recorded in the vicinity of the proposed development site

Scientific name	Common Name	Date of last record
Acer pseudoplatanus	Sycamore	20/04/2011
Columba livia	Rock Pigeon	31/12/2011
Delichon urbicum	House Martin	31/12/2011
Emberiza citrinella	Yellowhammer	31/12/2011
Hirundo rustica	Barn Swallow	31/12/2011

Scientific name	**Common Name**	**Date of last record**
Meles meles	Eurasian Badger	31/12/2016
Muscicapa striata	Spotted Flycatcher	31/12/2011
Passer domesticus	House Sparrow	31/12/2011
Sciurus carolinensis	Eastern Grey Squirrel	31/12/2011
Sturnus vulgaris	Common Starling	31/12/2011

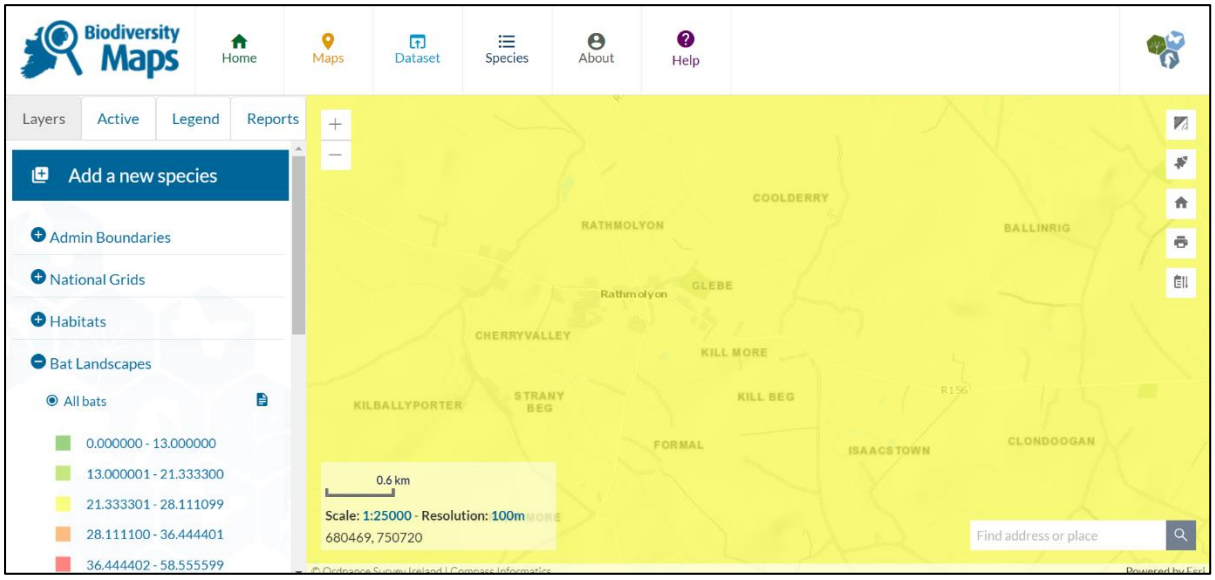

Figure 15:Excerpt from NBDC database online resource indicating Habitat Suitability index of general area

2.4 Identification of Natura 2000 sites potentially impacted upon by the development

It is general practice, when screening a plan or project for compliance with the Habitats Directive, to identify all Natura 2000 sites within the functional area of the plan/project itself and within 15 km of the boundaries of the area the plan/project applies to (with an appropriate "Zone of Influence" identified from any Source-Pathway-Receptor linkages). This approach is currently recommended in the Department of the Environmental, Heritage and Local Government's document Guidance for Planning Authorities and as a precautionary measure, to ensure that all potentially affected Natura 2000 sites are included in the screening process. The maintenance of habitats and species within individual Natura 2000 sites at favourable conservation condition contributes to the overall maintenance of favourable conservation status of those habitats and species at a national level. It is therefore necessary to identify any potential impacts of the proposed development on the conservation status of Natura 2000 sites. The National Parks and Wildlife Service deem that the favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, is stable or increasing.
- The ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future.
- The conservation status of its typical species is favourable.

The National Parks and Wildlife Service deem that the favourable conservation status of a species is achieved when:

- Population data on the species concerned indicate that it is maintaining itself.
- The natural range of the species is neither being reduced, or likely to be reduced in the foreseeable future.
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

There are two areas designated as a special area of conservation (SAC) and one area designated as a Special Protection Area within 15 km of the proposed development site (see Table 2, Figure 16 and Figure 17).

Table 2: Natura 2000 sites within 15km of the proposed development

SITE CODE	DESIGNATION	SITE NAME
002299	SAC	RIVER BOYNE AND RIVER BLACKWATER
002342	SAC	MOUNT HEVEY BOG
004232	SPA	RIVER BOYNE AND RIVER BLACKWATER

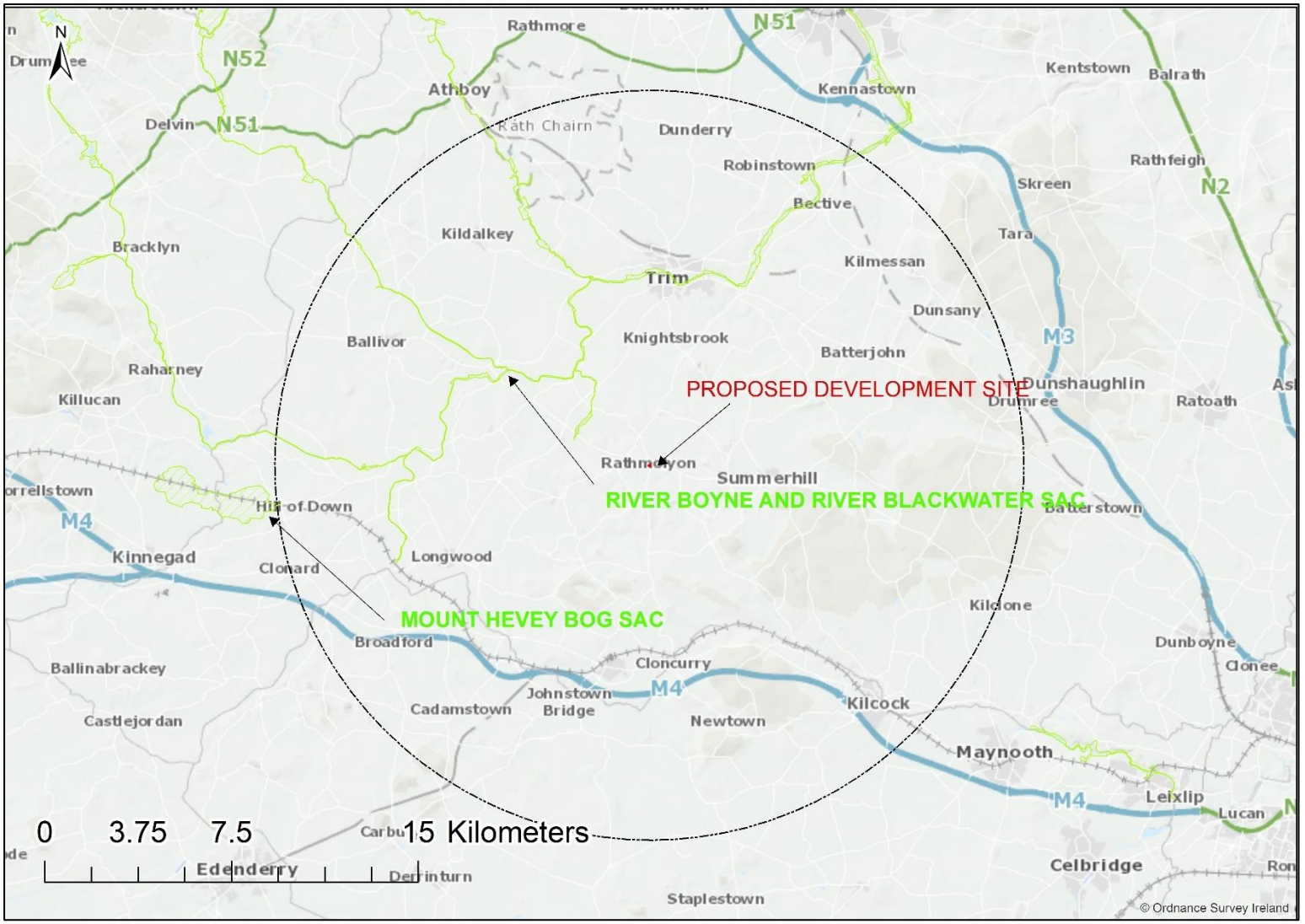

Figure 16: Location of SACs within 15 km of proposed development

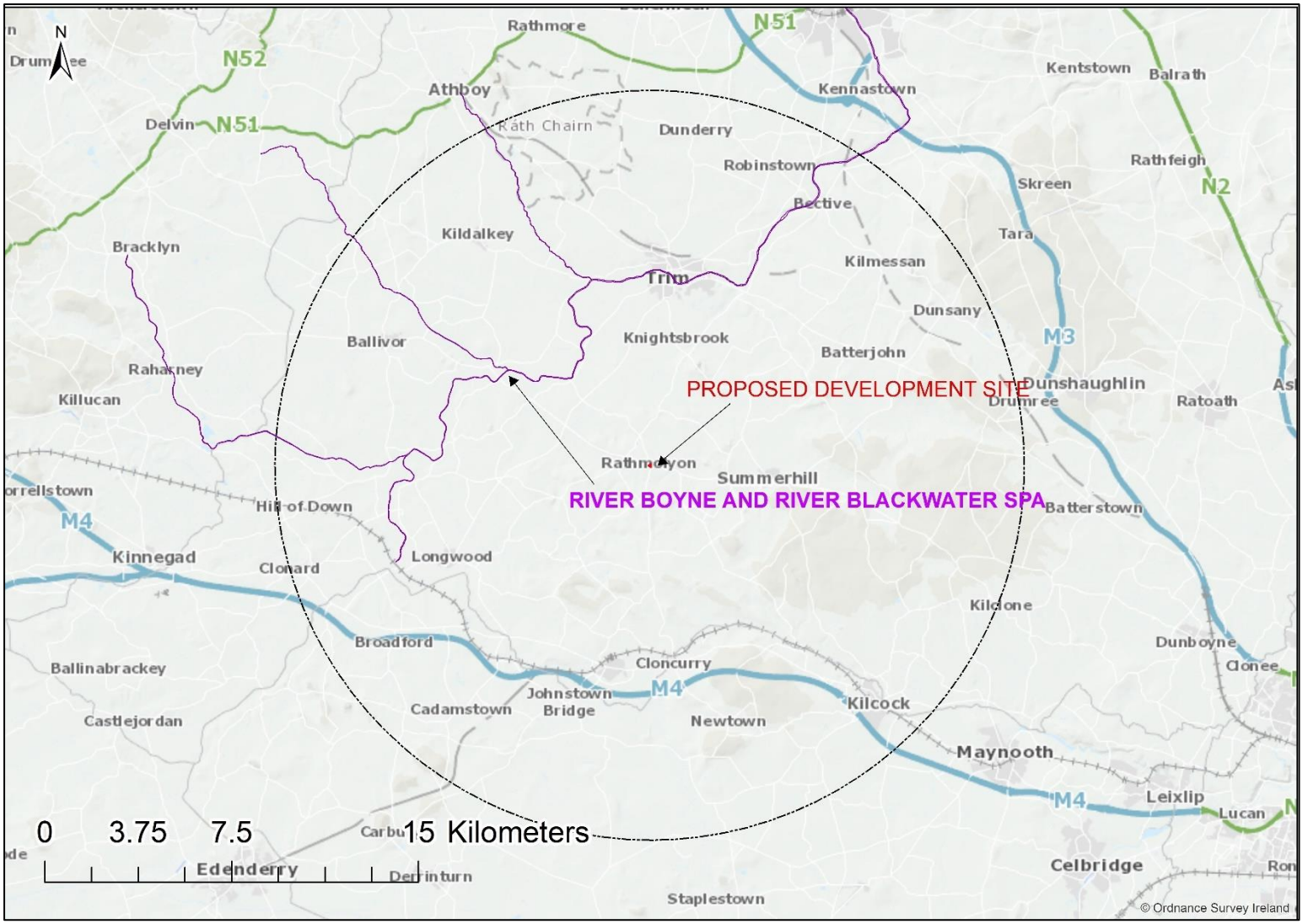

Figure 17: Location of SPAs within 15 km

2.5 Summary of Natura 2000 sites potentially impacted upon by the proposed development

There are three Natura 2000 sites within 15 km of the proposed development. The closest of these is the River Boyne and River Blackwater SAC, which is located just over 3 km from the proposed development. Given the nature and scale of the proposed development, any potential impacts are likely to be limited to the immediate vicinity, within a distance of no more than 1000 m.

It is the goal of NPWS to draw up conservation plans for all areas designated for nature conservation, and that these plans will, among other things, set clear objectives for the conservation of the features of interest within a site. Where a detailed Conservation Objectives Document is not available, NPWS have provided a site synopsis, generic Conservation Objectives and a Natura 2000 data form from which information is sourced.

In this section, the Natura 2000 sites potentially impacted upon by the proposed development are described according to:

1) General description of the site;
2) Qualifying Interests (QI) of the site;
3) Threats, pressures and activities with negative impacts on the site;
4) Conservation Objectives of the site; and
5) Conservation status of the site.

The codes utilized within the Natura 2000 forms are available from http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal

2.5.1 River Boyne and River Blackwater SAC (Site synopsis version date 06/01/2014, Natura 2000 form update 09/19, Conservation Objectives Version 1)

2.5.1.1 General Description

This site comprises most of the freshwater element of the River Boyne from upriver of the Boyne Aqueduct at Drogheda, the Blackwater River as far as Lough Ramor and the principal Boyne tributaries, notably the Deel, Stoneyford and Tremblestown Rivers. This system drains a considerable area of Cos. Meath and Westmeath and smaller areas of Cavan and Louth. The underlying geology is Carboniferous Limestone for the most part with areas of Upper, Lower and Middle well represented. In the vicinity of Kells Silurian Quartzite is present while close to Trim are Carboniferous Shales and Sandstones. The rivers flow through a landscape dominated by intensive agriculture, mostly of improved grassland but

also cereals. Much of the river channels were subject to arterial drainage schemes in the past. Natural floodplains now exist along only limited stretches of river, though often there is a fringe of reed swamp, freshwater marsh, wet grassland or deciduous wet woodland. Along some parts, notably between Drogheda and Slane, are stands of tall, mature mixed woodland. Substantial areas of improved grassland and arable land are included in site for water quality reasons. There are many medium to large sized towns adjacent to but not within the site.

The main channel of the Boyne contains a good example of alluvial woodland of the *Salicetum albo-fragilis* type which has developed on three alluvium islands. Alkaline fen vegetation is well represented at Lough Shesk, where there is a very fine example of habitat succession from open water to raised bog. The Boyne and its tributaries is one of Ireland's premier game fisheries and offers a wide range of angling, from fishing for spring salmon and grilse to sea trout fishing and extensive brown trout fishing. The site is one of the most important in eastern Ireland for *Salmo salar* and has very extensive spawning grounds. The site also has an important population of *Lampetra fluviatilis*, though the distribution or abundance of this species is not well known. *Lutra lutra* is widespread throughout the site. Some of the grassland areas along the Boyne and Blackwater are used by a nationally important winter flock of *Cygnus cygnus*. Several Red Data Book plants occur within the site, with *Pyrola rotundifolia*, *Poa palustris* and *Juncus compressus*. Also occurring are a number of Red Data Book animals, notably *Meles meles*, *Martes martes* and *Rana temporaria*. The River Boyne is a designated Salmonid Water under the EU Freshwater Fish Directive.

2.5.1.2 Qualifying Interests

The qualifying interests for this site are indicated in Table 3

Table 3

Qualifying Interests	
** indicates a priority habitat under the Habitats Directive*	
002299	River Boyne and River Blackwater SAC
1099	River Lamprey *Lampetra fluviatilis*
1106	Salmon *Salmo salar*
1355	Otter *Lutra lutra*
7230	Alkaline fens
91E0	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)*

2.5.1.3 Threats, pressures and activities with negative impacts on the site

Details as to the threats, pressures and activities with negative impacts on the site are identified from the Natura 2000 data form for the sites and are illustrated in Table 4.

Table 4: Threats, pressures and activities with impacts on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i|o|b]
M	G02.10		i
H	H01		i
L	D01.05		i
M	A07		i
M	A08		i
M	A05.02		o
L	G01		i
H	J02.15		i
M	A01		i
M	A10.01		i
M	C01.01		i
L	G05.06		i
L	G05		i
M	A10.01		i
M	E05		i
M	E01.04		i
M	J02.11		i
M	J02.10		i
M	D01.02		i
M	E03.02		i
H	E03.04		i
M	J02		i
H	E02		i
H	I01		i
M	B01.02		i

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i|o|b]
M	A03		i
H	J02.05.02		i

Rank: H = high, M = medium, L = low
Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,
T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions
i = inside, o = outside, b = both

2.5.1.4 Conservation Objectives of the site

A detailed Conservation Objectives document for this site has been prepared and is available at:

https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002299.pdf

The Conservation Objectives for this site are outlined in Table 5, Table 6, Table 7, Table 8 and Table 9.

Table 5

Conservation Objectives for : River Boyne and River Blackwater SAC [002299]

7230 Alkaline fens

To maintain the favourable conservation condition of Alkaline fens in River Boyne and River Blackwater SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	Alkaline fen has not been mapped in detail for River Boyne and River Blackwater SAC and thus the exact total current area of the qualifying habitat in the SAC is currently unknown. The main areas of alkaline fen in the SAC are documented to occur in the vicinity of Lough Shesk, Freekan Lough, Newtown Lough in the upper reaches of the Stonyford River. At Lough Shesk, the habitat is particularly well-represented and there is a good example of succession from open water to fen-type habitat (NPWS internal files)
Habitat distribution	Occurrence	No decline, subject to natural processes	See the notes for habitat area above
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil pH and nutrient status within natural ranges	Relevant nutrients and their natural ranges are yet to be defined. However, nitrogen deposition is noted as being relevant to this habitat in NPWS (2013). See also Bobbink and Hettelingh (2011). Increased nutrients can lead to changes in plant and invertebrate species through competition and subsequent structural changes to micro-habitat. These nutrients favour growth of grasses rather than forbs and mosses and leads to a higher and denser sward
Ecosystem function: peat formation	Percentage cover of peat-forming vegetation and water table levels	Maintain active peat formation, where appropriate	In order for peat to form, water levels need to be slightly below or above the soil surface for c.90% of the time
Ecosystem function: hydrology - groundwater levels	Water levels (centimetres); duration of levels; hydraulic gradients; water supply	Maintain, or where necessary restore, appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat	Fen habitats require high groundwater levels (i.e. water levels at or above the ground surface) for a large proportion of the calendar year (i.e. duration of mean groundwater level). Fen groundwater levels are controlled by regional groundwater levels in the contributing catchment area (which sustain the hydraulic gradients of the fen groundwater table). Regional abstraction of groundwater may affect fen groundwater levels
Ecosystem function: hydrology - surface water flow	Drain density and form	Maintain, or where necessary restore, as close as possible to natural or semi-natural, drainage conditions	Drainage, either within or surrounding the fen habitat, can result in the drawdown of the groundwater table. The depth, geometry and density of drainage (hydromorphology) will indicate the scale and impact on fen hydrology. Drainage can result in loss of characteristic species and transition to drier habitats
Ecosystem function: water quality	Various	Maintain appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat	Fens receive natural levels of nutrients (e.g. iron, magnesium and calcium) from water sources. However, they are generally poor in nitrogen and phosphorus, with the latter tending to be the limiting nutrient under natural conditions. Water supply should be also relatively calcium-rich
Vegetation composition: community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	The entire diversity of alkaline fen vegetation communities present in the SAC is currently unknown. Information on the vegetation communities associated with alkaline fens is provided by O'Neill et al. (in prep.). See also the Irish Vegetation Classification (Perrin, 2018; www.biodiversityireland.ie/projects/ivc-classification-explorer)

Continued overleaf….

Vegetation composition: typical brown mosses	Percentage cover at a representative number of monitoring stops	Maintain adequate cover of typical brown moss species	For lists of typical bryophyte species, including high quality indicator species, see O'Neill et al. (in prep.). Species recorded at Lough Shesk and Newtown Lough include: *Calliergon giganteum, Scorpidium scorpioides, Campylium stellatum, Bryum pseudotriquetrum, Fissidens adianthoides, Scorpidium scorpioides, Calliergonella cuspidata* and *Ctenidium molluscum* (NPWS internal files)
Vegetation composition: typical vascular plants	Percentage cover at a representative number of monitoring stops	Maintain adequate cover of typical vascular plant species	For lists of typical vascular plant species for the different vegetation communities, including high quality indicators, see O'Neill et al. (in prep.). Typical species recorded in the habitat in the SAC include black bog-rush (*Schoenus nigricans*), dioecious sedge (*C. dioica*) and common butterwort (*Pinguicula vulgaris*) (NPWS internal files)
Vegetation composition: native negative indicator species	Percentage cover at a representative number of monitoring stops	Cover of native negative indicator species at insignificant levels	Negative indicators include species not characteristic of the habitat and species indicative of undesirable activities such as overgrazing, undergrazing, nutrient enrichment, agricultural improvement or impacts on hydrology. Native negative indicators may include *Anthoxanthum odoratum, Epilobium hirsutum, Holcus lanatus, Juncus effusus, Phragmites australis* and *Ranunculus repens*. See O'Neill et al. (in prep.)
Vegetation composition: non-native species	Percentage cover at a representative number of monitoring stops	Cover of non-native species less than 1%	Attribute and target based on O'Neill et al. (in prep.). Non-native species can be invasive and have deleterious effects on native vegetation. A low target is set as non-native species can spread rapidly and are most easily dealt with when still at lower abundances
Vegetation composition: native trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 10%	Attribute and target based on O'Neill et al. (in prep.). Scrub and trees will tend to invade if fen conditions become drier
Vegetation composition: algal cover	Percentage cover at, and in local vicinity of, a representative number of monitoring stops	Cover of algae less than 2%	Attribute and target based on O'Neill et al. (in prep.). Algal cover is indicative of nutrient enrichment from multiple sources (McBride et al., 2011)
Vegetation structure: vegetation height	Percentage cover at a representative number of monitoring stops	At least 50% of the live leaves/flowering shoots are more than either 5cm or 15cm above ground surface depending on community type	Attribute and target based on O'Neill et al. (in prep.). While grazing may be appropriate in this habitat, excessive grazing can reduce the ability of plant species to regenerate reproductively and maintain species diversity, especially if flowering shoots are cropped during the growing season
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of monitoring stops	Cover of disturbed bare ground not more than 10%	Attribute and target based on O'Neill et al. (in prep.). While grazing may be appropriate in this habitat, excessive areas of disturbed bare ground may develop due to unsuitable grazing regimes. Disturbance can include hoof marks, wallows, human footprints, vehicle and machinery tracks. Excessive disturbance can result in loss of characteristic species and presage erosion for peatlands
Physical structure: tufa formations	Percentage cover in local vicinity of a representative number of monitoring stops	Disturbed proportion of vegetation cover where tufa is present is less than 1%	Attribute and target based on O'Neill et al. (in prep.)
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes	This includes species on the Flora (Protection) Order, 2015 and/or Red Lists (Byrne et al., 2009; Regan et al., 2010; Lockhart et al., 2012; Wyse Jackson et al., 2016, etc.). The Near Threatened species (Wyse Jackson et al., 2016) round-leaved wintergreen (*Pyrola rotundifolia*) has been recorded in the habitat around Newtown Lough in the SAC (NPWS internal files)
Transitional areas between fen and adjacent habitats	Hectares; distribution	Maintain adequate transitional areas to support/protect the alkaline fen ecosystem and the services it provides	In many cases, fens transition to other wetland habitats. It is important that the transitional areas between fens and other habitats are maintained in as natural condition as possible in order to protect the functioning of the fen

Table 6

Conservation Objectives for : River Boyne and River Blackwater SAC [002299]

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

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

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes. See map 3 for surveyed woodland areas	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* is present within River Boyne and River Blackwater SAC. As part of the National Survey of Native Woodlands (NSNW), the sub-sites Grove Island (NSNW site code 688) and Yellow Island (752) were surveyed by Perrin et al. (2008). Yellow Island (code 752) was also included in national monitoring surveys (O'Neill and Barron, 2013; Daly et al., in prep.). Map 3 shows the minimum area of alluvial forests within the SAC, which is estimated to be 16.7ha (Perrin et al., 2008; Daly et al., in prep.). It is important to note that further unsurveyed areas may be present within the SAC
Habitat distribution	Occurrence	No decline, subject to natural processes. The surveyed woodland locations are shown on map 3	Distribution based on Perrin et al. (2008) and Daly et al. (in prep.). It is important to note that further unsurveyed areas may be present within the SAC
Woodland size	Hectares	Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size	The target areas for individual woodlands aim to reduce habitat fragmentation and benefit those species requiring 'deep' woodland conditions (Peterken, 2002). In some cases, topographical constraints may restrict expansion
Woodland structure: cover and height	Percentage; metres; centimetres	Total canopy cover at least 30%; median canopy height at least 7m; native shrub layer cover 10-75%; native herb/dwarf shrub layer cover at least 20% and height at least 20cm; bryophyte cover at least 4%	The target aims for a diverse structure with a canopy containing mature trees, shrub layer with semi-mature trees and shrubs, and well-developed field layer (herbs, graminoids and dwarf shrubs) and ground layer (bryophytes). Assessment criteria are described in Daly et al. (in prep.) and O'Neill and Barron (2013)
Woodland structure: community diversity and extent	Hectares	Maintain diversity and extent of community types	The Boyne River Islands are an example of gallery forests of willows (Salicion albae), which occur alongside river channels and on river islands, where tree roots are almost continuously submerged (Daly et al., in prep.). Grove Island (NSNW site code 688) and Yellow Island (752) were assigned by Perrin et al. (2008) to the *Salix triandra – Urtica dioica* vegetation type (2h) of the *Fraxinus excelsior – Hedera helix* group. This corresponds to the *Salix fragilis – Calystegia sepium* sub-community (WL3Di) of the Irish Vegetation Classification (Perrin, 2016; www.biodiversityireland.ie/projects/ivc-classification-explorer)
Woodland structure: natural regeneration	Seedling: sapling: pole ratio	Seedlings, saplings and pole age-classes of target species for 91E0* woodlands and other native tree species occur in adequate proportions to ensure survival of woodland canopy	The target species for 91E0* are alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*) and willows (*Salix* spp.). Assessment criteria are described in Daly et al. (in prep.) and O'Neill and Barron (2013)

Continued overleaf…

Hydrological regime: flooding depth/height of water table	Metres	Appropriate hydrological regime necessary for maintenance of alluvial vegetation	Periodic flooding is essential to maintain alluvial woodlands along river and lake floodplains, but not for woodland around springs/seepage areas. Much of the river channel within the SAC was subject to arterial drainage schemes. Natural flood-plains now exist along only limited stretches of river (NPWS internal files)
Woodland structure: dead wood	Number per hectare	At least 19 stems/ha of dead wood of at least 20cm diameter	Dead wood is a valuable resource and an integral part of a healthy, functioning woodland ecosystem
Woodland structure: veteran trees	Number per hectare	No decline	Veteran trees are important habitats for bryophytes, lichens, saproxylic organisms and some bird species. Their retention is important to ensure continuity of habitats/niches and propagule sources
Woodland structure: indicators of local distinctiveness	Occurrence; population size	No decline in distribution and, in the case of red listed and other rare or localised species, population size	Includes ancient or long-established woodlands (see Perrin and Daly, 2010), archaeological and geological features as well as red listed and other rare or localised species
Woodland structure: indicators of overgrazing	Occurrence	All five indicators of overgrazing absent	There are five indicators of overgrazing within 91E0*: topiary effect on shrubs and young trees, browse line on mature trees, abundant dung, severe recent bark stripping, and trampling (Daly et al., in prep.)
Vegetation composition: native tree cover	Percentage	No decline. Native tree cover at least 90% of canopy; target species cover at least 50% of canopy	The target species for 91E0* are alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*) and willows (*Salix* spp.) (Daly et al., in prep.; O'Neill and Barron, 2013)
Vegetation composition: typical species	Occurrence	At least 1 target species for 91E0* woodlands present; at least 6 positive indicator species for 91E0* woodlands present	A variety of typical native species should be present, depending on woodland type. The target species for 91E0* are alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*) and willows (*Salix* spp.). Positive indicator species for 91E0* are listed in Daly et al. (in prep.) and O'Neill and Barron (2013)
Vegetation composition: negative indicator species	Occurrence	Negative indicator species cover not greater than 10%; regeneration of negative indicator species absent	Negative indicator species (i.e. any non-native species, including herbaceous species) should be absent or under control. The canopy at Grove Island (NSNW site code 688) and Yellow Island (752) is dominated by a range of *Salix* spp. (*S. cinerea, S. triandra, S. fragilis, S. viminalis*) (Perrin et al., 2008). Although the latter two are not native to Ireland, an exception is made for these species where they occur within gallery woodland (Daly et al., in prep.). Perrin et al. (2008) recorded some sycamore (*Acer pseudoplatanus*) in the canopy at Grove Island (NSNW site code 688). Daly et al. (in prep.) found that the recent arrival of the invasive non-native herb Himalayan balsam (*Impatiens glandulifera*) at Yellow Island (752) has caused significant negative impacts to the alluvial forest habitat
Vegetation composition: problematic native species	Percentage	Cover of common nettle (*Urtica dioica*) less than 75%	Common nettle (*Urtica dioica*) is a positive indicator species for 91E0* but, in some cases, it may become excessively dominant. Increased light and nutrient enrichment are factors which favour proliferation of common nettle (Daly et al., in prep.)

Table 7

Conservation Objectives for : River Boyne and River Blackwater SAC [002299]

1099 River Lamprey *Lampetra fluviatilis*

To restore the favourable conservation condition of River Lamprey (*Lampetra fluviatilis*) in River Boyne and River Blackwater SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution	Percentage of river accessible	Restore access to all water courses down to first order streams	Artificial barriers can block or impede the passage of upstream migrating lamprey, thereby restricting access to spawning areas (Gargan et al., 2011; Rooney et al., 2015). There are a number of weirs along the lower sections of the Boyne main channel, the most substantial of these are located at Slane and downstream of Navan at Blackcastle. Efforts to trap adult river lamprey were undertaken at four locations throughout the catchment during November 2014 to April 2015. This was augmented in April 2015 by an extensive fyke-netting survey (n=26 sites). No adult river lamprey were encountered, with the only record to date being a dead individual from the River Boyne at Slane in late March 2015 (Gallagher et al., 2016). On the Boyne main channel, there is ideal spawning habitat both upstream and downstream of the weir at Blackcastle but spawning has not been observed at these locations to date
Distribution of larvae	Number of positive sites in 2nd order channels (and greater), downstream of spawning areas	Not less than 50% of sample sites with suitable habitat positive for larval brook/river lamprey	It is not possible to distinguish between larval brook and river lamprey in the field and they are therefore considered together in assessing conservation status. A survey of the Boyne catchment in 2015 recorded n=583 *Lampetra* spp. larvae from n=102 sites (Gallagher et al., 2016). As stated, the weirs in the lower main stem are a significant impediment to river lamprey passage and, for this reason, these larvae are considered to be mainly, if not all, brook lamprey. To achieve favourable condition *Lampetra* spp. should, as a minimum, be present in not less than 50% of all sampling sites surveyed with suitable habitat present within the natural range (JNCC, 2015). *Lampetra* spp. larvae were recorded from 72% of sites indicating a pass for this target. Distribution remained similar to a 2005 survey (O'Connor, 2006) although larvae continued to be absent from the Boycetown and Skane Rivers, as well as the upper reaches of the Kells Blackwater system
Population structure of larvae	Number of age/size classes	At least three age/size classes of larval brook/river lamprey present	The target of at least three age/size classes is based on guidance from JNCC (2015). Larvae typically range from 10-150mm in length and this corresponds to up to six age classes. A broad range of size classes (12-153mm), including young-of-year larvae, was recorded from the 2015 Boyne catchment-wide survey indicating a pass for this target. However, given the issue of artificial barriers on the River Boyne, it is likely that this value pertains to brook lamprey, as previously stated
Larval lamprey density in fine sediment	Larval lamprey/m²	Mean density of brook/river larval lamprey in sites with suitable habitat more than 5/m²	A target mean density of more than 5/m² larvae in sites with suitable habitat is required to achieve favourable condition (JNCC, 2015). In the Boyne survey a mean density of 6/m² *Lampetra* spp. larvae (n=583) was obtained. A number of tributaries did not achieve a pass for this target, including the Athboy/Trembleston, Boycetown, Deel, Skane and Stonyford Rivers. Again, the overall mean density value is most likely indicative of the status of brook lamprey in the Boyne catchment
Extent and distribution of spawning nursery habitat	m² and occurrence	No decline in extent and distribution of spawning and nursery beds	This target is based on spawning and nursery bed mapping during targeted larval lamprey monitoring surveys. River lamprey spawn in clean gravels in flowing water where they excavate shallow nests. While coarse substrate is required for spawning, the close proximity of nursery areas comprising mainly sand/silt are necessary for the development of larvae. The 2015 Boyne survey recorded adequate spawning and nursery habitat availability within the catchment (Gallagher et al., 2016). However, the sequence of weirs in the lower main channel of the Boyne represents a significant impediment to upstream passage. In addition, this lower section of river is in a degraded hydromorphological state with impounding and, therefore, poor habitat availability for spawning

Table 8

Conservation Objectives for : River Boyne and River Blackwater SAC [002299]

1106 Salmon *Salmo salar*

To restore the favourable conservation condition of Atlantic Salmon (*Salmo salar*) in River Boyne and River Blackwater SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution: extent of anadromy	Percentage of river accessible	100% of river channels down to second order accessible from estuary	Artificial barriers block salmons' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas. There are multiple barriers to fish migration in the Boyne system
Adult spawning fish	Number	Conservation limit (CL) for each system consistently exceeded	A conservation limit (CL) is defined by the North Atlantic Salmon Conservation Organisation (NASCO) as "the spawning stock level that produces long-term average maximum sustainable yield as derived from the adult to adult stock and recruitment relationship". The target is based on the Technical Expert Group on Salmon's (TEGOS) annual model output of CL attainment levels. See Gargan et al. (2021) for further details. Stock estimates are either derived from direct counts of adults (rod catch, fish counter) or indirectly by fry abundance counts. The Boyne is significantly below its CL
Salmon fry abundance	Number of fry/5 minutes electrofishing	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 minutes sampling	Target is threshold value for rivers currently exceeding their conservation limit (CL)
Out-migrating smolt abundance	Number	No significant decline	Smolt abundance can be negatively affected by a number of impacts such as estuarine pollution, predation and sea lice (*Lepeophtheirus salmonis*)
Number and distribution of redds	Number and occurrence	No decline in number and distribution of spawning redds due to anthropogenic causes	Salmon spawn in clean gravels. There is restricted habitat for salmon in the Boyne and habitat rehabilitation programmes have been undertaken in sections of the catchment
Water quality	EPA Q value	At least Q4 at all sites sampled by EPA	Q values based on triennial water quality surveys carried out by the Environmental Protection Agency (EPA)

Table 9

Conservation Objectives for : River Boyne and River Blackwater SAC [002299]

1355 Otter *Lutra lutra*

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

Attribute	Measure	Target	Notes
Distribution	Percentage positive survey sites	No significant decline	Measure based on standard otter survey technique. Favourable Conservation Status (FCS) target, based on 1980/81 survey findings, is 88% in SACs. Current range is estimated at 93.6% (Reid et al., 2013)
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 447.6ha along river banks/ lake shoreline/around ponds	No field survey. Areas mapped to include 10m terrestrial buffer, identified as critical for otters (NPWS, 2007), along rivers and around water bodies
Extent of freshwater (river) habitat	Kilometres	No significant decline. Length mapped and calculated as 263.3km	No field survey. River length calculated on the basis that otters will utilise freshwater habitats from estuary to headwaters (Chapman and Chapman, 1982)
Extent of freshwater (lake) habitat	Hectares	No significant decline. Area mapped and calculated as 31.6ha	No field survey. Area mapped based on evidence that otters tend to forage within 80m of the shoreline (NPWS, 2007)
Couching sites and holts	Number	No significant decline	Otters need lying up areas throughout their territory where they are secure from disturbance (Kruuk and Moorhouse, 1991; Kruuk, 2006)
Fish biomass available	Kilograms	No significant decline	Broad diet that varies locally and seasonally, but dominated by fish, in particular salmonids, eels and sticklebacks in freshwater (Bailey and Rochford, 2006; Reid et al., 2013)
Barriers to connectivity	Number	No significant increase	Otters will regularly commute across stretches of open water up to 500m, e.g. between the mainland and an island; between two islands; across an estuary (De Jongh and O'Neill, 2010). It is important that such commuting routes are not obstructed

2.5.1.5 Baseline Conservation Status of the site

A synopsis of the conservation status of this site is provided in Table 10 and Table 11.

Table 10: Habitat types present on site and assessment for them

Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A|B|C|D	A|B|C		
						Representativity	Relative Surface	Conservation	Global
7230			23.21		M	B	C	B	B
91E0			23.21		M	B	B	B	B

Table 11: Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A|B|C|D	A|B|C		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A038	Cygnus cygnus			w	50	200	i		G	C	B	C	B
F	1099	Lampetra fluviatilis			r				P	DD	C	B	C	B
M	1355	Lutra lutra			p				P	DD	C	A	C	A
F	1106	Salmo salar			r				C	DD	C	B	C	B

2.5.2 Mount Hevey Bog SAC (Site synopsis version date 09/01/2014, Natura 2000 form update 09/18, Conservation Objectives Version 1)

2.5.2.1 General Description

Mount Hevey is a large midland raised bog, which is situated 3 km north-east of Kinnegad village and lies on the border of counties Meath and Westmeath. The bog overlies Carboniferous limestone bedrock and occurs in four sections. Two of these are small and lie to the north of a railway line while two larger lobes lie to the south of the railway line. These two larger lobes are of higher ecological value due to the presence of active bog. Cutover bog surrounds the uncut high bog. Part of the high

bog and also part of the cutover has been afforested with conifers. Other parts of the cutover has been invaded by *Betula pubescens* scrub and small amounts of broad-leaved woodland. Some of the cutover has been converted to semi-improved grassland.

Mount Hevey Bog is one of the most easterly, relatively intact raised bogs in Ireland and represents one of the largest bog areas in the eastern half of the country. Although more than half of the site area consists of cutover bog, there is a large area of active raised bog. The active areas support well-developed pool areas and have a high *Sphagnum* cover which include the rare species *Sphagnum fuscum* and *S. imbricatum*. A soak area, which has developed from an infilled lake and now supports some *Betula pubescens* trees, adds diversity to the bog surface. A substantial area of uncut high bog that is classified as degraded raised big is present. The degraded bog supports a wide range of plant communities, depending on factors such as height of water table and past burning events. The bog, and especially the active parts, contains substantial areas of *Rhynchosporion* vegetation which have a typical species composition and generally exist in a well-preserved condition. The cutover areas which surround the high bog contain large areas of scrub woodland dominated by *Betula pubescens*.

There is a detailed Conservation Objectives document for this site, available at:

https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002342.pdf

2.5.2.2 Qualifying Interests

The qualifying interests for this site are indicated in Table 12.

Table 12: Qualifying Interests

Qualifying Interests	
** indicates a priority habitat under the Habitats Directive*	
002342	Mount Hevey Bog SAC
7110	Active raised bogs*
7120	Degraded raised bogs still capable of natural regeneration
7150	Depressions on peat substrates of the Rhynchosporion

2.5.2.3 Threats, pressures and activities with negative impacts on the site

Details as to the threats, pressures and activities with negative impacts on the site are identified from the Natura 2000 data form for the sites and are illustrated in Table 13.

Table 13: Threats, pressures and activities with impacts on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i|o|b]
L	D01.01		i
M	E03.01		i
M	I03		i
M	J02.01		i
M	I01		i
L	C01.03.02		i
L	D01.04		i
L	K04.02		i
L	J02.03		b

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i|o|b]
H	B02.02		i
M	J02.05		i

Rank: H = high, M = medium, L = low
Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,
T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions
i = inside, o = outside, b = both

2.5.2.4 Conservation Objectives of the site

The Conservation Objectives from this site are set out in the detailed NPWS Conservation Objectives document as illustrated in Table 14, Table 15 and Table 16.

Table 14

Conservation Objectives for : Mount Hevey Bog SAC [002342]

7110 Active raised bogs

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

Attribute	Measure	Target	Notes
Habitat area	Hectares	Restore area of active raised bog to 77.8ha, subject to natural processes	Active Raised Bog (ARB) habitat is estimated to be 60.0ha. Area of Degraded Raised Bog (DRB) on the High Bog (HB) has been modelled as 24.5ha. See map 2. However, it is estimated that only 12.3ha is potentially restorable to ARB by drain blocking. The total potential ARB on the HB is therefore estimated to be 72.3ha. Eco-hydrological assessments of the cutover estimates that an additional 5.5ha of bog forming habitats could be restored. The long term target for ARB is therefore 77.8ha. See raised bog supporting document for further details on this and following attributes
Habitat distribution	Occurrence	Restore the distribution and variability of active raised bog across the SAC. See map 3 for distribution in 2000	ARB habitat at Mount Hevey Bog comprises central and sub-central ecotopes and active flush and occurs on both parts of the bog. DRB also occurs on both parts of the bog, which will require restoration measures. There is also potential for ARB restoration on cutover areas of the bog (see area target above)
High bog area	Hectares	No decline in extent of high bog necessary to support the development and maintenance of active raised bog. See map 2	The area of high bog within Mount Hevey Bog SAC in 2012 (latest figure available) was 217.5ha (DAHG 2014)
Hydrological regime: water levels	Centimetres	Restore appropriate water levels throughout the site	For ARB, mean water level needs to be near or above the surface of the bog lawns for most of the year. Seasonal fluctuations should not exceed 20cm, and should only be 10cm below the surface, except for very short periods of time
Hydrological regime: flow patterns	Flow direction; slope	Restore, where possible, appropriate high bog topography, flow directions and slopes. See map 4 for current situation	ARB depends on mean water levels being near or above the surface of bog lawns for most of the year. Long and gentle slopes are the most favourable to achieve these conditions. Changes to flow directions due to subsidence of bogs can radically change water regimes and cause drying out of high quality ARB
Transitional areas between high bog and adjacent mineral soils (including cutover areas)	Hectares; distribution	Restore adequate transitional areas to support/protect active raised bog and the services it provides	No natural margins remain around Mount Hevey Bog. In places, bog vegetation is regenerating on long abandoned cutover. Eco-hydrological assessments have evaluated the potential for ARB restoration on cutover areas (see note for habitat area attribute above)
Vegetation quality: central ecotope, active flush, soaks, bog woodland	Hectares	Restore 38.9ha of central ecotope/active flush/soaks/bog woodland as appropriate	At least 50% of active raised bog habitat should be high quality (i.e. central ecotop, active flush, soaks, bog woodland. Target area of active raised bog for the site has been set at 77.8ha (see area target above)
Vegetation quality: microtopograph-ical features	Hectares	Restore adequate cover of high quality microtopographical features	Hummock and hollow microtopography is well developed in the western part of Mount Hevey Bog. Previous drainage efforts associated with a forestry plantation (which has since been clear felled) on the high bog on the eastern side have had a negative effect on the surface microtopography
Vegetation quality: bog moss (*Sphagnum*) species	Percentage cover	Restore adequate cover of bog moss (*Sphagnum*) species to ensure peat-forming capacity	*Sphagnum* cover varies naturally across Ireland with relatively high cover in the east to lower cover in the west. Hummock forming species such as *Sphagnum austinii* are particularly good peat formers. *Sphagnum* cover and distribution also varies naturally across a site

Continued overleaf…

Typical ARB species: flora	Occurrence	Restore, where appropriate, typical active raised bog flora	Typical flora species include widespread species, as well as those with more restricted distributions but typical of the habitat's subtypes or geographical range
Typical ARB species: fauna	Occurrence	Restore, where appropriate, typical active raised bog fauna	Typical fauna species include widespread species, as well as those with more restricted distributions but typical of the habitat's subtypes or geographical range
Elements of local distinctiveness	Occurrence	Maintain features of local distinctiveness, subject to natural processes	The main feature of interest is a small lough that occurred on the west side of the bog(Cloncrave Lough), which has infilled and now corresponds with active flush
Negative physical indicators	Percentage cover	Negative physical features absent or insignificant	Negative physical indicators include: bare peat, algae dominated pools and hollows, marginal cracks, tear patterns, subsidence features such as dry mineral mounds /ridges emerging or expanding and evidence of burning
Vegetation composition: native negative indicator species	Percentage cover	Native negative indicator species at insignificant levels	Native negative indicator species that suggest drying out include abundant bog asphodel (*Narthecium ossifragum*), deergrass (*Trichophorum germanicum*) and harestail cotton-grass (*Eriophorum vaginatum*) forming tussocks; abundant magellanic bog-moss (*Sphagnum magellanicum*) in pools previously dominated by *Sphagnum* species typical of very wet conditions (e.g. feathery bog-moss (*S. cuspidatum*)). Indicators of frequent burning events include abundant *Cladonia floerkeana* and high cover of carnation sedge (*Carex panicea*) (particularly in true midlands raised bogs)
Vegetation composition: non-native invasive species	Percentage cover	Non-native invasive species at insignificant levels and not more than 1% cover	Most common non-native invasive species on raised bogs include lodgepole pine (*Pinus contorta*), rhododendron (*Rhododendron ponticum*), and pitcherplant (*Sarracenia purpurea*)
Air quality: nitrogen deposition	kg N/ha/year	Air quality surrounding bog close to natural reference conditions. The total N deposition should not exceed 5kg N/ha/yr	Change in air quality can result from fertiliser drift; adjacent quarry activities; or other atmospheric inputs. The critical load range for ombrotrophic bogs has been set as between 5 and 10kg N/ha/yr (Bobbink and Hettelingh, 2011). The latest N deposition figures for the area around Mount Hevey Bog suggest that the current level is approximately 15.7kg N/ha/yr (Henry and Aherne, 2014)
Water quality	Hydrochemical measures	Water quality on the high bog and transitional areas close to natural reference conditions	Water chemistry within raised bogs is influenced by atmospheric inputs (rainwater). However, within soak systems, water chemistry is influenced by other inputs such as focused flow or interaction with underlying substrates. Water chemistry in marginal areas and lagg zone surrounding the high bog varies due to influences of different water types (bog water, regional groundwater and run-off from surrounding mineral lands)

Table 15

Conservation Objectives for : Mount Hevey Bog SAC [002342]

7120 Degraded raised bogs still capable of natural regeneration

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

Attribute	Measure	Target	Notes

Table 16

Conservation Objectives for : Mount Hevey Bog SAC [002342]			
7150	Depressions on peat substrates of the Rhynchosporion		
Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Mount Hevey Bog SAC			
Attribute	Measure	Target	Notes

2.5.3 The River Boyne and River Blackwater SPA (Site synopsis version date 25/11/10, Natura 2000 form update 10/2020, Conservation Objectives (generic) Version 8.0.

2.5.3.1 General Description

The River Boyne and River Blackwater SPA is a long linear site that comprises stretches of the River Boyne and several of its tributaries: most of the site is in Co Meath but it extends also into Counties Cavan, Louth and Westmeath. It includes the following river sections: The River Boyne from the M1 motorway bridge, west of Drogheda, to the junction with the Royal Canal, west of Longwood, Co Meath; the River Blackwater from its junction with the River Boyne in Navan to the junction with Lough Ramor in Co Cavan; the Tremblestown River (and Athboy River) from the junction with the River Boyne at Kilnagross Bridge to the bridge in Athboy, Co Meath; the Stoneyford River from its junction with the River Boyne to Stonestone Bridge in Co. Westmeath; the River Deel from its junction with the River Boyne to Cummer Bridge, Co.Westmeath. The site includes the river channel and marginal vegetation. The River Boyne and River Blackwater SPA supports nationally important numbers of *Alcedo atthis*. Other species which occur within the site include *Cygnus olor*, *Anas crecca*, *Anas platyrhynchos*, *Phalacrocorax carbo*, *Ardea cinerea*, *Gallinula chloropus*, *Gallinago gallinago* and *Riparia riparia*.

2.5.3.2 Qualifying Interests

The Qualifying Interest (QI) of the River Boyne and River Blackwater SPA is

- Kingfisher, *Alcedo atthis*

2.5.3.3 Threats, pressures and activities with negative impacts on the site

Details as to the threats, pressures and activities with negative impacts on the site are identified from the Natura 2000 data form for the sites and are illustrated in Table 17.

Table 17: Threats, pressures and activities with impacts on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i|o|b]
M	J02		i
H	E01		o
H	D01.02		i
H	D01.02		o
H	E01.03		o

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

Rank: H = high, M = medium, L = low
Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,
T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions
i = inside, o = outside, b = both

2.5.3.4 Conservation Objectives

The primary conservation objective (generic) of this site is to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

- Kingfisher (*Alcedo atthis*)

There is currently no detailed conservation objectives document prepared referring specifically to Kingfisher as a Qualifying Interest. It is, therefore, not possible to infer Conservation Objectives for this Qualifying Interest.

2.5.3.5 Baseline Conservation Status

A synopsis of the conservation status of this site is provided in Table 18.

Table 18: Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A|B|C|D	A|B|C		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A229	Alcedo atthis			r	19	19	p		G	C	B	C	B
B	A052	Anas crecca			w	166	166	i		G	C	B	C	C
B	A053	Anas platyrhynchos			w	219	219	i		G	C	B	C	C
B	A028	Ardea cinerea			w	44	44	i		G	C	B	C	C
B	A017	Phalacrocorax carbo			w	36	36	i		G	C	B	C	C

2.6 Identification and evaluation of likely significant effects

2.6.1 Description of source-pathway-receptor linkages and identification of "Zone of Influence"

The basis for identifying potential impacts/significance thereof and defining the zone of influence is the "Source-Pathway-Receptor" (S-P-R) model. This model underpins all water-protection schemes in Ireland, as well as the EU Water Framework Directive on which both surface water and groundwater regulations are based. This model is applied to all possible impacts (i.e., not just water-based impacts). When examining S-P-R relationships in regard to impacts on Natura 2000 sites, the main questions to be considered are:

1) Source characterisation – Identification of potential source(s) of the impact(s);
2) Pathways analysis – Identification of means through which potential impacts could take place, for example is there a hydrogeological or hydrological link that can deliver a pollutant source to a nearby receptor; and
3) Receptor identification – identification of Natura 2000 sites/qualifying interests potentially affected.

Therefore, the key questions to be considered are:

1) Is there any source(s) of impact(s) on water quality associated with the proposed development?
2) Is there a pathway present between the source of impact and a Natura 2000 site; and
3) What are the Natura 2000 sites/qualifying interests potentially impacted upon?

2.6.1.1 Sources of potential impacts

The proposed development is of a relatively small scale but is within approximately 3km of two Natura 2000 sites, the conservation status of the Qualifying Interests of which are directly, or indirectly dependent on the water quality of the Rivers Blackwater and Boyne and water-courses discharging to these rivers. The primary potential impact relate to impacts associated with:

- Ground/Surface water quality; and
- Disturbance

2.6.1.2 Presence of pathway and receptor

There is no direct hydrological connection between the proposed development site and Mount Hevey Bog SAC, which is located in excess of 10 km from the proposed development site. Modern OSI Geohive mapping resource does not indicate any water course connecting the proposed development site directly to the River Boyne and River Blackwater SAC/SPA. A review of historic mapping would indicate that there does not appear to be any historic water courses (that may have been piped, etc.) linking the proposed development site to the River Boyne and River Blackwater SAC/SPA (see Figure 18). There is, therefore, no direct Source-Pathway-Receptor linkage present.

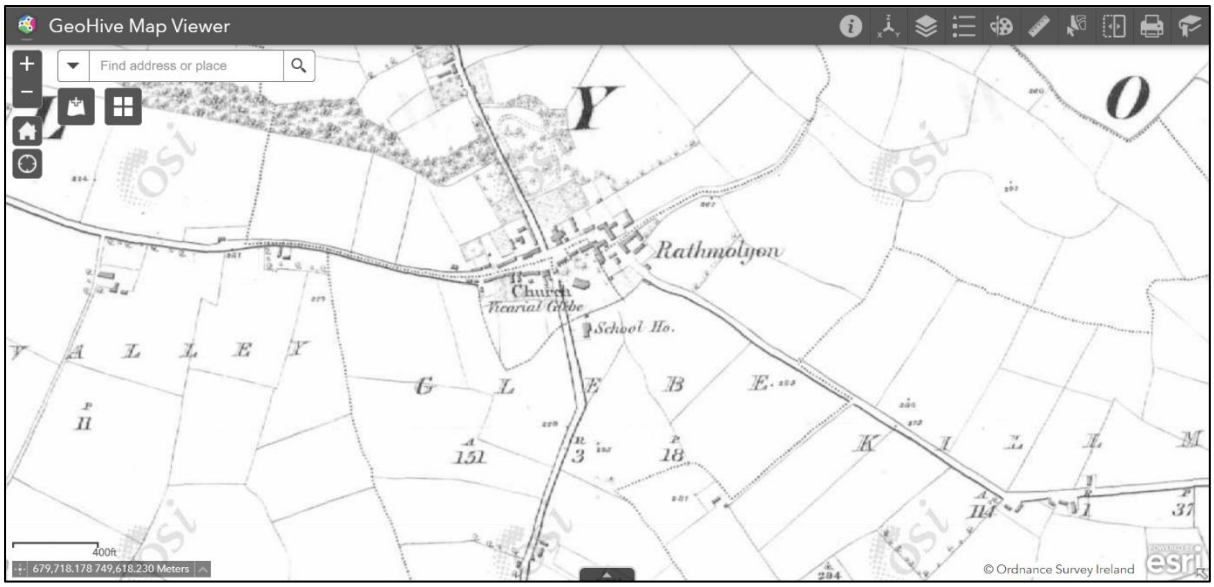

Figure 18: Historic 6" map indicating no evidence of water course proximate to the proposed development site

The proposed development will be serviced by the Rathmolyon Agglomeration. There is no Annual Environmental Report available on the Irish Water website as to the compliance or lack thereof of this agglomeration. The Relevant Authority must deduce if the existing Agglomeration is capable of handling the excess load associated with the proposed development. It is assumed for the purposes of this screening that the agglomeration is capable of dealing with the extra P.E. loading equivalent.

2.6.1.3 Natura 2000 site(s) with potential to be impacted upon and Zone of Influence

Given the lack of a direct pathway between the proposed development and the Natura 2000 network, there is no potential for significant negative impacts on the Conservation Objectives of the Qualifying Interests of the River Boyne and River Blackwater SAC, Mount Hevey Bog SAC or the River Boyne and River Blackwater SPA.

2.6.2 Sources of potential Direct, Indirect or Secondary Impacts

2.6.2.1 Direct Impacts

There is no habitat for which any relevant Natura 2000 sites are designated that will be lost through land-take, etc. associated with the proposed development. There are no direct impacts foreseen.

2.6.2.2 Indirect Impacts

There is no significant potential for indirect impacts associated with impacts on water quality during the construction and/or operation phases of the proposed development.

2.6.2.3 Secondary and or Residual Impacts

There is no significant potential for secondary/residual impacts associated with impacts on water quality during the construction and/or operation phases of the proposed development.

A summary of the potential for primary impacts upon Natura 2000 sites within the zone of influence of the proposed development is summarized in Table 19 and Table 20. There are no potential significant impacts on the qualifying interests of identified Natura 2000 sites foreseen.

Table 19: Summary of the potential for impacts upon Natura 2000 sites.

Site Name	Direct Impacts	Indirect/ Secondary Impacts	Resource requirements (water abstraction etc.)	Emissions (to land, water or air)	Excavation requirements	Duration of construction, operation and decommissioning
Mount Hevey Bog SAC	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen
River Boyne and River Blackwater SAC	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen
River Boyne and River Blackwater SPA	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen

Table 20: Summary of the potential for changes to Natura 2000 sites.

Site Name	Reduction of habitat area	Disturbance to key species	Habitat/species fragmentation	Reduction in species density	Changes in Key Indicators of Conservation Value	Climate change
Mount Hevey Bog SAC	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen
River Boyne and River Blackwater SAC	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen
River Boyne and River Blackwater SPA	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen	None foreseen

2.6.3 Potential cumulative/in-combination impacts in association with other plans

Article 6(3) of the Habitats Directive requires an assessment of a plan/project to consider other plans/projects that might, in combination with the proposed plan/project, have the potential to adversely impact upon Natura 2000 sites. Any plan/project with the potential to impact on water quality/hydrology within zone of influence and any plan/project with the potential to have an impact through disturbance has the potential to have cumulative/in-combination impacts.

Table 21: Potential cumulative impacts.

Plan/Project	Purpose	Cumulative impact
EU Water framework Directive	Maintain and enhance water quality within the EU	None predicted
EU Freshwater Fish Directive	Protect freshwater bodies within the EU suitable for sustaining fish populations	None predicted
EU Groundwater Directive	Maintain and enhance the quality of groundwater within the EU	None predicted
EU Floods Directive	The Floods Directive applies to river basins and coastal areas at risk of flooding	None predicted
Nitrates Directive	Reducing water pollution within the EU	None predicted
Urban Waste-water treatment Directive	Protecting the environment from adverse impacts of waste-water discharge	None predicted
Sewage Sludge Directive	Regulate the use of sewage sludge	None predicted
The IPPC Directive	To achieve a high level of environmental protection	None predicted
National Development Plan	To promote more balanced spatial and economic development	None predicted
National Spatial Strategy	To achieve a better balance of social, economic and physical development across Ireland	None predicted
Eastern CRFAM	Long-term planning for reducing and managing flood risk	None predicted
Local Area Development Plans	Various	None predicted
Meath and Louth County Development Plans	Sustainable development of Counties Louth and Meath	None predicted
Quarrying activities, water abstraction, discharge, etc	Various	None predicted
Current and future planning permissions –	Various	None predicted
Part 8's	Various	None predicted
Land spreading of organic waste by farmers in the locality	Fertilising land, disposing of organic waste	None predicted

As regards any cumulative impacts, **all** concurrent planning permission applications/future developments must be subject to the Appropriate Assessment process (see Figure 19). Given the scale and nature of the proposed development, no cumulative impacts are foreseen.

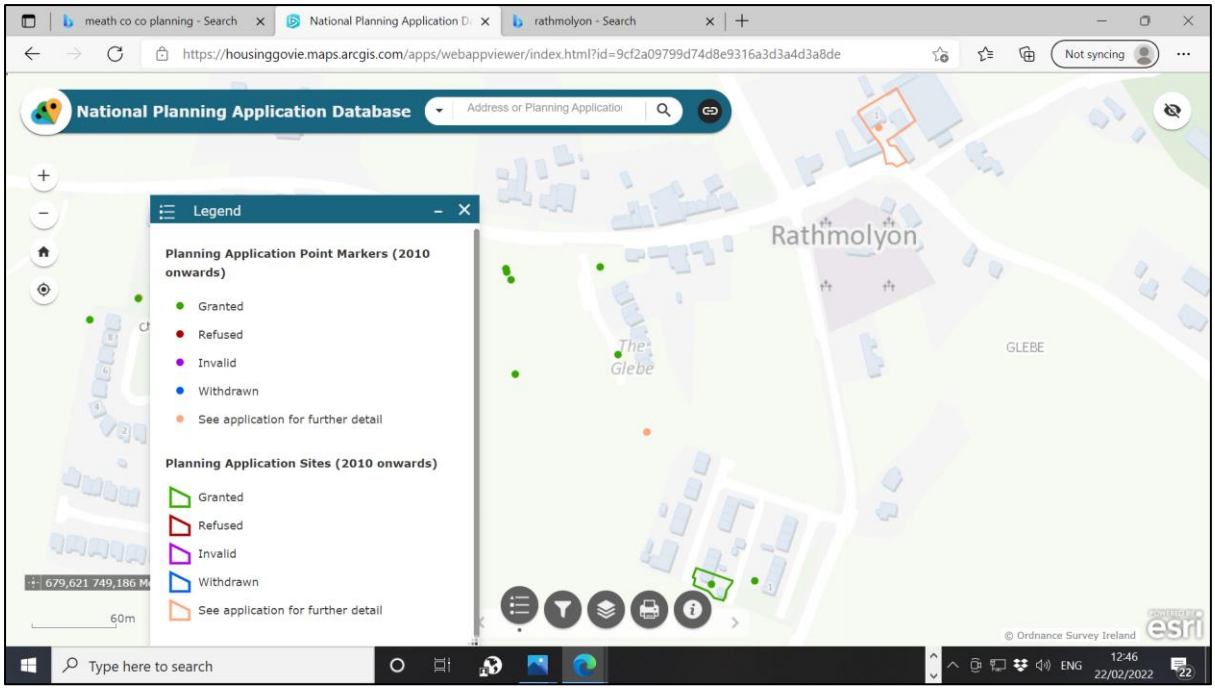

Figure 19: Excerpt from NPAD illustrating planning applications in the vicinity of the proposed development

2.6.4 "Do nothing" scenario

There are no significant impacts on the Natura 2000 Network and as such no deviation from the Do-Nothing Scenario in this regard.

2.6.5 Gauging of Impacts on Natura 2000 sites – Integrity of site checklist

The potential impacts of the proposed development on Natura 2000 sites are gauged using a checklist, which aids in determining the potential of development to have a significant impact on any Natura 2000 site. This checklist consists of a number of pertinent questions as set out in Table 22.

Table 22: Potential of the proposed development to impact on Natura 2000 sites in the absence of suitable mitigation/preventative measures

Does the Plan have the potential to:	**Yes/No**
Cause delays in progress towards achieving the conservation objectives of the Natura 2000 site?	NO
Interrupt progress toward achieving the conservation objectives of the Natura 2000 site?	NO
Disrupt those factors helping to maintain the favourable conditions at the Natura 2000 site?	NO
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the Natura 2000 site?	NO
Cause changes to the vital defining aspects (e.g., nutrient balance) that determine how the Natura 2000 site functions as a habitat or ecosystem?	NO
Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the Natura 2000 site?	NO
Interfere with predicted or expected natural changes to the Natura 2000 site (such as water dynamics or chemical composition)?	NO
Reduce the area of key habitats within the Natura 2000 site?	NO
Reduce the population of key species of the Natura 2000 site?	NO
Alter the balance between key species of the Natura 2000 site?	NO
Reduce the biodiversity of the Natura 2000 site?	NO
Result in disturbance that could affect population size or density or the balance between key species within the Natura 2000 site?	NO
Result in fragmentation?	NO
Result in the loss or reduction of key features of Natura 2000 sites?	NO

2.7 Conclusions of screening

According to the guidance published by the NPWS (DoEHLG, 2009), Screening for Appropriate Assessment can either identify that a Natura Impact Statement (NIS) is not required where:

(1) A project/proposal is directly related to the management of the site; or

(2) There is no potential for significant impacts affecting the Natura 2000 network

Where the screening process identifies that significant impacts are certain, likely or uncertain the project must either proceed to Stage II Appropriate Assessment or be rejected.

The potential impacts that will arise from the proposed development have been examined in the context of a number of factors that could potentially impact upon the integrity of the Natura 2000 network. On the basis of the findings of this Screening for Appropriate Assessment, it is concluded that the proposed plan:

(1) Is not directly connected with or necessary to the management of a Natura 2000 site and

(2) Does not have the potential to have significant negative impacts on the Natura 2000 network.

Following an examination, analysis and evaluation of the relevant information and the potential for significant effects on the conservation objectives of Natura 2000 sites, and applying the Precautionary Principle, it is, in the opinion of the author of this report, possible to exclude (on the basis of objective information and in the absence of specific prescribed precautionary/mitigation measures) that the proposed development individually or in combination with other plans or projects, will have any significant potential to have negative impacts on the Natura 2000 network.

Having identified no potential impact(s) of the proposed development upon the Natura 2000 network, and in accordance with Article 6(3) of the Habitats Directive, a Stage 2 Appropriate Assessment is not required in this instance.

Please note that all species of bat occurring in Ireland are listed on Annex IV of the EU Habitats Directive and must be protected wherever they occur. Owing to the proximity of the site to optimal foraging habitat a bat survey of the site should be undertaken prior to any works.

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