

Natura Impact Statement

Development at Rathcoole Aerodrome

Co. Cork

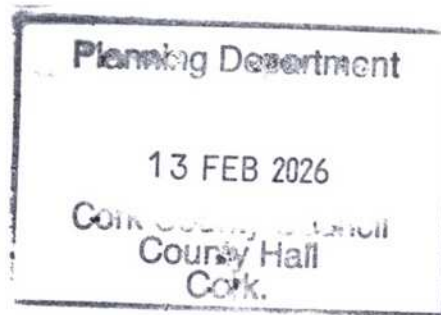
Report prepared for Rathcool Flying Club

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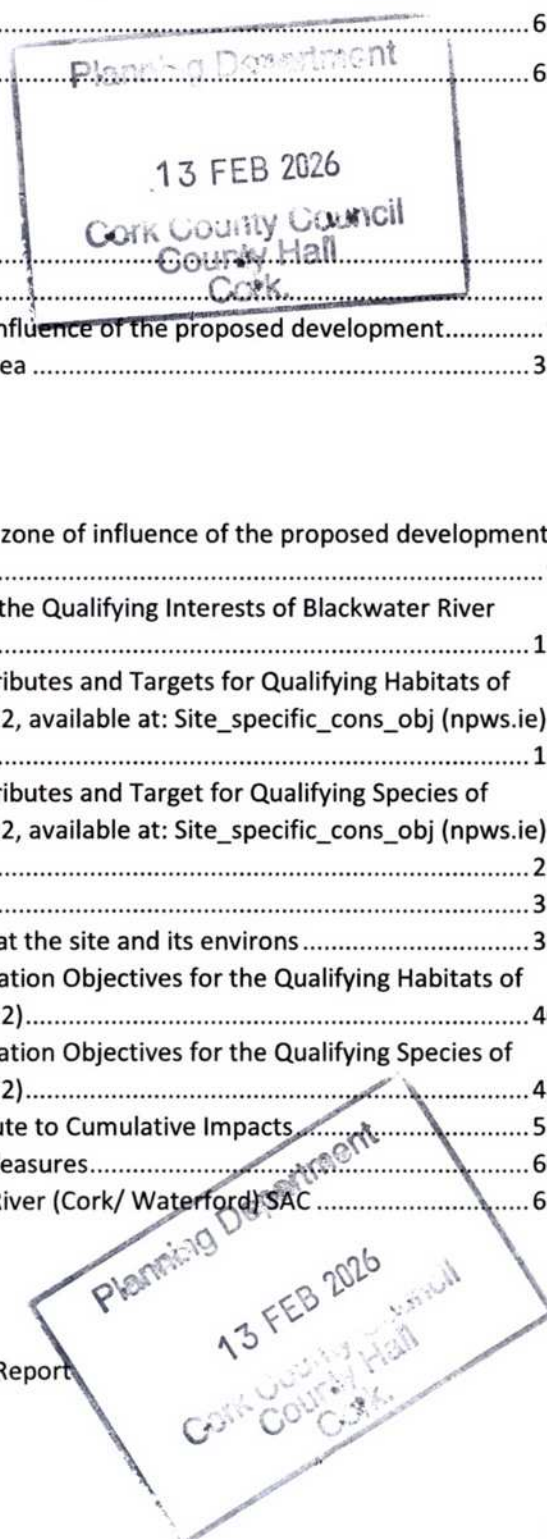
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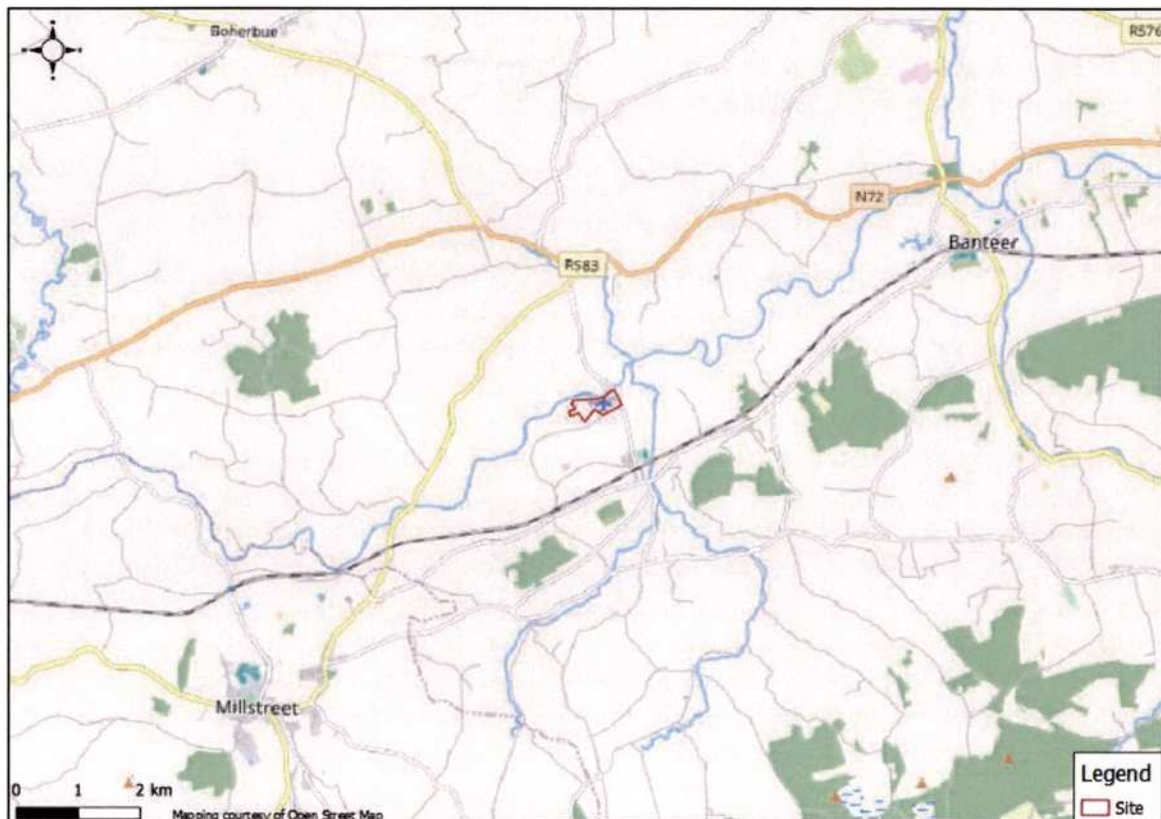


1 Introduction

This Natura Impact Statement (NIS) provides information in support of the Appropriate Assessment (AA), prepared by Greenleaf Ecology on behalf of Rathcoole Flying Club, in respect of the proposed Development at Rathcoole Aerodrome, Co. Cork (hereafter referred to as “the proposed development”). This report provides information and appraises the potential that the proposed development, alone or in combination with other plans and projects, will have an adverse effect on the integrity of European sites in view of best scientific knowledge and the conservation objectives of the sites. European sites are those identified as sites of European Community importance designated as Special Areas of Conservation under the Habitats Directive (92/43/EEC) or as Special Protection Areas under the Birds Directive (79/409/ECC as codified by Directive 2009/147/EC).

The proposed development is described in Section 1.2 of this report. The location of the proposed development is illustrated in Figure 1-1.

Figure 1-1: Site Location Map



1.1 Statement of Competence

This NIS has been prepared by Karen Banks. Karen is an ecologist with 18 years' experience in the field of ecological assessment. She holds a BSc (Hons) in Environment and Development from Durham University and is a full member of the Chartered Institute of Ecology and Environmental Management. Karen has extensive experience in ecological field survey and impact assessment. In her career as an ecologist Karen has completed reports to inform Appropriate Assessments (AA) covering the transport, energy and land use sectors, with work including assessment of Plans at the national, regional and local level, and numerous AAs of projects.

1.2 Description of the Project

The construction of a hard surfaced runway (740m in length) and taxiway (147.6m in length) with associated ground level lighting, associated interceptors, along with the demolition of an existing hangar to the east of the site and construction of a replacement hangar of approximately the same size and design to the west of the site; the demolition of the existing operations building and paramedic base building to the east of the site, and construction of a new operations and paramedic base building to the west of the site; and the demolition of an existing helipad to the east of the site, and construction of a new helipad to the west of the site, all associated with the HSE Air Ambulance. The development is to be served by a new proprietary waste water treatment system and includes the closure of an existing vehicular entrance onto the L-5215-0 road and its relocation further west along the same road, the upgrade of an existing entrance onto the L-5215-0 road, site landscaping and all other associated site development works. An Environmental Impact Assessment Report (EIAR) has been prepared and will be submitted to the Planning Authority with the application. The EIAR will be available for inspection or purchase at a fee not exceeding the reasonable cost of making a copy during office hours at the offices of the Planning Authority. A Natura Impact Statement will be submitted to the planning authority with the application. The Natura Impact Statement will be available for inspection or purchase at a fee not exceeding the reasonable cost of making a copy during office hours at the offices of the Planning Authority.

1.2.1 Surface Water

It is proposed to use nature-based, slow-draining solutions and on-site attenuation and infiltration of surface water. The following measures are proposed:

- Grass filter strips of a 5m width with a pea gravel spreader at the edge of the runway/taxiway
- Filter drains filled with stone/gravel at the foot of the filter strips
- Run-off water from the runway filter drains will be conveyed via hydrocarbon separators to attenuation/soakaways systems

The run-off from the roofs of the re-located air ambulance base will pass through a silt trap to 1 no. soakaway.

Run-off from the concrete apron and heli-pad will drain to gullies and will be conveyed through a full-retention hydrocarbon separator to 1 no. soakaway to the north of the proposed hangar.

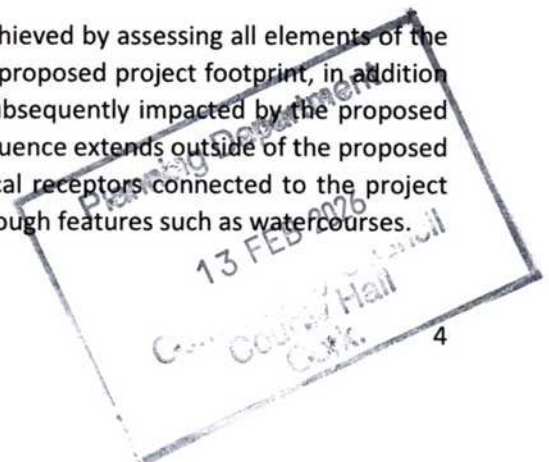
1.2.2 Foul Water

Foul water will be treated by a tertiary treatment system and infiltration/ treatment area. A Tri-cel secondary wastewater system and PuraFlo Tertiary 2 Module Filter on a 250 square metre gravel bed is proposed.

1.3 Study Area and Zone of Influence

The proposed development comprises development to an aerodrome at Rathcoole, Co. Cork (Refer to Figure 1-1).

Determination of this project's Zone of Influence (Zoi) was achieved by assessing all elements of the proposed project against the ecological receptors within the proposed project footprint, in addition to all ecological receptors that could be connected to and subsequently impacted by the proposed project through impact pathways. To this end, the zone of influence extends outside of the proposed aerodrome development works footprint to include ecological receptors connected to the project through overlap / intersection, proximity and connectivity through features such as watercourses.



The proposed site is located adjacent to the Blackwater (Munster) River and Blackwater River (Cork/Waterford) SAC (Site Code: 002170) (see Figure 3-1).

1.4 Findings of the Screening for Appropriate Assessment

The proposed development will require site clearance and excavation works for construction of the runway, taxiway, drainage trenches and new air ambulance base. There is potential for run-off of deleterious substances from these works to the surrounding environment. Potential conduits to the Blackwater (Munster) River and Blackwater River (Cork/Waterford) SAC include the drainage ditch at the proposed site, which drains into the Rathcool River c.0.4km to the east of the proposed site, the Rathcool River then flows into the Blackwater (Munster) River a further 0.3km downstream (i.e. a total of 0.6km downstream of the proposed site; there is also potential for overland flow of surface water from the proposed works into the Blackwater (Munster) River. There is potential for likely significant effects on semi-aquatic and aquatic QI species as a result of disturbance and degradation of water quality within Blackwater River (Cork/Waterford) during the construction phase.

1.5 NIS Objectives

This NIS considers impacts to Blackwater River (Cork/ Waterford) SAC. The study focuses on the suitability and importance of the study area for aquatic and semi-aquatic species such as otter, salmon freshwater pearl mussel and lamprey designated as part of this European Site. Potential impacts, such as the release of water borne pollutants to Blackwater River (Cork/ Waterford) SAC are considered in this assessment.

2 Methodology

2.1 Legislative Background for Appropriate Assessment

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as “The Habitats Directive”, provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. As defined under the Habitats Directive (Article 3(1)) Natura 2000 is a European ecological 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.

In Ireland, these sites are designated as European sites and include SPAs, established under the EU Birds Directive (79/409/EEC, as codified by 2009/147/EC) for birds and SACs, established under the Habitats Directive 92/43/EEC for habitats and species.

The Habitats Directive has been transposed into Irish law by Part XAB of the Planning and Development Act (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011) as amended.

Articles 6(3) and 6(4) of the Habitats Directive sets out the decision-making tests for plans and projects likely to have a significant effect on or to adversely affect the integrity of European sites. Article 6(3) establishes the requirement for Appropriate Assessment (AA):

Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In 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.

Both EU and national guidance exists in relation to Member States fulfilling their requirements under the EU Habitats Directive, with particular reference to Article 6(3) and 6(4) of that Directive. The methodology followed in this report to inform the assessment has had regard to the following legislation and guidance listed in Section 2.2:

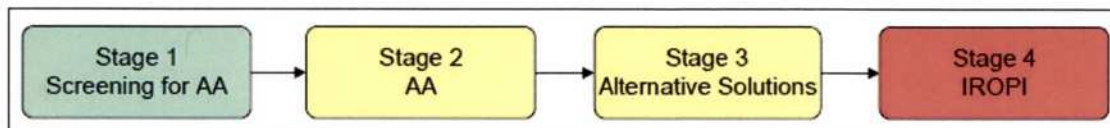
- Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (also known as the ‘Habitats Directive’);
- Council Directive 2009/147/EC on the conservation of wild birds, codified version, (also known as the ‘Birds Directive’);
- The European Communities (Birds and Natural Habitats) Regulations 2011 to 2015; and
- The Planning and Development Act (as amended).

2.2 Stages of Appropriate Assessment

Article 6(3) & (4) of the Habitats Directive defines a stepwise procedure where plans or projects are considered. The Department of the Environment, Heritage and Local Government guidelines (DoELHG 2009, rev 2010) outlines the European Commission's methodological guidance (EC, 2002) promoting a four-stage process to complete the AA and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

The four stages are summarised diagrammatically in Figure 2-1. Stages 1-2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of the Article 6(3) Assessment or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

Figure 2-1: Four stages of appropriate assessment¹



Stage 1 Appropriate Assessment

Stage 1 AA comprises the Screening process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3) as follows:

- i. whether a plan or project (in this instance the proposed project) is directly connected to or necessary for the management of the European sites, and
- ii. whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on the European sites in view of their conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA).

Stage 2: Appropriate Assessment

The aim of the stage 2 AA process is to identify any adverse impacts that the plan or project might have on the integrity of relevant European sites. As part of the assessment, a key consideration is 'in combination' effects with other plans or projects. Where adverse impacts are identified, mitigation measures can be proposed that would avoid, reduce or remedy any such negative impacts and the plan or project can be amended and / or conditions and restrictions imposed. If it is considered that mitigation measures will not be able to satisfactorily reduce potential adverse impact on a Natura 2000 site then an assessment of alternative solutions is considered in Stage 3. This is then followed by Stage 4 in the event that adverse impacts remain and the proposed activity or development is deemed to be of Imperative Reasons of Overriding Public Interest (IROPI), allowing an assessment of compensatory measures to be considered.

This NIS informs Stage 2 of the AA process and determines if the project is likely to affect the integrity (structure and function) of European sites. As the screening process identified that potential impacts to the Blackwater River (Cork/Waterford) SAC are unknown, uncertain or cannot be ruled out without further assessment, then an AA is required.

The NIS represents a detailed, targeted assessment of the nature and potential significance of direct and indirect impacts arising from the proposed project. An assessment of cumulative impacts (both from the project objectives, and other policies, plans and programmes) is also completed as part of the NIS. The NIS also incorporates best practice and mitigation measures to eliminate potential adverse impacts.

This NIS has been prepared having regard to the following guidance and legislation:

¹ IROPI – Imperative Reasons for Overriding Public Interest

Guidance

- Atkinson, S., Magee, M., Moorkens, E.A. & Heavey, M. (2023). Supplementary Guidance on Assessment and Construction Management in Margaritifera Catchments in Ireland: Blackwater River (Cork/Waterford) SAC (<https://e-mussels.eu/europe/conservation-guidelines>).
- Department of the Environment, Heritage and Local Government (DoEHLG) (2009, rev 2010a), Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities.
- Department of the Environment, Heritage and Local Government (DoEHLG, 2010b), Department of Environment Heritage and Local Government Circular NPWS 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities.
- EPA (2013) Integrated Biodiversity Impact Assessment – Streamlining AA, SEA and EIA Processes: Practitioners Manual. Environmental Protection Agency.
- European Commission (2018), Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg.
- European Commission (2000a), Communication from the Commission on the Precautionary Principle, Office for Official Publications of the European Communities, Luxembourg.
- European Commission Notice Brussels C (2021) 6913 final 'Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (EC, 2021).
- European Commission (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the Commission. Office for Official Publications of the European Communities, Luxembourg.
- European Commission (2013), Interpretation Manual of European Union Habitats. Version EUR 28.
- European Commission (2006), Nature and biodiversity cases: Ruling of the European Court of Justice. Office for Official Publications of the European Communities.



3 European Sites within Project Zone of Influence

One European site, namely the Blackwater River (Cork/Waterford) SAC, is located within the likely zone of influence (Zol) of the proposed development.

Table 3-1 details this European site and its proximity and connectivity to the proposed development. Figure 3-1 provides an illustration of the location of the proposed development in relation to the Blackwater River (Cork/Waterford) SAC.

Table 3-1: Connectivity of European sites within the zone of influence of the proposed development

European Site	Distance from Proposed Site (km) ²	Connectivity
Blackwater River (Cork/Waterford) (Site Code: 002170)	0 (directly adjacent)	Potential connectivity due to proximity and hydrological connectivity via a drainage ditch. The proposed site and this SAC are both within the Rathmore West Ground Waterbody. GW and SW connectivity exists.

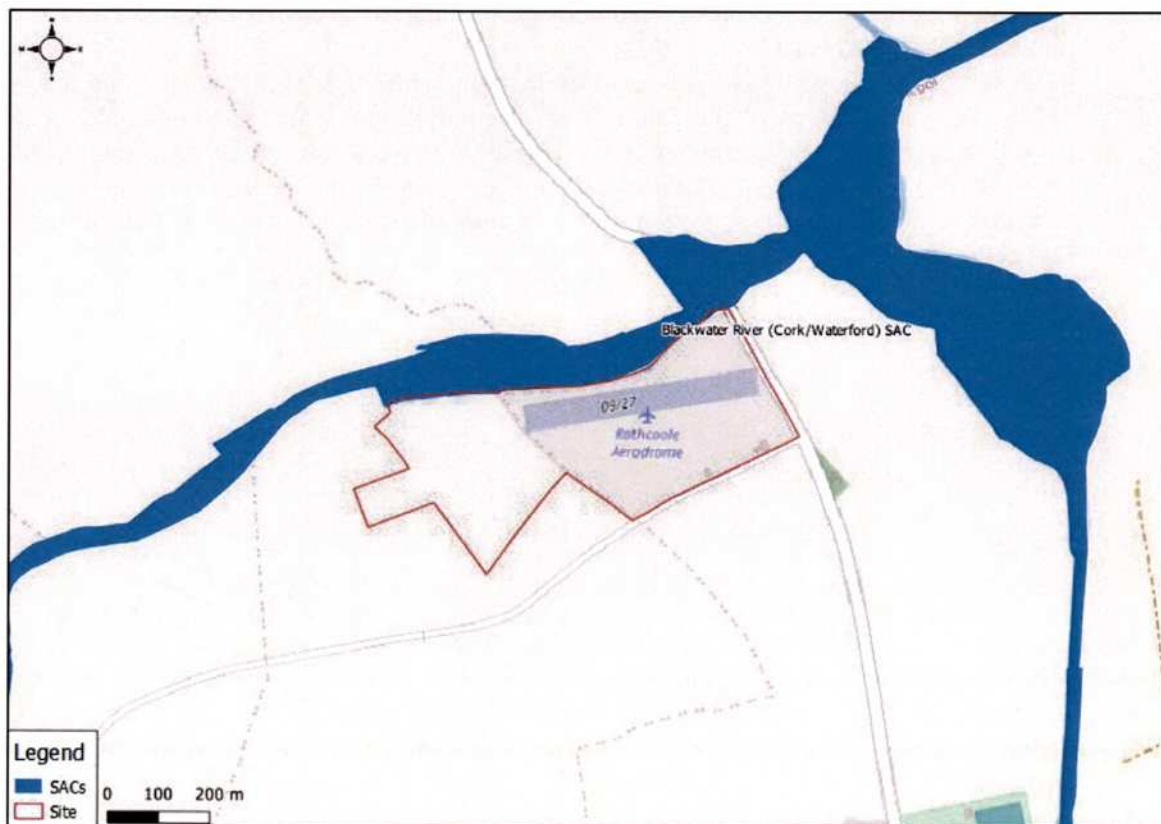


Figure 3-1: European sites within the likely zone of influence of the proposed development

² Distance measured "as the crow flies"

3.1 Summary of European Sites Relevant to the Stage 2 Appropriate Assessment

3.1.1 Blackwater River (Cork/Waterford) SAC (Site Code: 002170)

The Standard Data Form ([N2K IE0002170 dataforms \(europa.eu\)](#)) describes the River Blackwater is one of the largest rivers in Ireland, draining a major part of Co. Cork and parts of counties Kerry, Limerick, Tipperary and Waterford. The site consists of most of the freshwater stretches of the system as well as the estuarine component at Youghal. Tidal influence extends almost to Cappoquin. The Blackwater rises in the east Kerry uplands where Namurian grits and shales build the low heather-covered plateaux. In the lowlands in the Mallow district it passes over limestone and later cuts through ridges of Old Red Sandstone to the south of Cappoquin. Main tributaries include the Rivers Lickey, Bride, Allow and Awbeg. A wide range of habitats associated with the rivers are included within the site, including substantial areas of woodland (deciduous, mixed), scrub, wet grassland, swamp and marsh vegetation, bog, salt marshes and intertidal sand and mud flats. Areas of improved grassland, arable land and coniferous plantations are included in the site for water quality reasons.

The site supports important examples of a range of Annex I habitats, notably estuaries, intertidal mudflats and sandflats, perennial vegetation of stony banks, salt meadows, floating river vegetation, alluvial forests and oak woodlands. Most of these are of good quality and extensive in area. The Blackwater system is an important salmonid fishery and is of high conservation value for *Salmo salar*. Also supports important populations of *Lampetra planeri*, *L. fluviatilis*, *Petromyzon marinus* and *Alosa fallax fallax*. Substantial populations of *Margaritifera margaritifera* occur, while *Austropotamobius pallipes* is found in the Awbeg River. *Lutra lutra* is widespread throughout the site and has been subject to detailed surveys. *Trichomanes speciosum* occurs at one location. Annex I bird species present in the site include breeding *Egretta garzetta*, *Alcedo atthis* and *Falco peregrinus* and wintering *Cygnus cygnus* and *Pluvialis apricaria*. A good diversity of other winter waterfowl species also occurs.

3.1.1.1 Qualifying Interests

The importance of a site designated under the Habitats Directive is defined by its qualifying features or interests. Qualifying interests for any European site are listed on a pro forma, called the Natura 2000 standard data form, which forms the basis of the rationale behind designation, and informs the Conservation Management Plan for targeted management and monitoring of key species and habitats.

Qualifying interests for the Blackwater River (Cork/Waterford) SAC are given in Table 3-2, along with the conservation status and specific sensitivities and main threats relevant to each feature. Information on the conservation status for each habitat within the SAC was extracted from the Natura 2000 Standard Data Form on the Natura 2000 map viewer at [N2K IE0002170 dataforms \(europa.eu\)](#). This information provides specific details on the conservation status of each habitat within the SAC. The environmental sensitivities have been derived from The Status of EU Protected Habitats and Species in Ireland³.

³ NPWS (2019a) The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitats Assessments. Unpublished Report, National Parks and Wildlife Service and NPWS (2019b) The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished Report, National Parks and Wildlife Service.



Table 3-2: Conservation Status and Main Threats to the Qualifying Interests of Blackwater River (Cork/ Waterford) SAC

Annex I Habitat	Conservation Status at Blackwater River (Cork/ Waterford) SAC ⁴	Environmental Sensitivity/ Main Threats (Ranked High to Medium)
[1130] Estuaries	B= Good conservation status.	F20 Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution) (H) A28 Agricultural activities generation marine pollution (H) G16 Marine aquaculture generating marine pollution (H) I02 Other invasive alien species (other than species of Union concern) (H) XU Unknown pressure (M)
[1140] Mudflats and sandflats not covered by seawater at low tide	B= Good conservation status.	F20 Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution) (H) A28 Agricultural activities generation marine pollution (H) G16 Marine aquaculture generating marine pollution (H)
[1220] Perennial vegetation of stony banks	A= Excellent conservation status.	F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) C01 Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) F07 Sports, tourism and leisure activities (M) F09 Deposition and treatment of waste/garbage from household/recreational facilities (M) I02 Other invasive alien species (other than species of Union concern) (M)
[1310] <i>Salicornia</i> and other annuals colonising mud and sand	B= Good conservation status.	I02 Other invasive alien species (other than species of Union concern) (M) A09 Intensive grazing or overgrazing by livestock (M)
[1330] Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)	B= Good conservation status.	A09 Intensive grazing or overgrazing by livestock (H) F07 Sports, tourism and leisure activities (H) A33 Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) A36 Agriculture activities not referred to above (M) F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational

⁴ Natura 2000 Standard Data Forms version date September 2017

		infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) I02 Other invasive alien species (other than species of Union concern) (M)
[1410] Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	B= Good conservation status.	A09 Intensive grazing or overgrazing by livestock (H) A33 Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) A36 Agriculture activities not referred to above (M) A10 Extensive grazing or undergrazing by livestock (M)
[3260] Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	A= Excellent conservation status.	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) K13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M) K01 Abstraction from groundwater, surface water or mixed water (M)
[91A0] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	C= Average or reduced conservation status.	I02 Other invasive alien species (other than species of Union concern) (H) A09 Intensive grazing or overgrazing by livestock (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M) M07 Storm, cyclone (M)
[91E0] *Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)	A= Excellent conservation status.	I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M) I05 Plant and animal diseases, pathogens and pests (M)
Annex II Species		
[1029] Freshwater Pearl Mussel <i>Margaritifera margaritifera</i>	B= Good conservation status.	A31 Drainage for use as agricultural land (H) B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) F31 Other modification of hydrological conditions for residential or recreational development (H)

		A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban wastewater (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)
[1095] Sea Lamprey <i>Petromyzon marinus</i>	A= Excellent conservation status.	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) Xo Threats and pressures from outside the Member State (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M)
[1096] Brook Lamprey <i>Lampetra planeri</i>	A= Excellent conservation status.	A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) B09 Clear-cutting, removal of all trees (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) F11 Pollution to surface or ground water due to urban run-offs (M) F12 Discharge of urban wastewater (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M)

		N02 Droughts and decreases in precipitation due to climate change (M)
[1099] River Lamprey <i>Lampetra fluviatilis</i>	B= Good conservation status.	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M)
[1106] Atlantic Salmon <i>Salmo salar</i> (only in fresh water)	B= Good conservation status.	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating pollution to surface or ground waters (M) F12 Discharge of urban wastewater (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) G11 Illegal harvesting, collecting and taking (M) I02 Other invasive species (other than species of Union concern) (M) J01 Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) J01 Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) G20 Abstraction of water, flow diversion, dams and other modifications of hydrological conditions for freshwater aquaculture (M) L06 Interspecific relations (competition, predation, parasitism, pathogens) (M)
[1092] <i>Austropotamobius pallipes</i> (White-clawed Crayfish)	C= Average or reduced conservation status.	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H)

		A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations(M) Xo Threats and pressures from outside the Member State (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M)
[1103] <i>Alosa fallax fallax</i> (Twaite Shad)	B= Good conservation status.	A19 Application of Natural fertilisers on agricultural land (H) A20 Application of synthetic (mineral) fertilisers on agricultural land (H) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) G06 Freshwater fish and shellfish harvesting (recreational) (M) G12 Bycatch and incidental killing (due to fishing and hunting activities) (H) I02 Other invasive alien species (other than species of Union concern) (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N03 Increases or changes in precipitation due to climate change (H)
[1421] <i>Trichomanes speciosum</i> (Killarney Fern)	B= Good conservation status.	No pressures or threats noted
[1355] Otter <i>Lutra lutra</i>	A= Excellent conservation status.	No pressures or threats noted

3.2 Conservation Objectives of European Site

Article 6.3 of the Habitats Directive and Part XAB of the Planning and Development Act (as amended) require that the impact of the project (either alone or in combination with other projects or plans) on the integrity of the European site is considered with respect to the conservation objectives of the site and to its structure and function. The European Commission guidance on Natura 2000 (MN2000) states that:

"The integrity of the site involves its constitutive characteristics and ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the habitats and species for which the site has been designated and the site's conservation objectives" (MN2000, Section 4.6.4)."

The maintenance of favourable condition of qualifying interests 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 habitats and species is described in the Guidance as follows:

- **Favourable conservation status of a habitat** can be described as being achieved when: *"its natural range, and the 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"*.
- **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, sufficiently large habitat to maintain its populations on a long term basis"*.

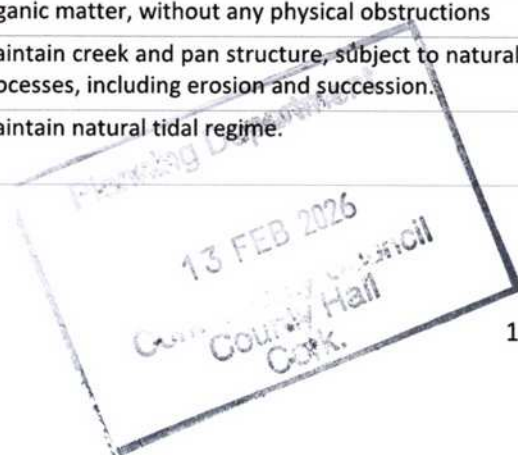
Site-specific conservation objectives aim to define favourable conservation conditions for the qualifying interests, i.e. Annex I habitat and Annex II species, as applicable. The conservation objectives are presented as a list of attributes against which targets have been set. All of the attributes in relation to each relevant feature have been considered in relation to the potential impacts associated with the proposed aerodrome development. Site specific conservation objectives (SSCOs) for the qualifying interests of Blackwater River (Cork/Waterford) SAC are detailed in Table 3-3 and Table 3-4 below.

Table 3-3: Site Specific Conservation Objectives, Attributes and Targets for Qualifying Habitats of Blackwater River (Cork/Waterford) SAC (NPWS, 2012, available at: [Site_specific_cons_obj\(npws.ie\)](http://Site_specific_cons_obj(npws.ie)))

Conservation Objectives of Blackwater (Cork/Waterford) SAC (Site specific cons obj (npws.ie))		
Attribute	Measure	Target
Estuaries [1130]		
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.
Community extent	Hectares	Maintain the extent of the <i>Mytilus edulis</i> dominated community, subject to natural processes.
Community structure: <i>Mytilus edulis</i> density	Individuals/m ²	Conserve the high quality of the <i>Mytilus edulis</i> dominated community, subject to natural processes.
Community distribution	Hectares	Conserve the following community types in a natural condition: Intertidal estuarine sandy mud community complex; Subtidal estuarine fine sand with <i>Bathyporeia</i> spp. community complex; Sand and mixed sediment with polychaetes and crustacean's community complex; Coarse sediment community complex.

Mudflats and sandflats not covered by seawater at low tide [1140]		
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.
Community extent	Hectares	Maintain the extent of the <i>Zostera and Mytilus edulis</i> dominated communities, subject to natural processes.
Community structure: <i>Zostera</i> shoot density	Shoots/m ²	Conserve the high quality of the <i>Zostera</i> dominated community, subject to natural processes.
Community structure: <i>Mytilus edulis</i> density	Individuals/m ²	Conserve the high quality of the <i>Mytilus edulis</i> -dominated community, subject to natural processes.
Community distribution	Hectares	The following community types should be conserved in a natural condition: Intertidal estuarine sandy mud community complex and Sand and mixed sediment with polychaetes and crustacean's community complex.
Perennial vegetation of stony banks [1220]		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions.
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.
Vegetation composition: typical species and subcommunities	Percentage cover at a representative sample of monitoring stops	Maintain the typical vegetated shingle flora including the range of subcommunities within the different zones.
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover.
<i>Salicornia</i> and other annuals colonizing mud and sand [1310]		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions.
Physical structure: creeks and pans	Occurrence	Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession.
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime.
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.
Vegetation structure: height	Centimetres	Maintain structural variation within sward.

Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated.
Vegetation composition: typical species and sub- communities	Percentage cover	Maintain the presence of species-poor communities with typical species listed in Saltmarsh Monitoring Project (McCorry and Ryle, 2009).
Vegetation structure: negative indicator species: <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%.
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330]		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes.
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions.
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession.
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime.
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward.
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% area outside creeks vegetated.
Vegetation composition: typical species and subcommunities	Percentage cover at a representative sample of monitoring stops	Maintain range of subcommunities with typical species listed in SMP (McCorry and Ryle, 2009).
Vegetation structure: negative indicator species – <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%.
Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.
Habitat distribution	Occurrence	No decline, subject to natural processes.
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession.
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime.



Vegetation structure: zonation	Occurrence	Maintain range of saltmarsh habitats including transitional zones, subject to natural processes including erosion and succession.
Vegetation structure: vegetation height	Centimetres	Maintain structural variation in the sward.
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated.
Vegetation composition: typical species and subcommunities	Percentage cover at a representative sample of monitoring stops	Maintain range of subcommunities with characteristic species listed in SMP (McCorry and Ryle, 2009).
Vegetation structure: negative indicator species – <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%.
Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]		
Habitat area	Kilometres	Area stable or increasing, subject to natural processes.
Habitat distribution	Occurrence	No decline, subject to natural processes.
Hydrological regime: river flow	Metres per second	Maintain appropriate hydrological regimes.
Hydrological regime: tidal influence	Daily water level fluctuations - metres	Maintain natural tidal regime.
Hydrological regime: freshwater seepages	Metres per second	Maintain appropriate freshwater seepage regimes.
Substratum composition: particle size range	Millimetres	The substratum should be dominated by the particle size ranges, appropriate to the habitat sub-type (frequently sands, gravels and cobbles).
Water quality: nutrients	Milligrams per litre	The concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition.
Vegetation composition: typical species	Occurrence	Typical species of the relevant habitat sub-type should be present and in good condition.
Floodplain connectivity	Hectares	The area of active floodplain at and upstream of the habitat should be maintained.
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, at least 263.7ha for sub-sites surveyed.
Habitat distribution	Occurrence	No decline. Surveyed locations shown on map 7 of the conservation objectives.
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.
Woodland structure: cover and height	Percentage and metres	Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with

		semimature trees and shrubs; and well-developed herb layer.
Woodland structure: community diversity and extent	Hectares	Maintain diversity and extent of community types.
Woodland structure: natural regeneration	Seedling: sapling: pole ratio	Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy.
Woodland structure: dead wood	m ³ per hectare; number per hectare	At least 30m ³ /ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter.
Woodland structure: veteran trees	Number per hectare	No decline.
Woodland structure: indicators of local distinctiveness	Occurrence	No decline.
Vegetation composition: native tree cover	Percentage	No decline. Native tree covers not less than 95%.
Vegetation composition: typical species	Occurrence	A variety of typical native species present, depending on woodland type, including sessile oak (<i>Quercus petraea</i>) and birch (<i>Betula pubescens</i>).
Vegetation composition: negative indicator species	Occurrence	Negative indicator species, particularly non-native invasive species, absent or under control.
*Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0]		
Habitat area	Hectares	Area stable or increasing, subject to natural processes, at least 19.2ha for sites surveyed.
Habitat distribution	Occurrence	No decline. Surveyed locations shown on map 7 of the conservation objectives.
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.
Woodland structure: cover and height	Percentage and metres	Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semimature trees and shrubs; and well-developed herb layer.
Woodland structure: community diversity and extent	Hectares	Maintain diversity and extent of community types.
Woodland structure: natural regeneration	Seedling: sapling: pole ratio	Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy.
Hydrological regime: flooding depth/height of water table	Metres	Appropriate hydrological regime necessary for maintenance of alluvial vegetation.
Woodland structure: dead wood	m ³ per hectare; number per hectare	At least 30m ³ /ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter (greater than 20cm diameter in the case of alder).

Woodland structure: veteran trees	Number per hectare	No decline.
Woodland structure: indicators of local distinctiveness	Occurrence	No decline.
Vegetation composition: native tree cover	Percentage	No decline. Native tree covers not less than 95%.
Vegetation composition: typical species	Occurrence	A variety of typical native species present, depending on woodland type, including alder (<i>Alnus glutinosa</i>), willows (<i>Salix</i> spp) and, locally, oak (<i>Quercus robur</i>) and ash (<i>Fraxinus excelsior</i>).
Vegetation composition: negative indicator species	Occurrence	Negative indicator species, particularly non-native invasive species, absent or under control.
*<i>Taxus baccata</i> woods of the British Isles [91J0]		
The status of <i>Taxus baccata</i> woods of the British Isles as a qualifying Annex I habitat for the Blackwater River (Cork/Waterford) SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this habitat.		

Table 3-4: Site Specific Conservation Objectives, Attributes and Target for Qualifying Species of Blackwater River (Cork/Waterford) SAC (NPWS, 2012, available at: [Site_specific_cons_obj\(npws.ie\)](http://Site_specific_cons_obj(npws.ie)))

Conservation Objectives Blackwater River (Cork/Waterford) SAC (Site_specific_cons_obj(npws.ie))			
Attribute	Measure	Target	Notes
Freshwater Pearl Mussel <i>Margaritifera margaritifera</i> [1029]			
Distribution	Kilometres	Maintain at 161km. See map 8.	The freshwater pearl mussel is known from the main Blackwater River, two tributaries (Owentaraglin and Allow) and the Licky River, which discharges to the Upper Blackwater Estuary. 168km encompasses the length of channel from the most upstream records of the freshwater pearl mussel to the most downstream records of live mussels, and contained within the freshwater pearl mussel catchment boundaries displayed on map 8 of the conservation objectives.
Population size	Number of adult mussels	Restore to 35,000 adult mussels	The SAC has three populations listed on the European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations of 2009 (Government of Ireland, 2009b): Munster Blackwater, Allow (Munster Blackwater) and Licky.
Population structure: recruitment	Percentage per size class	Restore to least 20% of population no more than 65mm in length; and at least 5% of	Mussels of no more than 65mm are considered 'young mussels' and may be found buried in the substratum and/or beneath adult

		population no more than 30mm in length	mussels. Mussels of no more than 30mm are 'juvenile mussels' and are always buried in the substratum. The Blackwater population is believed to be composed entirely of aged adults, with no evidence of recruitment for at least 20 years (DEHLG, 2010a). No juvenile mussels were found in the Allow and 8.3% of the population was no more than 65mm in length in 2009 (DEHLG, 2010b). No young or juvenile mussels were recorded in the Licky during monitoring in 2005 or 2009 and there was no evidence that recruitment had occurred in at least 12 years, with the smallest mussel in 2009 measuring 85.3mm (Ross, 2005; DEHLG 2010c)
Population structure: adult mortality	Percentage	No more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution	5% is considered the cut-off between the combined errors associated with natural fluctuations and sampling methods and evidence of true population decline. 1% of dead shells is considered to be indicative of natural losses. The Allow passed the target for live adults but failed that for dead shells in 2009 (DEHLG, 2010b). The Blackwater and Licky failed both targets in 2009 (DEHLG, 2010a, 2010c)
Habitat extent	Kilometres	Restore suitable habitat in more than 35km (see map 8) and any additional stretches necessary for salmonid spawning	The species' habitat covers stretches of very large, high energy, lowland rivers (Blackwater) and a short coastal river (Licky); and is a combination of 1) the area of habitat adult and juvenile mussels can occupy and 2) the area of spawning and nursery habitats the host fish can occupy. Fish nursery habitat typically overlaps with mussel habitat. Fish spawning habitat is generally adjacent to mussel habitat but may lie upstream of the generalised mussel distribution. Only those salmonid spawning areas that could regularly contribute juvenile fish to the areas occupied by adult mussels should be considered. The availability of mussel habitat

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			and fish spawning and nursery habitats are determined by flow and substratum conditions. The habitat for the species is currently unsuitable for the survival of adult mussels or the recruitment of juveniles. The target is based on the stretches of river identified, from a combination of dedicated survey and incidental records, as having suitable habitat for the species. As there has been no full baseline survey, the quality of the data from the Blackwater and its tributaries is poor.
Water quality: macroinvertebrate and phytobenthos (diatoms)	Ecological quality ratio (EQR)	Restore water quality macroinvertebrates: EQR greater than 0.90; phytobenthos: EQR greater than 0.93	These EQRs correspond to high ecological status for these two Water Framework Directive biological quality elements. They represent high water quality with very low nutrient concentrations (oligotrophic conditions).
Substratum quality: filamentous algae (macroalgae), macrophytes (rooted higher plants)	Percentage	Restore substratum quality filamentous algae: absent or trace (<5%); macrophytes: absent or trace (<5%)	Significant growth of macrophytes was found at some sites in all three populations sampled during 2009 for the Sub-basin Management Plans (DEHLG, 2010a, 2010b, 2010c). Filamentous algae were below the target at all sites sampled in the Allow, however significant growths were detected at some sampling sites in the Blackwater and Licky (DEHLG, 2010a, 2010b, 2010c). Recruitment of juvenile mussels is being prevented by the poor quality of the river substrate.
Substratum quality: sediment	Occurrence	Restore substratum quality stable cobble and gravel substrate with very little fine material; no artificially elevated levels of fine sediment	The habitat for the species is currently unsuitable for the recruitment of juveniles owing to sedimentation of the substratum. In some locations, it is also unsuitable for the survival of adult mussels, notably stretches of the Licky (DEHLG, 2010c). Significant sedimentation has been recorded during all recent mussel monitoring surveys, particularly in the Licky and Allow (DEHLG, 2010a, 2010b, 2010c). Recruitment of juvenile mussels is being prevented by the poor quality of the river substrate.

Substratum quality: oxygen availability	Redox potential	Restore to no more than 20% decline from water column to 5cm depth in substrate	Differences in redox potential between the water column and the substrate correlate with differences in oxygen levels. Juvenile mussels require full oxygenation while buried in gravel. In suitable habitat, there should be very little loss of redox potential between the water column and underlying gravels.
Hydrological regime: flow variability	Metres per second	Restore appropriate hydrological regimes	The availability of suitable freshwater pearl mussel habitat is largely determined by flow (catchment geology being the other important factor). In order to restore the habitat for the species, flow variability over the annual cycle must be such that: 1) high flows can wash fine sediments from the substratum, 2) low flows do not exacerbate the deposition of fines and 3) low flows do not cause stress to mussels in terms of exposure, water temperatures, food availability or aspects of the reproductive cycle
Host fish	Number	Maintain sufficient juvenile salmonids to host glochidial larvae	Salmonid fish are host to the larval form of the freshwater pearl mussel and, thus, they are essential to the completion of the life cycle. 0+ and 1+ fish are typically used, both because of the habitat overlaps and the development of immunity with age in the fish. Fish presence is considered sufficient, as higher densities and biomass of fish are indicative of enriched conditions in mussel rivers. Geist et al. (2006) found that higher densities of host fish coincided with eutrophication, poor substrate quality for pearl mussels and a lack of pearl mussel recruitment, while significantly lower densities and biomass of host fish were associated with high numbers of juvenile mussels. Fish movement patterns must be such that 0+ fish in the vicinity of the mussel habitat remain in the mussel habitat until their 1+ summer. No fish stocking should occur within the mussel habitat, nor any works that may change the salmonid



			balance or residency time. The Allow and Licky freshwater pearl mussel populations appear to favour native brown trout (<i>Salmo trutta</i>), therefore, it is particularly important that these are not outcompeted by stocked fish (DEHLG, 2010b, 2010c). No data on fish preferences are available for the Blackwater.
White-clawed Crayfish <i>Austropotamobius pallipes</i> [1092]			
Distribution	Occurrence	No reduction from baseline (see map 9)	Within the Blackwater River system, white-clawed crayfish is present only on the Awbeg River. However, there have been two recent records from other parts of the river system. One was downstream of the confluence of the Awbeg and Blackwater and may simply represent a specimen moving out of the Awbeg. The second was upstream of Mallow and this may represent a new population or an introduction.
Population structure: recruitment	Percentage occurrence of juveniles and females with eggs	Juveniles and/or females with eggs in at least 50% of positive samples	
Negative indicator species	Occurrence	No alien crayfish species	Alien crayfish species are identified as major direct threat to this species and as disease vector.
Disease	Occurrence	No instances of disease	Disease is identified as major threat and has occurred in Ireland even in the absence of alien vectors.
Water quality	EPA Q value	At least Q3-4 at all sites sampled by EPA	Q values based on triennial water quality surveys carried out by the EPA
Habitat quality: heterogeneity	Occurrence of positive habitat features	No decline in or habitat quality	Crayfish need high habitat heterogeneity. Larger crayfish must have stones to hide under, or an earthen bank in which to burrow. Hatchlings shelter in vegetation, gravel and among fine tree-roots. Smaller crayfish are typically found among weed and debris in shallow water. Larger juveniles in particular may also be found among cobbles and detritus such as leaf litter. These conditions must be available on the whole length of occupied habitat.

Sea Lamprey <i>Petromyzon marinus</i> [1095]			
Distribution: extent of anadromy	% of river accessible	Greater than 75% of main stem length of rivers accessible from estuary	Artificial barriers can block or cause difficulties to lampreys' upstream migration, thereby limiting the species to lower stretches and restricting access to spawning areas.
Population structure of juveniles	Number of age/size groups	At least three age/size groups present	
Juvenile density in fine sediment	Juveniles/m ²	Juvenile density at least 1/m ²	Juveniles burrow in areas of fine sediment in still water.
Extent and distribution of spawning habitat	m ² and occurrence	No decline in extent and distribution of spawning beds	Lampreys spawn in clean gravels.
Availability of juvenile habitat	Number of positive sites in 3rd order channels (and greater), downstream of spawning areas	Number of positive sites in 3rd order channels (and greater), downstream of spawning areas	Despite observed spawning activity, sampling for ammocoetes consistently fails to find these in many sampling stations and never in any great numbers
Brook Lamprey <i>Lampetra planeri</i> [1096]			
Distribution	% of river accessible	Access to all water courses down to first order streams	Artificial barriers can block or cause difficulties to brook lampreys' migration, both up- and downstream, thereby possibly limiting the species to specific stretches and creating genetically isolated populations (Espanhol et al., 2007)
Population structure of juveniles	Number of age/size groups	At least three age/size groups of brook/river lamprey present	It is impossible to distinguish between brook and river lamprey juveniles in the field (Gardiner, 2003), hence they are considered together in this target
Juvenile density in fine sediment	Juveniles/m ²	Mean catchment juvenile density of brook/river lamprey at least 2/m ²	Juveniles burrow in areas of fine sediment in still water
Extent and distribution of spawning habitat	m ² and occurrence	No decline in extent and distribution of spawning beds	Spawning site and redd attributes established by IFI (Rooney et al., in press)
Availability of juvenile habitat	Number of positive sites in 2nd order channels (and greater), downstream of spawning areas	More than 50% of sample sites positive	Many sites with suitable larval attributes i.e. fine sediment in low velocity habitat, are found not to contain larval lamprey. This may be a function of chance or probability or may be a consequence of insufficient recruitment to fill all spatial niches. Occupancy in excess of

			50% of sites would be 'reasonable' for the Irish catchments examined to date (King et al., unpublished data)
River Lamprey <i>Lampetra fluviatilis</i> [1099]			
Distribution	% of river accessible	Access to all water courses down to first order streams	Artificial barriers can block or cause difficulties to river lampreys' migration, both up- and downstream, thereby possibly limiting the species to specific stretches and creating genetically isolated populations (Espanhol et al., 2007)
Population structure of juveniles	Number of age/size groups	At least three age/size groups of brook/river lamprey present	It is impossible to distinguish between brook and river lamprey juveniles in the field (Gardiner, 2003), hence they are considered together in this target
Juvenile density in fine sediment	Juveniles/m ²	Mean catchment juvenile density of brook/river lamprey at least 2/m ²	Juveniles burrow in areas of fine sediment in still water.
Extent and distribution of spawning habitat	m ² and occurrence	No decline in extent and distribution of spawning beds	Spawning site and redd attributes established by IFI (Rooney et al., in press)
Availability of juvenile habitat	Number of positive sites in 2nd order channels (and greater), downstream of spawning areas	More than 50% of sample sites positive	Many sites with suitable larval attributes i.e. fine sediment in low velocity habitat, are found not to contain larval lamprey. This may be a function of chance or probability or may be a consequence of insufficient recruitment to fill all spatial niches. Occupancy in excess of 50% of sites would be 'reasonable' for the Irish catchments examined to date (King et al., unpublished data)
Twaite Shad <i>Alosa fallax</i> [1103]			
Distribution: extent of anadromy	% of river accessible	Greater than 75% of main stem length of rivers accessible from estuary	In some catchments, artificial barriers block twaite shads' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas. Major weirs on the Blackwater prevent potential exploitation of adult spawning grounds
Population structure: age classes	Number of age classes	More than one age class present	Regular breeding has been confirmed in the River Blackwater in recent years (King and Linnane, 2004; King and Roche, 2008)

Extent and distribution of spawning habitat	m ² and occurrence	No decline in extent and distribution of spawning habitats	
Water quality: oxygen levels	Milligrams per litre	No lower than 5mg/l	
Spawning habitat quality: Filamentous algae; macrophytes; sediment	Occurrence	Maintain stable gravel substrate with very little fine material, free of filamentous algal (macroalgae) growth and macrophyte (rooted higher plant) growth	
Atlantic Salmon <i>Salmo salar</i> (only in fresh water) [1106]			
Distribution: extent of anadromy	% of river accessible	100% of river channels down to second order accessible from estuary	Artificial barriers block salmon's upstream migration, thereby limiting the species to lower stretches and restricting access to spawning areas. The large hydro-electric station at Ardnacrusha and the Parteen regulating weir present considerable obstructions to upstream passage of salmon on the Shannon main channel. While both have fish passes installed, upstream migration of salmon is still problematical. Further weirs upstream on the Shannon also restrict access to spawning habitat. No such obstacles, causing significant fish passage issues for salmon are present on the Feale and Mulkear rivers
Adult spawning fish	Number	Conservation Limit (CL) for each system consistently exceeded	A conservation limit 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 salmon stocks in the Shannon above the impoundments are significantly below their Conservation Limits. Salmon stocks in the Feale and Mulkear rivers are above 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	Target is threshold value for rivers currently exceeding their conservation limit (CL). The abundance of salmon fry at monitored sites on the Shannon main channel, above the hydro-

		salmon fry/5 min sampling	electric station, is significantly below this target
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 (<i>Lepeophtheirus salmonis</i>). On the Shannon main channel, salmon smolt abundance may be significantly affected by mortality passing through hydroelectric turbines
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. Artificial barriers are currently preventing salmon from accessing suitable spawning habitat on the Shannon main channel
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)
Otter <i>Lutra lutra</i> [1355]			
Distribution	Percentage positive survey sites	No significant decline	Measure based on standard otter survey technique.
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 596.8ha above high-water mark (HWM); 958.9ha along riverbanks/ around ponds	No field surveys. Areas mapped to include 10m terrestrial buffer along shoreline (above HWM and along riverbanks) identified as critical for otters (NPWS, 2007)
Extent of marine habitat	Hectares	No significant decline. Area mapped and calculated as 4,461.6ha	No field surveys. Area mapped based on evidence that otters tend to forage within 80m of the shoreline (HWM) (NPWS, 2007; Kruuk, 2006)
Extent of freshwater (river) habitat	Kilometres	No significant decline. Length mapped and calculated as 500.1km	No field surveys. River length calculated on the basis that otters will utilise freshwater habitats from estuary to headwaters (Chapman and Chapman, 1982)
Extent of freshwater (lake/lagoon) habitat	Hectares	No significant decline. Area mapped and calculated as 125.6ha	No field surveys. 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, 2006; Kruuk and Moorhouse, 1991)

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) and wrasse and rockling in coastal waters (Kingston et al., 1999)
Barriers to connectivity	Number	No significant increase. For guidance, see map 10	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
Killarney Fern <i>Trichomanes speciosum</i> [1421]			
Distribution	Location	No decline. Two locations known within the SAC. See map 10.	
Population size	Number	Maintain size and extent of existing colonies, including sporophyte frond counts and number of gametophyte patches	
Habitat extent	m ²	No loss of suitable habitat, such as shaded rock crevices, caves or gullies in, or near to, known colonies. No loss of woodland canopy at or near to known locations	
Hydrological conditions: visible water	Occurrence	Maintain hydrological conditions at the locations so that all colonies are in dripping or damp seeping habitats, and water is visible at all locations	
Hydrological conditions: humidity	Number of desiccated fronds	No increase. Presence of desiccated sporophyte fronds or gametophyte mats indicates conditions are unsuitable	
Light levels: shading	Percentage	No changes due to anthropogenic impacts	
Invasive species	Occurrence	Absent or under control	



4 Existing Environment

Ecology surveys of the proposed site were undertaken by ecologist Ms. Karen Banks between March and August 2024. The surveys assessed the potential for Qualifying Interests (QIs) of European sites within the likely Zol of the proposed development.

This chapter provides a summary of habitats and species present at the proposed site and describes the results of the desktop study and field surveys undertaken for qualifying interests of the Blackwater River (Cork/Waterford) SAC.

4.1 Habitats

The proposed site supports semi-improved grassland (Fossitt code GS2), improved agricultural grassland (GA1), a small area of arable crops (BC1) and buildings and artificial surfaces (BL3). Fields within the site are bound by linear features including earth banks (BL2), hedgerows (WL1) and treelines (WL2); an active drainage ditch (FW4) is also present.

The Blackwater (Munster) River (FW2) is not located within the proposed site boundary but is adjacent to part of the northern site boundary. Waterbodies are further described in Section 4.3.1 of this report.

No invasive plant species were recorded within the proposed site and its immediate environs.

No Annex I habitats were recorded within the proposed site.

Full details of the existing habitats and species recorded at the proposed site are enclosed within the Biodiversity Chapter of the EIAR accompanying the planning application.

4.2 Species

Fauna were surveyed through observation of field signs such as direct observation, tracks, feeding signs and droppings. Habitats were assessed for their potential for use, or confirmed use, by protected species of fauna during the ecology surveys undertaken between March and August 2024.

The habitats at the proposed site are of low suitability for amphibians and no evidence of common frog or smooth newt was recorded during site surveys.

A total of twenty-two bird species were recorded during breeding bird surveys conducted in May and July 2024, including breeding Starling and Swallow. Of the bird species recorded at the proposed site and its environs, one BoCCI Red List (Highest Conservation Concern) species was recorded (Grey Wagtail) and five Amber List species (Moderate Conservation Concern) were recorded (Linnet, Mallard, Starling, Swallow and Willow Warbler); the remaining species are on the Green List (Least Conservation Concern).

The Blackwater River, hedgerows and treelines at the proposed site provide foraging and commuting habitat for seven species of bat.

No evidence of badger was recorded within the proposed site. However, it is likely that badger forage throughout the proposed site.

4.2.1 Otter

Otter surveys were undertaken along the length of the Blackwater River adjacent to the proposed site and within accessible areas 200m up and down-stream of the proposed site on 25th March 2024 and 31st July 2024.

The National Biodiversity Data Centre (NBDC) database hold records of otter from Colthurst Bridge, last recorded in 2015. No otter holts were recorded within or adjacent to the site during the site surveys, however otter prints were recorded in soft mud at the west of the site during a site survey in March 2024.

4.3 Surface Water

4.3.1 Water Bodies

The proposed site is located within the Blackwater (Munster)_070 sub basin. The Blackwater (Munster) River is a 5th order watercourse is located adjacent to the northern boundary of the proposed site where it forms part of Blackwater River (Cork/Waterford) SAC. The Blackwater flows in an easterly direction and eventually discharges into Youghal Harbour approximately 105km downstream.

The northern portion of the proposed site overlies the Rathmore West Ground Waterbody (GWB) and the southern portion of the site overlies the Banteer GWB.

EPA codes for these water bodies are shown below in Table 4-1.

Table 4-1: EPA water body codes

EPA water body name	Water body type	EPA Code	EPA water body code
Blackwater (Munster)_070	River	18B02	IE_SW_18B020900
Rathmore West	Groundwater	n/a	IE_SW_G_070
Banteer	Groundwater	n/a	IE_SW_G_018

4.3.2 Surface Water Quality and Risk Characterisation

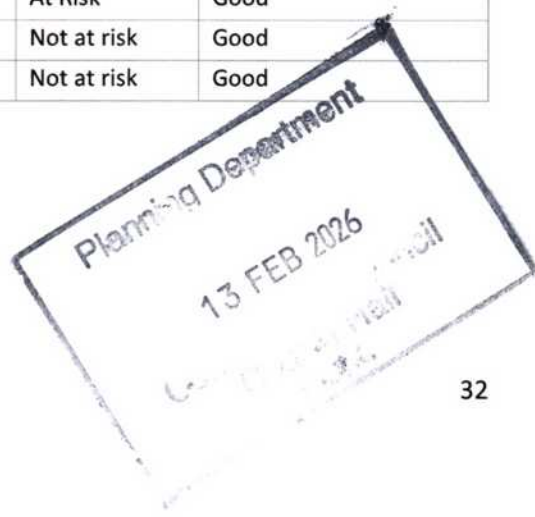
Macroinvertebrate sampling for Q-value determination was conducted within the Blackwater River as part of EPA's Water Framework Directive monitoring. The nearest sampling point is located within the Blackwater River adjacent to the north-eastern corner of the proposed site at Colthurst Bridge. In 2021 (the latest score available) the Q value score was 4, 'Good'. The Blackwater (Munster)_070 is classified as 'At risk' and has been assigned a 'Good' status under the WFD 2016-2021 round. Rathmore West ground waterbody and Banteer ground waterbody were both considered 'Not at risk' and 'Good' under the WFD.

A summary of the WFD and risk status⁵ is shown below in Table 4-2.

Table 4-2: Summary of WFD status for waterbodies at the site and its environs

EPA Waterbody Name	Code	Risk	WFD Status 2016-2021
Blackwater (Munster)_070	IE_SW_18B020900	At Risk	Good
Rathmore West	IE_SW_G_070	Not at risk	Good
Banteer	IE_SW_G_018	Not at risk	Good

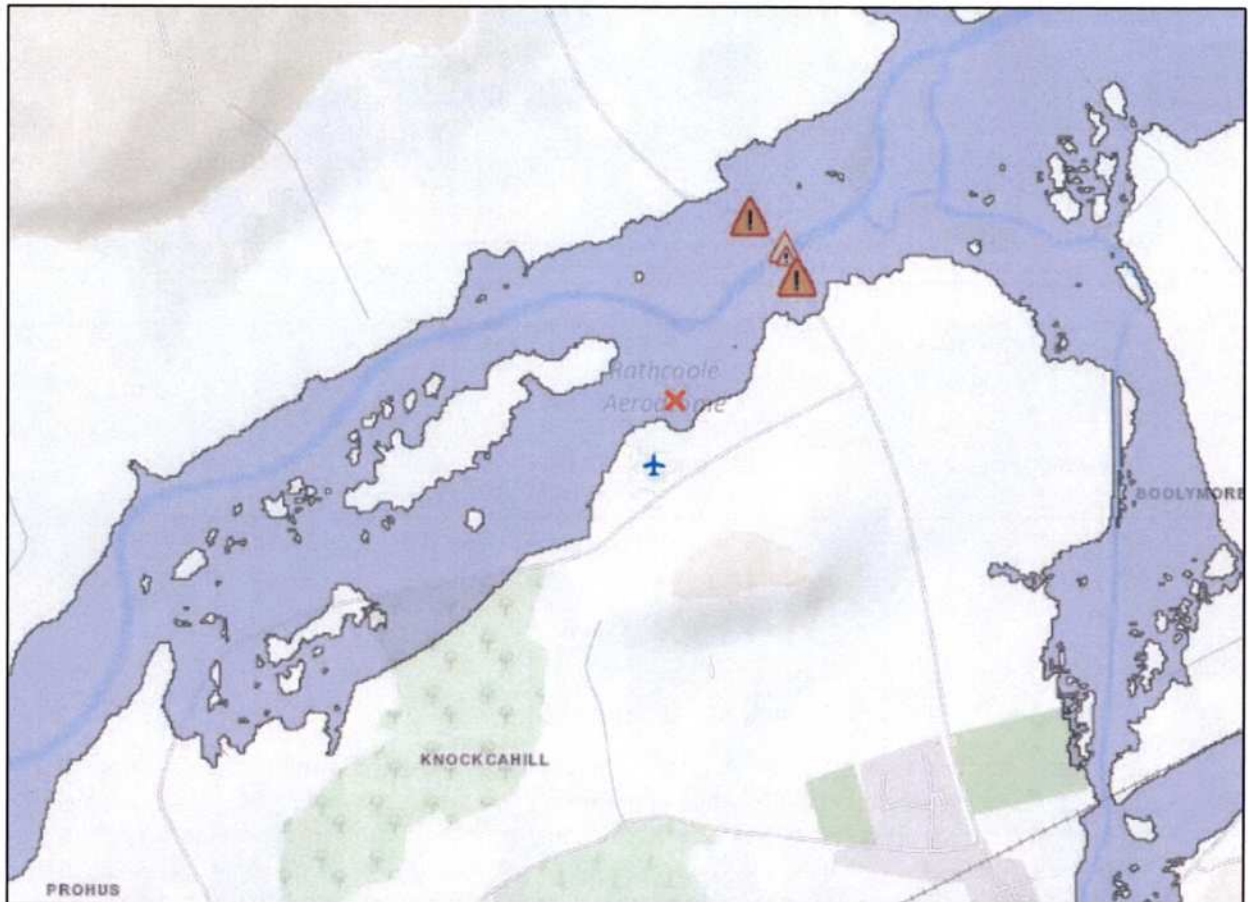
⁵ <https://www.catchments.ie/maps/>



4.4 Flooding

The Office of Public Works (OPW) flood mapping (<http://www.floodinfo.ie/map/floodmaps/>) indicates the flood extents for the Blackwater River. As indicated in Figure 4-1, the flood extents overlap the proposed site.

Figure 4-1: OPW Flood Risk Mapping of the Study Area



A Site Specific Flood Risk Assessment (SSFRA) completed by IE Consulting (2024) found that:

- The primary potential flood risk to the proposed development site can be attributed to an extreme fluvial event in the River Blackwater. The site is not at risk of pluvial or groundwater flooding.
- In the context of the 'Planning System and Flood Risk Management Guidelines, DOEHLG, 2009' the assessment and analysis undertaken as part of this Site Specific Flood Risk Assessment indicates that the area of the site where the new runway and new taxiway are proposed falls within a delineated fluvial Flood Zone 'A' and Flood Zone 'B'.
- The area of the site where the new HSE Air Ambulance hanger, paramedic prefab base, crew prefab base and new proprietary wastewater treatment system are proposed falls within Flood Zone 'C'.
- The proposed runway and taxiway and associated infrastructure shall be constructed at existing ground levels and shall not involve any significant infilling or ground level raising.
- The proposed runway and taxiway shall therefore have no adverse impact on overland flow conveyance paths or the existing hydrological regime of fluvial flood waters associated with the River Blackwater.

- In addition, surface water runoff from the hard-standing runway shall be collected and attenuated on site in an underground infiltration system and will not result in an increased fluvial or pluvial flood risk elsewhere.
- In summary, and in consideration of the findings of the Site Specific Flood Risk Assessment and the incorporation of the recommendations presented within the SSFRA, the development as proposed is not expected to result in an adverse impact to the existing hydrological regime of the area or increase flood risk elsewhere and is therefore considered to be appropriate from a flood risk perspective.

4.5 Soil, Geology and Hydrogeology

The Geological Survey of Ireland (GSI) online database (www.gsi.ie) was consulted for available edaphic, geological and hydrological information of the site and its environs. The site is overlaid by AminDW, Deep well drained mineral (Mainly acidic) and Alluvial (mineral) soils adjacent to the Blackwater River. In terms of bedrock geology, the Dinantian formation, composed of limestone underlies the site to the south and Grey shale, thin siltstone and sandstone underlie the site to the north.

The bedrock units which underlie the site are mapped by the GSI as part of the same Regionally Important Karstified Aquifer to the south and Poor Aquifer to the north of the site. Groundwater vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease at which groundwater may be contaminated. The study area is of 'Moderate' groundwater vulnerability.



5 Impact Assessment

Impacts can be direct and indirect and the impacts that could potentially occur through the construction and operation of the proposed development are as follows:

- Changes in key indicators of conservation value such as decrease in water quality within the Blackwater River (Cork/Waterford) SAC.
- Disturbance to the QI species otter during the construction phase.

The assessment of impacts identifies the potential construction and operational phase impacts on the Blackwater River (Cork/Waterford) SAC in the absence of mitigation.

5.1 Direct Impacts

The proposed development is not located within lands designated for nature conservation, including the Blackwater River (Cork/Waterford) SAC. Further, there are no resource requirements (e.g. excavation or abstraction) from European sites for the proposed development. Consequently, none of the lands designated as part of European sites will be directly impacted or removed as a result of the proposed development. Therefore, there will be no direct impacts to European sites in this regard.

5.2 Indirect Impacts

5.2.1 Overview of Potential Impact Sources and Pathways

Pollutant washout to surface waters during the construction phase

Potential impacts resulting from construction phase works near watercourses are primarily related to three sources of possible water borne pollutants: suspended solids (sediment washout), concrete and hydrocarbons.

The pathways for these pollutants to enter nearby surface waters are via existing drainage ditches and preferential overland flow paths.

- **Suspended Solids:** The principal source of potentially negative impact on aquatic receptors arises from the escape of excessive amounts of suspended solids / sediment during the construction phase. Sediment export can arise from earthworks and/or erosion of soil stockpiles and excavated areas relating to, e.g., excavation for the runway, taxi-way, drainage trenches and new air ambulance base, material stockpiles and hydrocarbon interceptor excavation; it is also proposed to extend the existing runway culvert by approximately 30m to facilitate the new runway alignment. Escaped solids can settle in watercourses, smothering plants and macroinvertebrates, causing fish to abandon the area at least in the short-term. This can result in reduced recruitment of young fish from affected reaches as a result of egg and fry mortalities and displacement of juveniles from nursery areas.
- Elevated concentrations of suspended solids and resulting turbidity within the water column can also potentially damage the gills, physiology and behaviour of fish (e.g., respiration, migration) and/or benthic macroinvertebrates (e.g., respiration, drift responses).
- Similar to salmonids, lampreys also depend on clean gravels for spawning, and although lamprey nursery areas depend on marginal sediments, excessive amounts of sediment deposition within a short time period could cause smothering of ammocoetes through loss of oxygen exchange.
- Freshwater pearl mussel is a species that is demanding of pristine water quality conditions and is very sensitive to a range of pollutants. Toxic pollution can have very serious and long-term effects on *Margaritifera* which, being benthic suspension feeders, are exposed to

pollutants in surface water, sediment, interstitial water and through ingestion of filtered particles with sorbed contaminants.⁶

- **Cement:** Owing to its highly alkaline and corrosive nature, cement is potentially toxic to instream fauna and can cause fish and invertebrate kills downstream. Any concrete spills that did enter drains could be transported to the Rathcool River and/or Blackwater River which can result in localised mortality of fish, bivalves and invertebrates if quantities were large enough. Best practice in construction site layout and management means that the risk of wet concrete loss to surface waters is usually very low.
- **Hydrocarbons:** Hydrocarbons from construction sites can emanate from poorly maintained and leaky construction vehicles, mobile plant and cranes and stationery plant such as pumps and generators. Leakage from poorly secured or non-bunded fuel storage areas including spills during re-fuelling of plant and equipment can also occur. Hydrocarbon spills and leakages can result in oil slicks and tainting of fish, or (if large enough) localised fish and invertebrate kills. Loss of hydrocarbons during the construction phase can be prevented / avoided through best practice in construction management.

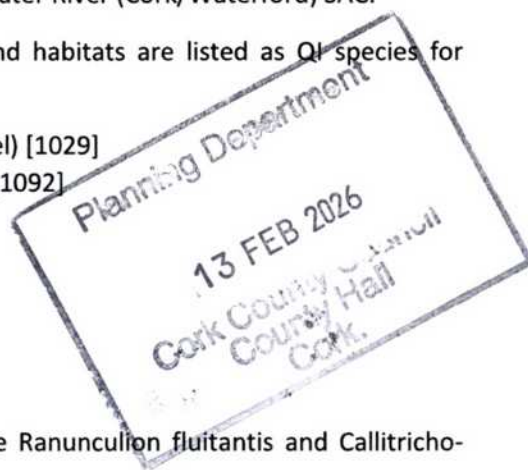
As described above, run-off of water-borne pollutants, if severe, could potentially impact on water quality, which could also impact on fish stocks. In turn, a reduction in fish stocks may potentially impact on populations of Otter (*Lutra lutra*).

5.2.2 Construction Phase

The Blackwater (Munster) River is a 5th order watercourse is located adjacent to the northern boundary of the proposed site where it forms part of Blackwater River (Cork/Waterford) SAC.

The following freshwater aquatic/ semi aquatic species and habitats are listed as QI species for Blackwater River (Cork/Waterford) SAC:

- *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]
- *Austropotamobius pallipes* (White-clawed Crayfish) [1092]
- *Petromyzon marinus* (Sea Lamprey) [1095]
- *Lampetra planeri* (Brook Lamprey) [1096]
- *Lampetra fluviatilis* (River Lamprey) [1099]
- *Alosa fallax fallax* (Twaite Shad) [1103]
- *Salmo salar* (Salmon) [1106]
- *Lutra lutra* (Otter) [1355]
- Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche*-*Batrachion* vegetation [3260]



Freshwater habitat within the proposed site is limited to an active drainage ditch which in periods of high rainfall supports flowing water but supports low levels of standing water/ water with a sluggish flow in summer months. The drainage ditch is not of fisheries value and does not provide supporting habitat for aquatic QI species for Blackwater River (Cork/Waterford) SAC.

Freshwater pearl mussel: The results from presence/absence and total count surveys for freshwater pearl mussel show that the Munster Blackwater has a scattered population of mussels over a very

⁶ Atkinson, S., Magee, M., Moorkens, E.A. & Heavey, M. (2024). Guidance on Assessment and Construction Management in *Margaritifera* Catchments in Ireland. <https://e-mussels.eu/europe/conservation-guidelines>

wide area from upstream at Knocknagree to as far downstream as Lismore⁷. Conservation Objective mapping for Blackwater River (Cork/ Waterford) SAC⁸ indicates that the stretch of the Blackwater River adjacent to the site is located within the known distribution range for freshwater pearl mussel.

White-clawed crayfish: Within the Blackwater River system, white-clawed crayfish is present only on the Awbeg River, which flows through limestone geology. The main Blackwater is considered chemically unsuitable for the crayfish.

Lamprey species: lamprey have been recorded upstream of the proposed site at Nohoval⁹ and downstream of the site near Banteer.

Twaite shad: limited records of adult shad are listed for the Blackwater, up to Clondulane weir (downstream of Fermoy), but in a survey carried out in summer 2013, no juvenile shad were caught in the Blackwater.

Atlantic salmon: The Blackwater River is a salmonid river and is included within the S.I. 293: European Communities (Quality of Salmonid Waters) Regulations, 1988. Salmon (both 0+ and 1+ and older salmon) have been recorded upstream and downstream of the proposed site during surveys conducted by IFI in 2022.¹⁰

Otter: the National Biodiversity Data Centre (NBDC) database hold records of otter from Colthurst Bridge, last recorded in 2015. No otter holts or couches were recorded within or adjacent to the site during the site surveys, however otter prints were recorded in soft mud at the west of the site during a site survey in March 2024.

Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation: Water-crowfoot (*Ranunculus* spp) was recorded within the Blackwater River adjacent to the site during site surveys. However, it is noted that p. 36 of the site-specific conservation objectives for the Blackwater River (Cork/Waterford) SAC states that: "*rooted macrophytes should be absent or trace (< 5% cover) in freshwater pearl mussel (*Margaritifera margaritifera*) habitat. The freshwater pearl mussel (1029) conservation objective takes precedence over this objective for habitat 3260 in this SAC, because the mussel requires environmental conditions closer to natural background levels*".

In summary, the aquatic and semi-aquatic QI species and habitats that are present, or are potentially present, in the Blackwater River in the environs of the site are freshwater pearl mussel, lamprey species, Atlantic salmon and otter (as noted above, the presence of freshwater pearl mussel takes precedence over floating vegetation habitat).

Elevated levels of turbidity in association with earthworks during the construction phase or release of deleterious substances such as cement or hydrocarbons could temporarily affect the Blackwater River, which may impact on freshwater pearl mussel, lamprey species and Atlantic salmon as a result of degradation of water quality.

A reduction in water quality may result in a reduction in prey species available for otter that forage along the Blackwater River. However, as noted in the report to inform screening for Appropriate

⁷ Atkinson, S., Magee, M., Moorkens, E.A. & Heavey, M. (2023). Supplementary Guidance on Assessment and Construction Management in *Margaritifera* Catchments in Ireland: Blackwater River (Cork/Waterford) SAC <https://e-mussels.eu/europe/conservation-guidelines>

⁸ [Site specific cons obj \(npws.ie\)](https://www.npws.ie/en/conservation/objectives/site-specific)

⁹ Inland Fisheries Ireland (2023) Fish in Rivers Factsheet: Blackwater (Munster) River Catchment Factsheet 2023/06.

¹⁰ As Ref 7.

Assessment, any reduction in water quality is likely to be temporary and localised. The high mobility and large foraging ranges of otter means that they are likely to be able to accommodate such localised changes in prey distribution and abundance.

There is potential for temporary visual and noise disturbance to otters foraging in the Blackwater River in the vicinity of the site during construction. No evidence of otter holts was recorded at the proposed site and its environs, however there is suitable habitat for this species in the environs of the site.

5.2.3 Operational Phase

Hydrology

The Conservation Objectives for the Blackwater River (Cork/Waterford) SAC state that the availability of suitable freshwater pearl mussel habitat is largely determined by flow (catchment geology being the other important factor). In order to restore the habitat for the species, flow variability over the annual cycle must be such that: 1) high flows can wash fine sediments from the substratum, 2) low flows do not exacerbate the deposition of fines and 3) low flows do not cause stress to mussels in terms of exposure, water temperatures, food availability or aspects of the reproductive cycle.

As detailed in the Flood Risk Assessment report accompanying the planning application (IE Consulting, 2024), the proposed new location of the HSE Air Ambulance hanger, paramedic prefab base, crew prefab base and new proprietary wastewater treatment system do not fall within Flood Zone 'A' or Flood Zone 'B', and therefore fall within Flood Zone 'C'. The proposed finished floor level of the buildings is above the estimated 0.1% AEP flood level of 82.1m OD in the River Blackwater.

The proposed runway and taxiway will be constructed at existing ground levels and will not involve any significant infilling or ground level raising. The proposed runway and taxiway will therefore have no adverse impact on overland flow conveyance paths or the existing hydrological regime of fluvial flood waters associated with the River Blackwater. In addition, surface water runoff from the hard-standing runway shall be collected and attenuated on site in an underground infiltration system and will not result in an increased fluvial or pluvial flood risk elsewhere.

It is proposed to extend the existing culvert under the existing runway by approximately 30m to accommodate the proposed runway alignment. It is also proposed to construct a 900mm pipe culvert under the proposed runway along the field drain in the western area of the site. The proposed culverts fall within an OPW NIFM 1% AEP (1 in 100 year – Flood Zone 'A') and a 0.1% AEP (1 in 1000 year – Flood Zone 'B') associated with the River Blackwater. These culvert structures shall be constructed below existing ground levels and are therefore unlikely to result in any adverse impact to the existing hydrological regime of the area during the occurrence of an extreme fluvial event in the River Blackwater.

In summary, the proposed runway and taxiway will have no adverse effect on overland flow conveyance paths or the existing hydrological regime of fluvial flood waters associated with the River Blackwater; and the proposed development will not result in increased fluvial or pluvial flood risk elsewhere.

Water Quality

During the operational phase, surface water run-off from the runway will be managed by filter strips, filter drains and conveyance of storm water to attenuation systems via hydrocarbon separators. Run-off from the air-ambulance base will pass through a silt trap to a soakaway and run-off from the concrete apron and heli-pad will pass through a full retention hydrocarbon separator to a soakaway.

Foul water will be treated by a tertiary treatment system and infiltration/ treatment area. There will be no increase in wastewater production as a result of the proposed development.

In view of the proposed surface water management features, no adverse effects on surface or groundwater quality are anticipated during the operational phase.

Disturbance to Aquatic and Semi-aquatic QI Species

No otter holts were recorded at the proposed site and its immediate environs, therefore there will be no disturbance to otter breeding or resting sites during the operational phase.

The navigation light corridor proposed for the development will increase light levels within the proposed development area. Artificial lighting at night may have an adverse effect on otter foraging and commuting along the Blackwater River and aquatic species within the river. The proposed lighting of the runway is limited to 18 no. runway edge lights plus threshold lights at each end of the runway, all of which are designed to mark the runway but not the area around the runway. The lux measurement at a distance of 10m from the runway will be 0.65lux, which is within the range of lux levels to be expected during a night with a clear full moon. As such, there will be no significant light spill on to important otter and aquatic QI habitat within the Blackwater River, located c.35m from the proposed runway at its closest point. The helipad will be lit by 12 no. green lights and the taxiways will both be lit by 8 no. blue lights; the helipad and taxiways are located to the south of the proposed runway and will not result in light spill onto the Blackwater River. Further, air ambulance services do not operate after the hours of darkness. The proposed development would facilitate the air ambulance service to land after the hours of darkness at Rathcoole when required, however it is projected that the number of times that lighting will be used to facilitate a helicopter landing will be limited to 4 to 6 times a year. No nighttime flying will be undertaken by Rathcoole Flying Club. In view of these factors, no significant adverse effects on otter or other aquatic species as a result of artificial lighting at night are expected.

No likely adverse impacts on Blackwater River (Cork/Waterford) SAC have been identified during the operational phase.

Invasive Species

No invasive plant species were recorded within the proposed site and its immediate environs. Therefore, no significant adverse effects on Blackwater River (Cork/Waterford) SAC are expected to occur due to the spread of invasive plant species.

5.3 Assessment of Habitats and Species of Conservation Interest

The site-specific Conservation Objectives for Blackwater River (Cork/ Waterford) SAC are presented in Section 3.2. This section assesses the likelihood of the proposed development impacting the site-specific conservation objectives assigned for Blackwater River (Cork/ Waterford) SAC.

The Blackwater River (Cork/ Waterford) SAC is designated for 10 no. Annex I habitats. Attributes and proposed targets to maintain favourable conservation condition for these habitats, in addition to potential impacts are presented in Table 5-1 below.

Blackwater River (Cork/ Waterford) SAC supports 9 no. Annex II species. Attributes and proposed targets to maintain favourable conservation condition for these species, in addition to potential impacts are presented in Table 5-2 below.

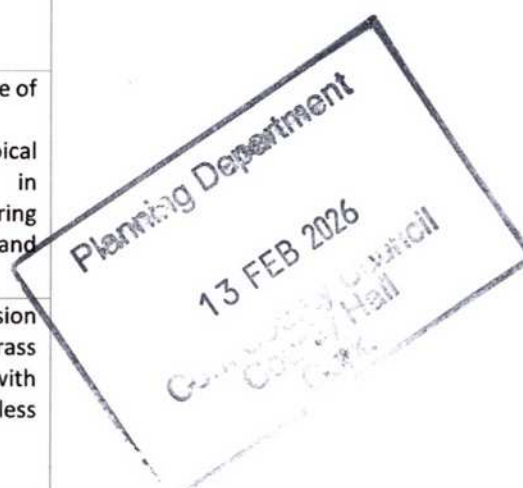
Table 5-1: Potential Impacts on the Specific Conservation Objectives for the Qualifying Habitats of Blackwater River (Cork/ Waterford) SAC (NPWS, 2012)

Conservation Objectives of Blackwater River (Cork/ Waterford) SAC			
Attribute	Measure	Target	Potential Impact
Estuaries [1130]			
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.	No: saline habitat located far downstream of the proposed development with little/no potential for adverse effects, and no changes to the conservation status of this habitat.
Community extent	Hectares	Maintain the extent of the <i>Mytilus edulis</i> dominated community, subject to natural processes.	
Community structure: <i>Mytilus edulis</i> density	Individuals/m ²	Conserve the high quality of the <i>Mytilus edulis</i> dominated community, subject to natural processes	
Community distribution	Hectares	Conserve the following community types in a natural condition: Intertidal estuarine sandy mud community complex; Subtidal estuarine fine sand with <i>Bathyporeia</i> spp. community complex; Sand and mixed sediment with polychaetes and crustacean's community complex; Coarse sediment community complex.	
Mudflats and sandflats not covered by seawater at low tide [1140]			
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.	No: located far downstream of the proposed development with little/no potential for adverse effects, and no changes to the conservation status of this habitat.
Community extent	Hectares	Maintain the extent of the <i>Zostera</i> and <i>Mytilus edulis</i> dominated communities, subject to natural processes.	
Community structure: <i>Zostera</i> shoot density	Shoots/m ²	Conserve the high quality of the <i>Zostera</i> dominated community, subject to natural processes	
Community structure:	Individuals/m ²	Conserve the high quality of the <i>Mytilus edulis</i> -dominated	

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Mytilus edulis density		community, subject to natural processes	
Community distribution	Hectares	The following community types should be conserved in a natural condition: Intertidal estuarine sandy mud community complex and Sand and mixed sediment with polychaetes and crustaceans community complex.	
Perennial vegetation of stony banks [1220]			
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession	No: this habitat is located far downstream; the attributes of this Annex I habitat will not be impacted by the proposed development due to the distance and remote and tenuous connectivity between the project and this coastal habitat.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.	
Physical structure: functionality and sediment supply	Presence/absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
Vegetation composition: typical species and subcommunities	Percentage cover at a representative sample of monitoring stops	Maintain the typical vegetated shingle flora including the range of subcommunities within the different zones	
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	
Salicornia and other annuals colonizing mud and sand [1310]			
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.	No: this habitat is located far downstream; the attributes of this Annex I habitat will not be impacted by the proposed development due to the distance and remote and tenuous connectivity between the project and this coastal habitat.
Habitat distribution	Occurrence	No decline, or change in habitat distribution,	

		subject to natural processes.	
Physical structure: sediment supply	Presence/absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions	
Physical structure: creeks and pans	Occurrence	Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession	
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
Vegetation structure: height	Centimetres	Maintain structural variation within sward	
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated	
Vegetation composition: typical species and sub-communities	Percentage cover	Maintain the presence of species-poor communities with typical species listed in Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	
Vegetation structure: negative indicator species: <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%	
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]			
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.	No: this habitat is located far downstream; the attributes of this Annex I habitat will not be impacted by the proposed development due to the distance and remote and tenuous connectivity between the project and the location of Atlantic salt meadows within Blackwater River (Cork/ Waterford) SAC (see conservation objective available
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes.	



Physical structure: sediment supply	Presence/absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions	mapping at: Blackwater River (Cork/Waterford) SAC National Parks & Wildlife Service (npws.ie)
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession	
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% area outside creeks vegetated	
Vegetation composition: typical species and subcommunities	Percentage cover at a representative sample of monitoring stops	Maintain range of subcommunities with typical species listed in SMP (McCorry and Ryle, 2009)	
Vegetation structure: negative indicator species – <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%	
Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]			
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.	No: this habitat is located far downstream; the attributes of this Annex I habitat will not be impacted by the proposed development due to the distance and remote and tenuous connectivity between the project and the location of Atlantic salt meadows within Blackwater River (Cork/ Waterford) SAC (see conservation objective available mapping at: Blackwater River (Cork/Waterford) SAC National Parks & Wildlife Service (npws.ie))
Habitat distribution	Occurrence	No decline, subject to natural processes.	
Physical structure: sediment supply	Presence/absence of physical barriers	Maintain natural circulation of sediments and organic matter,	

		without any physical obstructions	
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession	
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	
Vegetation structure: zonation	Occurrence	Maintain range of saltmarsh habitats including transitional zones, subject to natural processes including erosion and succession	
Vegetation structure: vegetation height	Centimetres	Maintain structural variation in the sward	
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated	
Vegetation composition: typical species and subcommunities	Percentage cover at a representative sample of monitoring stops	Maintain range of subcommunities with characteristic species listed in SMP (McCorry and Ryle, 2009)	
Vegetation structure: negative indicator species – <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%	
Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260]			
Habitat area	Kilometres	Area stable or increasing, subject to natural processes.	No: in view of the nature and scale of the proposed development, the proposed development is not expected to affect the habitat area.
Habitat distribution	Occurrence	No decline, subject to natural processes.	No: in view of the nature and scale of the proposed development, the proposed development is not expected to affect the habitat distribution.
Hydrological regime: river flow	Metres per second	Maintain appropriate hydrological regimes	No: the proposed development will not affect the hydrological regime.



Hydrological regime: tidal influence	Daily water level fluctuations - metres	Maintain natural tidal regime	No: the proposed development will not affect the hydrological regime.
Hydrological regime: freshwater seepages	Metres per second	Maintain appropriate freshwater seepage regimes	No: the proposed development will not affect the hydrological regime.
Substratum composition: particle size range	Millimetres	The substratum should be dominated by the particle size ranges, appropriate to the habitat sub-type (frequently sands, gravels and cobbles)	No: in view of the nature and scale of the proposed development, the proposed development is not expected to affect the substratum composition within the Blackwater River SAC.
Water quality: nutrients	Milligrams per litre	The concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition	No: in view of the nature, scale and location of the proposed development, the proposed development is not expected to affect the level of nutrients within the Blackwater River SAC.
Vegetation composition: typical species	Occurrence	Typical species of the relevant habitat sub-type should be present and in good condition	No: in view of the nature and scale of the proposed development, the proposed development is not expected to affect the species composition of this habitat with Blackwater River SAC.
Floodplain connectivity	Hectares	The area of active floodplain at and upstream of the habitat should be maintained	No: the proposed development will not affect the area of available flood plain.
Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]			
Habitat area	Hectares	Area stable or increasing, subject to natural processes, at least 263.7ha for sub-sites surveyed.	No: the attributes of this Annex I habitat will not be impacted by the proposed development due to the lack of connectivity between the project and the location of Oak woodland within Blackwater River (Cork/Waterford) SAC (see conservation objective available mapping at: Blackwater River (Cork/Waterford) SAC National Parks & Wildlife Service (npws.ie)).
Habitat distribution	Occurrence	No decline.	
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	
Woodland structure: cover and height	Percentage and metres	Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semimature trees and shrubs; and well-developed herb layer	

Woodland structure: community diversity and extent	Hectares	Maintain diversity and extent of community types	
Woodland structure: natural regeneration	Seedling: sapling: pole ratio	Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy	
Woodland structure: dead wood	m ³ per hectare; number per hectare	At least 30m ³ /ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter	
Woodland structure: veteran trees	Number per hectare	No decline	
Woodland structure: indicators of local distinctiveness	Occurrence	No decline	
Vegetation composition: native tree cover	Percentage	No decline. Native tree covers not less than 95%	
Vegetation composition: typical species	Occurrence	A variety of typical native species present, depending on woodland type, including sessile oak (<i>Quercus petraea</i>) and birch (<i>Betula pubescens</i>)	
Vegetation composition: negative indicator species	Occurrence	Negative indicator species, particularly non-native invasive species, absent or under control	
*Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0]			
Habitat area	Hectares	Area stable or increasing, subject to natural processes, at least 19.2ha for sites surveyed.	No: the attributes of this Annex I habitat will not be impacted by the proposed development due to the lack of connectivity between the project and the location of Alluvial woodland within Blackwater River (Cork/ Waterford) SAC (see conservation objective available mapping at: Blackwater River (Cork/Waterford) SAC National Parks & Wildlife Service (npws.ie)).
Habitat distribution	Occurrence	No decline.	
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	
Woodland structure: cover and height	Percentage and metres	Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semimature trees and shrubs; and well-developed herb layer	
Woodland structure: community diversity and extent	Hectares	Maintain diversity and extent of community types	
Woodland structure: natural regeneration	Seedling: sapling: pole ratio	Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy	
Hydrological regime: flooding depth/height of water table	Metres	Appropriate hydrological regime necessary for maintenance of alluvial vegetation	
Woodland structure: dead wood	m ³ per hectare; number per hectare	At least 30m ³ /ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter (greater than 20cm diameter in the case of alder)	
Woodland structure: veteran trees	Number per hectare	No decline	
Woodland structure: indicators of local distinctiveness	Occurrence	No decline	
Vegetation composition: native tree cover	Percentage	No decline. Native tree covers not less than 95%	
Vegetation composition: typical species	Occurrence	A variety of typical native species present, depending on woodland type, including alder (<i>Alnus glutinosa</i>), willows (<i>Salix</i> spp) and, locally, oak (<i>Quercus</i>	

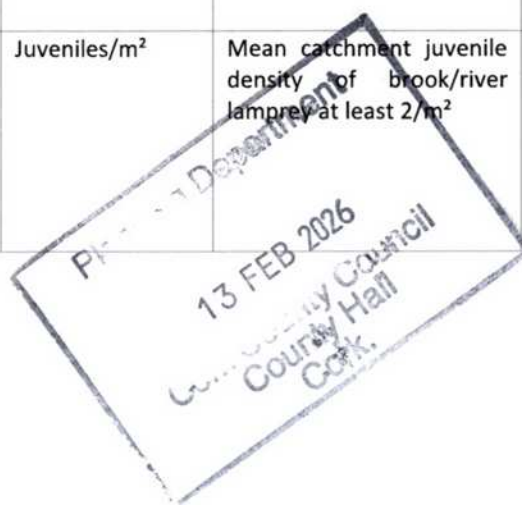
		robur) and ash (<i>Fraxinus excelsior</i>)	
Vegetation composition: negative indicator species	Occurrence	Negative indicator species, particularly non-native invasive species, absent or under control	
*Taxus baccata woods of the British Isles [91J0]			
The status of <i>Taxus baccata</i> woods of the British Isles as a qualifying Annex I habitat for the Blackwater River (Cork/Waterford) SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this habitat.			No: this habitat was not recorded at the site or its environs. As such, no impacts on this habitat would be expected to arise as a result of the proposed development.

Table 5-2: Potential Impacts on the Specific Conservation Objectives for the Qualifying Species of Blackwater River (Cork/Waterford) SAC (NPWS, 2012)

Conservation Objectives of Blackwater River (Cork/ Waterford) SAC			
Attribute	Measure	Target	Potential Impact
Freshwater Pearl Mussel <i>Margaritifera margaritifera</i> [1029]			
Distribution	Kilometres	Maintain at 161km.	Yes: Applying the precautionary principle, there is potential for habitat deterioration as a result of degradation of water quality during the construction phase to affect the distribution of FPM.
Population size	Number of adult mussels	Restore to 35,000 adult mussels	Yes: Applying the precautionary principle, there is potential for habitat deterioration as a result of degradation of water quality during the construction phase to affect the population size, structure and adult mortality of FPM. The project will not result in an increase in humans, animals or any equipment entering the river.
Population structure: recruitment	Percentage per size class	Restore to least 20% of population no more than 65mm in length; and at least 5% of population no more than 30mm in length	
Population structure: adult mortality	Percentage	No more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution	
Habitat extent	Kilometres	Restore suitable habitat in more than 35km (see map 8) and any additional stretches necessary for salmonid spawning	Yes: Applying the precautionary principle, there is potential for habitat deterioration as a result of degradation of water quality during the construction phase to affect the restoration of suitable habitat.
Water quality: macroinvertebrate and phytobenthos (diatoms)	Ecological quality ratio (EQR)	Restore water quality macroinvertebrates: EQR greater than 0.90	Yes: The proposed development will not require any new outfalls to the river

			phytobenthos: EQR greater than 0.93	and will not increase nutrient loading to the river. The grassland at the site is not fertilised and no pesticides are used.
Substratum quality: filamentous algae (macroalgae), macrophytes (rooted higher plants)	Percentage		Restore substratum quality filamentous algae: absent or trace (<5%); macrophytes: absent or trace (<5%)	There will be no increase in wastewater production during the operational phase.
Substratum quality: sediment	Occurrence		Restore substratum quality stable cobble and gravel substrate with very little fine material; no artificially elevated levels of fine sediment	However, applying the precautionary principle, there is potential for degradation of water quality during the construction phase to affect the water quality and restoration of substratum quality.
Substratum quality: oxygen availability	Redox potential		Restore to no more than 20% decline from water column to 5cm depth in substrate	
Hydrological regime: flow variability	Metres per second		Restore appropriate hydrological regimes	No: the Site-specific flood risk assessment concluded that the proposed development will not interfere with the function of the naturally occurring floodplain. No abstraction is required and no instream works or works to the riverbank are proposed.
Host fish	Number		Maintain sufficient juvenile salmonids to host glochidial larvae	Yes: Applying the precautionary principle, there is potential for habitat deterioration as a result of degradation of water quality during the construction phase to affect the maintenance of sufficient juvenile salmonids.
White-clawed Crayfish <i>Austropotamobius pallipes</i> [1092]				
Distribution	Occurrence		No reduction from baseline	No: in the environs of the proposed site, the Blackwater River is not considered to be within the distribution range of white-clawed crayfish (see conservation objective available mapping at: Blackwater River (Cork/Waterford) SAC National Parks & Wildlife Service (npws.ie)).
Population structure: recruitment	Percentage occurrence of juveniles and females with eggs		Juveniles and/or females with eggs in at least 50% of positive samples	
Negative indicator species	Occurrence		No alien crayfish species	
Disease	Occurrence		No instances of disease	
Water quality	EPA Q value		At least Q3-4 at all sites sampled by EPA	
Habitat quality: heterogeneity	Occurrence of positive habitat features		No decline in heterogeneity or habitat quality	
Sea Lamprey <i>Petromyzon marinus</i> [1095]				

Distribution: extent of anadromy	% of river accessible	Greater than 75% of main stem length of rivers accessible from estuary	No: no alteration in the accessibility of the river is expected to arise from the proposals
Population structure of juveniles	Number of age/size groups	At least three age/size groups present	No: no alteration in the population structure of juveniles is expected to arise from the proposals
Juvenile density in fine sediment	Juveniles/m ²	Juvenile density at least 1/m ²	Yes, applying the precautionary principle and in the absence of mitigation, there is potential for adverse impacts on juvenile lamprey as a result of excessive sedimentation or the mobilisation of contaminants within surface water run-off during the construction phase.
Extent and distribution of spawning habitat	m ² and occurrence	No decline in extent and distribution of spawning beds	Yes, applying the precautionary principle and in the absence of mitigation, there is potential for adverse impacts on lamprey spawning habitat as a result of excessive sedimentation or the mobilisation of contaminants within surface water run-off during the construction phase.
Availability of juvenile habitat	Number of positive sites in 3rd order channels (and greater), downstream of spawning areas	Number of positive sites in 3rd order channels (and greater), downstream of spawning areas	Yes, applying the precautionary principle and in the absence of mitigation, there is potential for adverse impacts on lamprey juvenile habitat as a result of excessive sedimentation or the mobilisation of contaminants within surface water run-off during the construction phase.
Brook Lamprey <i>Lampetra planeri</i> [1096]			
Distribution	% of river accessible	Access to all water courses down to first order streams	No: no alteration in the accessibility of the river is expected to arise from the proposals
Population structure of juveniles	Number of age/size groups	At least three age/size groups of brook/river lamprey present	No: no alteration in the population structure of juveniles is expected to arise from the proposals
Juvenile density in fine sediment	Juveniles/m ²	Mean catchment juvenile density of brook/river lamprey at least 2/m ²	Yes, applying the precautionary principle and in the absence of mitigation, there is potential for adverse impacts on juvenile lamprey as a result of excessive sedimentation or the



			mobilisation of contaminants within surface water run-off during the construction phase.
Extent and distribution of spawning habitat	m ² and occurrence	No decline in extent and distribution of spawning beds	Yes, applying the precautionary principle and in the absence of mitigation, there is potential for adverse impacts on lamprey spawning habitat as a result of excessive sedimentation or the mobilisation of contaminants within surface water run-off during the construction phase.
Availability of juvenile habitat	Number of positive sites in 2nd order channels (and greater), downstream of spawning areas	More than 50% of sample sites positive	Yes, applying the precautionary principle and in the absence of mitigation, there is potential for adverse impacts on lamprey juvenile habitat as a result of excessive sedimentation or the mobilisation of contaminants within surface water run-off during the construction phase.
River Lamprey <i>Lampetra fluviatilis</i> [1099]			
Distribution	% of river accessible	Access to all water courses down to first order streams	No: no alteration in the accessibility of the river is expected to arise from the proposals
Population structure of juveniles	Number of age/size groups	At least three age/size groups of brook/river lamprey present	No: no alteration in the population structure of juveniles is expected to arise from the proposals
Juvenile density in fine sediment	Juveniles/m ²	Mean catchment juvenile density of brook/river lamprey at least 2/m ²	Yes, applying the precautionary principle and in the absence of mitigation, there is potential for adverse impacts on juvenile lamprey as a result of excessive sedimentation or the mobilisation of contaminants within surface water run-off during the construction phase.
Extent and distribution of spawning habitat	m ² and occurrence	No decline in extent and distribution of spawning beds	Yes, applying the precautionary principle and in the absence of mitigation, there is potential for adverse impacts on lamprey spawning habitat as a result of excessive sedimentation or the mobilisation of contaminants within surface water run-off during the construction phase.
Availability of juvenile habitat	Number of positive sites in	More than 50% of sample sites positive	Yes, applying the precautionary principle and in

	2nd order channels (and greater), downstream of spawning areas		the absence of mitigation, there is potential for adverse impacts on lamprey juvenile habitat as a result of excessive sedimentation or the mobilisation of contaminants within surface water run-off during the construction phase.
Twaite Shad <i>Alosa fallax</i> [1103]			
Distribution: extent of anadromy	% of river accessible	Greater than 75% of main stem length of rivers accessible from estuary	No: There will be no reduction in the % river accessible during construction or operation of the proposed works.
Population structure: age classes	Number of age classes	More than one age class present	No: as noted by Sweeney (2019), limited records of adult shad are listed for the Blackwater, up to Clondulane weir (downstream of Fermoy), but in a survey carried out in summer 2013, no juvenile shad were caught in the Blackwater. In view of the nature, scale and location of the proposed development, there is there is no potential for adverse impacts on population structure during the construction or operational phase.
Extent and distribution of spawning habitat	m ² and occurrence	No decline in extent and distribution of spawning habitats	No: as noted by Sweeney (2019), limited records of adult shad are listed for the Blackwater, up to Clondulane weir (downstream of Fermoy), but in a survey carried out in summer 2013, no juvenile shad were caught in the Blackwater. In view of the nature, scale and location of the proposed development, there is there is no potential for adverse impacts on spawning habitat during the construction or operational phase.
Water quality: oxygen levels	Milligrams per litre	No lower than 5mg/l	No: as noted by Sweeney (2019), limited records of adult shad are listed for the Blackwater, up to Clondulane weir (downstream of Fermoy), but in a survey carried out in summer 2013, no juvenile shad were caught in the Blackwater. In view of the nature, scale and location of the proposed development, there is there is

			no potential for adverse impacts on Twaite Shad as a result of a reduction in oxygen levels during the construction or operational phase.
Spawning habitat quality: Filamentous algae; macrophytes; sediment	Occurrence	Maintain stable gravel substrate with very little fine material, free of filamentous algal (macroalgae) growth and macrophyte (rooted higher plant) growth	No: as noted by Sweeney (2019), limited records of adult shad are listed for the Blackwater, up to Clondulane weir (downstream of Fermoy), but in a survey carried out in summer 2013, no juvenile shad were caught in the Blackwater. In view of the nature, scale and location of the proposed development, there is no potential for adverse impacts on spawning habitat during the construction or operational phase.
Atlantic Salmon <i>Salmo salar</i> (only in fresh water) [1106]			
Distribution: extent of anadromy	% of river accessible	100% of river channels down to second order accessible from estuary	No: the proposed works will not result in a change in the accessibility of rivers.
Adult spawning fish	Number	Conservation Limit (CL) for each system consistently exceeded	Yes, applying the precautionary principle and in the absence of mitigation, there is potential for adverse impacts on adult salmon as a result of excessive sedimentation or the mobilisation of contaminants within surface water run-off during the construction phase.
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 min sampling	Yes, applying the precautionary principle and in the absence of mitigation, there is potential for adverse impacts on salmon fry as a result of excessive sedimentation or the mobilisation of contaminants within surface water run-off during the construction phase.
Out-migrating smolt abundance	Number	No significant decline	No: the proposed works would not be expected to have an adverse impact on out-migrating smolt
Number and distribution of redds	Number and occurrence	No decline in number and distribution of spawning redds due to anthropogenic causes	Yes: applying the precautionary principle and in the absence of mitigation, there is potential for impacts on the number and distribution of redds in the Blackwater River as a result of

			excessive sedimentation within surface water run-off during the construction phase.
Water quality	EPA Q value	At least Q4 at all sites sampled by EPA	Yes: applying the precautionary principle and in the absence of mitigation, there is potential for a reduction in Q value in the Blackwater River as a result of mobilisation of contaminants and excessive sedimentation within surface water run-off during the construction phase.
Otter <i>Lutra lutra</i> [1355]			
Distribution	Percentage positive survey sites	No significant decline	Yes: a reduction in water quality may result in a reduction in prey species available for otter that forage along the Blackwater River. However, any reduction in water quality is likely to be temporary and localised. The high mobility and large foraging ranges of otter means that they are likely to be able to accommodate such localised changes in prey distribution and abundance. No evidence of otter breeding or resting places was recorded in the environs of the site. However, otters are mobile animals that create new holts regularly. Applying the precautionary principle, there is potential for temporary visual and noise disturbance to otters utilising the Blackwater River during construction, in the event that they create a new holt within 150m of the proposed works.
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 596.8ha above high-water mark (HWM); 958.9ha along riverbanks/ around ponds	
Extent of marine habitat	Hectares	No significant decline. Area mapped and calculated as 4,461.6ha	
Extent of freshwater (river) habitat	Kilometres	No significant decline. Length mapped and calculated as 500.1km	
Extent of freshwater (lake/lagoon) habitat	Hectares	No significant decline. Area mapped and calculated as 125.6ha	
Couching sites and holts	Number	No significant decline	
Fish biomass available	Kilograms	No significant decline	
Barriers to connectivity	Number	No significant increase.	
Killarney Fern <i>Trichomanes speciosum</i> [1421]			
Distribution	Location	No decline. Two locations known within the SAC.	No: the attributes of this Annex II species will not be impacted by the proposed development due to the distance and lack of connectivity between the project and the location of this species within Blackwater River (Cork/ Waterford) SAC (see conservation objective available mapping at:
Population size	Number	Maintain size and extent of existing colonies, including sporophyte frond counts and number of gametophyte patches	
Habitat extent	m ²	No loss of suitable habitat, such as shaded rock crevices, caves or gullies in, or near to, known colonies.	

		No loss of woodland canopy at or near to known locations	<u>Blackwater River (Cork/Waterford) SAC National Parks & Wildlife Service (npws.ie).</u>
Hydrological conditions: visible water	Occurrence	Maintain hydrological conditions at the locations so that all colonies are in dripping or damp seeping habitats, and water is visible at all locations	
Hydrological conditions: humidity	Number of desiccated fronds	No increase. Presence of desiccated sporophyte fronds or gametophyte mats indicates conditions are unsuitable	
Light levels: shading	Percentage	No changes due to anthropogenic impacts	
Invasive species	Occurrence	Absent or under control	

5.4 In-combination Impacts

It is a requirement of Appropriate Assessment that the in-combination effects of the proposed development together with other Plans or projects are assessed. In-combination impacts can result from the successive, incremental, and/or combined effects of a development (plan, project or activity) when added to other existing, planned, and/or reasonably anticipated developments.

A search of the Cork County Council planning enquiry system¹¹ was conducted for developments that may have in-combination effects on European sites with the proposed aerodrome development. The search included developments that are proximal to the proposed site and those that may have an adverse cumulative or in-combination impact with the proposals on the water quality of Blackwater River (Cork/Waterford) SAC.

Plans relevant to the area were searched in order to identify any elements of the Plans that may act cumulatively or in-combination with the proposed development.

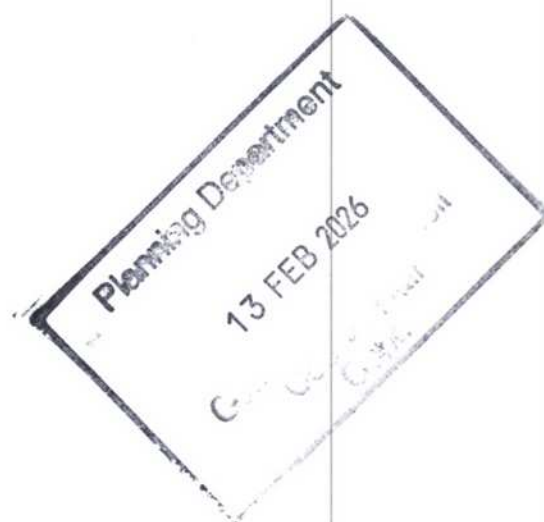
A list of those projects and Plans which may potentially contribute to cumulative or in-combination impacts with the proposed aerodrome development was generated for as listed in Table 5-3 below.

Table 5-3: List of Potential Plans which may Contribute to Cumulative Impacts

Name of Plan	Key Issues Directly Linked to Relevant European Sites	Potential Cumulative or In-Combination Impacts on Relevant European Sites
Cork County Development Plan 2022	The Cork County Development Plan includes the following Objectives of relevance to this report: BE 15-2: Protect sites, habitats and species: a) Protect all natural heritage sites which are designated or proposed for designation under European legislation, National legislation and International Agreements. Maintain and where possible enhance appropriate ecological linkages	Policies and objectives of the Cork County Development Plan 2022 ensure that local planning applications comply with proper planning and sustainability and with the requirements of relevant EU Directives and environmental considerations,

¹¹ [ArcGIS Web Application](#)

	between these. This includes Special Areas of Conservation, Special Protection Areas, Marine Protected Areas, Natural Heritage Areas, proposed Natural Heritage Areas, Statutory Nature Reserves, Refuges for Fauna and Ramsar Sites. These sites are listed in Volume 2 of the Plan. b) Provide protection to species listed in the Flora Protection Order 2015, to Annexes of the Habitats and Birds Directives, and to animal species protected under the Wildlife Acts in accordance with relevant legal requirements. These species are listed in Volume 2 of the Plan. c) Protect and where possible enhance areas of local biodiversity value, ecological corridors and habitats that are features of the County's ecological network. This includes rivers, lakes, streams and ponds, peatland and other wetland habitats, woodlands, hedgerows, tree lines, veteran trees, natural and semi-natural grasslands as well as coastal and marine habitats. It particularly includes habitats of special conservation significance in Cork as listed in Volume 2 of the Plan. d) Recognise the value of protecting geological heritage sites of local and national interest, as they become notified to the local authority, and protect them from inappropriate development e) Encourage, pursuant to Article 10 of the Habitats Directive, the protection and enhancement of features of the landscape, such as traditional field boundaries, important for the ecological coherence of the Natura 2000 network and essential for the migration, dispersal and genetic exchange of wild species. BE 15-6: Biodiversity and New Development: Provide for the protection and enhancement of biodiversity in the development management process and when licensing or permitting other activities by: a) Providing ongoing support and guidance to developers on incorporating biodiversity considerations into new development through preplanning communications and the Council's guidance document 'Biodiversity and the Planning Process – guidance for developments on the management of biodiversity issues during the planning process' and any updated versions of this advice; b) Encouraging the retention and integration of existing trees, hedgerows and other features of high natural value within new developments; c) Requiring the incorporation of primarily native tree and other plant species, particularly pollinator friendly species in the landscaping of new developments;	there is no potential for adverse in-combination effects on European Sites.
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	d) Fulfilling Appropriate Assessment and Environmental Impact Assessment obligations and carrying out Ecological Impact Assessment in relation to development and activities, as appropriate; e) Ensuring that an appropriate level of assessment is completed in relation to wetland habitats subject to proposals which would involve drainage or reclamation. This includes lakes and ponds, watercourses, springs and swamps, marshes, heath, peatlands, some woodlands as well as some coastal and marine habitats; f) Ensuring that the implementation of appropriate mitigation (including habitat enhancement, new planting or other habitat creation initiatives) is incorporated into new development, where the implementation of such development would result in unavoidable impacts on biodiversity - supporting the principle of biodiversity net gain.	
Water Action Management Plan 2024	The Water Action Plan includes targeted measures for all water bodies, with the objective of either protecting water bodies at good or high status or restoring water bodies to at least good status. Where further specific measures are needed in addition to those set in this plan, integrated catchment planning approaches will be used to identify and decide on further specific measures for each water body. This will be reported in 46 Catchment Management Work Plans. These will be used to locate measures within each catchment. The list of water bodies and their associated status, significant pressures/issues and targeted measures, which are to be included in the Catchment Management Work Plans, will include targets for the third-cycle, along with Key Performance Indicators to monitor progress and outcomes.	The implementation and compliance with key environmental policies, issues and objectives of this management plan will result in positive in-combination effects to European sites. The implementation of this plan will have a positive impact for the biodiversity. It will not contribute to in-combination effects with the proposed development.
WWTP discharges	Millstreet and Environs Banteer and Environs	Discharges from municipal WWTPs are required to meet water quality standards. Irish Water Capital Investment Plan 2020-2024 proposes to upgrade water treatment services countrywide. The long-term in-combination impact is predicted to be negligible.
IPPC Programme	ALPS Electric (Ireland) Ltd (P0835), located c.7.9km to the south-west of the site	Discharges from these facilities are governed by strict limits to ensure compliance with quality standards. The long-term in-combination impact is predicted to be negligible.

Local Planning Applications Under consideration¹²	A search was conducted of planning applications (projects) within the vicinity of the proposed development, using the Cork County Council planning portal map viewer ¹³ . The search was limited to the five -year period preceding the date of issue of this report, and excluded retention applications (i.e. typically local-scale residential or commercial developments where an impact has already occurred), incomplete, withdrawn, and refused applications. Local planning applications in proximity and within the zone of influence of the proposed development are limited to a GAA sports facility (Ref: 236233), extension to dwelling (Ref: 235624), dwelling house (Ref: 245380 & 196001) and small agricultural development (Ref: 204802).	Adherence to the overarching policies and objectives of the Cork County Development Plan 2022 - 2028 ensure that local planning applications and subsequent grant of planning comply with the core strategy of proper planning and sustainability and with the requirements of relevant EU Directives and environmental considerations, there is no potential for adverse in combination effects on European Sites.
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No aspects of the projects or Plans summarised in Table 5-3 are anticipated to have a significant adverse effect upon the European Sites in combination with the proposed aerodrome development.

5.5 Conclusion of Impact Assessment

The proposed site is located adjacent to the Blackwater River (Cork/Waterford) SAC. In the absence of mitigation, there is potential for run-off of deleterious substances within surface water to reach the Blackwater River via the drainage ditch within the site and overland flow and impact on the aquatic QI species freshwater pearl mussel, lamprey species and Atlantic salmon. Applying the precautionary principle, there is also potential for disturbance to otter during the construction phase should they create a new holt within 150m of the proposed works.

The site-specific flood risk assessment completed for the development found that the proposed development will not affect natural hydrological processes within the Blackwater River. No potential for adverse impacts as a result of degradation of water quality during the operational phase has been identified.

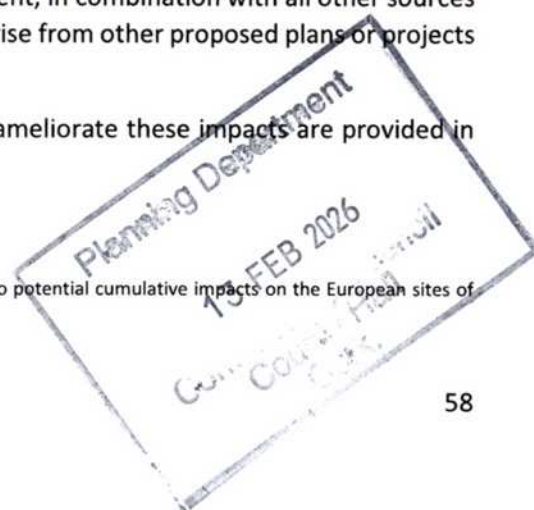
Rathcoole and its environs support a low number of small-scale local developments that have been granted planning permission. These developments have been granted planning permission on the basis that, where relevant, targeted and site-specific mitigation is completed to minimise potential impacts to the Blackwater River SAC. Assuming that best practice construction methods and mitigation measures are effectively implemented for all other developments, then no significant negative cumulative and in-combination impacts on the water quality of the Blackwater River SAC with the proposed development are expected.

All possible sources of effects from the proposed development, in combination with all other sources in the existing environment and any other effects likely to arise from other proposed plans or projects have been identified.

Robust and effective mitigation measures to avoid and or ameliorate these impacts are provided in Section 6.

¹² Planning applications granted within the past five years that may contribute to potential cumulative impacts on the European sites of concern. Search undertaken on 26/08/2024

¹³ [Amharcóir Pleanála - Planning Viewer \(arcgis.com\)](https://amharcoir.pleanala-planning-viewer.arcgis.com/)



6 Mitigation

As stated in MN2000:

"Mitigation measures may be proposed by the plan or project proponent and/or required by the competent national authorities in order to avoid the potential impacts identified in the appropriate assessment or reduce them to a level where they will no longer adversely affect the site's integrity" (Section 4.6.6).

Potential impacts identified in the above chapters primarily relate to the deterioration in the water quality of the Blackwater (Munster) River, which forms part of the Blackwater (Cork/Waterford) SAC, during the construction phase of the proposed aerodrome development. Mitigation measures to avoid or reduce the potential impacts on the Blackwater (Cork/Waterford) SAC are provided in the following sections.

6.1 Construction Phase

6.1.1 General

The control measures for the proposed development comply with the following current best practice guidelines:

- H. Masters-Williams et al (2001) Control of water pollution from construction sites. Guidance for consultants and contractors (C532). CIRIA;
- Guidelines on protection of fisheries during construction works in and adjacent to waters (IFI, 2016); and
- Murnane *et al* (2002) Control of Water Pollution from Construction Sites- Guide to Good Practice. SP156.

6.1.1.1 Construction Phase Mitigation

The Contractor, appointed by Rathcoole Flying Club, shall be required to comply with and implement the requirements and mitigation measures as set out here and incorporated in full in the CEMP and any conditions or restrictions imposed as part of the granted planning approval.

Supervision

- Rathcoole Flying Club shall appoint a suitably qualified person(s), to the role of Environmental Clerk of Works (EnCoW). The role of the EnCoW will be to monitor the construction works, appoint the relevant specialists required and to ensure compliance with relevant legislation and planning conditions, and to ensure the implementation of the mitigation measures in the planning approval as may be granted;
- The EnCoW shall have the authority to advise the Contractors and all site staff on the contract/project requirements, decide on elements that require direct supervision and instruct action, as appropriate, including the authority to require the temporary cessation of works, where necessary and to ensure the implementation of the mitigation measures in the planning approval as may be granted; and
- The EnCoW shall have the authority to advise the Contractors and all site staff to ensure that all personnel working on site are trained in pollution incident control response. A regular review of weather forecasts of heavy rainfall is required, and the Contractor is required to prepare a contingency plan for before and after such events.

Table 6-1 details the mitigation measures that shall be implemented to prevent adverse impacts upon the following QI (as detailed in Section 5):

- Freshwater Pearl Mussel *Margaritifera margaritifera* [1029]
- Sea Lamprey *Petromyzon marinus* [1095]
- Brook Lamprey *Lampetra planeri* [1096]
- River Lamprey *Lampetra fluviatilis* [1099]
- Atlantic Salmon *Salmo salar* [1106]
- Otter *Lutra lutra* [1355]



Table 6-1: Table of Construction Phase Mitigation Measures

Objective(s)	Measure	Details of Mitigation
Control of Sediment Loss	Best Practice during Construction (Specific Silt Control Measures)	Any surface vegetation and spoil removed during site clearance shall be retained in an area over 20m away from any watercourse or active drainage ditch. The spoil must be surrounded by a silt fence and preferably placed on a well vegetated area. In very heavy rain, provision for covering of the stockpile with geotextile should be made. Surplus soil should be removed or re-used on site and immediately re-seeded.
Control of Sediment Loss	Best Practice during Construction (Specific Silt Control Measures)	No vegetation clearance shall take place within 10 meters of the riparian corridor with the Blackwater River. There shall be no instream works and no machinery shall be permitted to enter the Blackwater River at any point during the proposed project.
Control of Sediment Loss	Best Practice during Construction (Specific Silt Control Measures - Drains)	Culverting of the drainage ditches under the new runway shall be undertaken during a period of low flow. The drainage ditches shall have a series of temporary check-dams installed in advance of construction works to slow run-off velocity and prevent excessive sediment run-off from the site. These shall be a series of stake & geotextile dams backed up with gravels. A careful site drainage audit shall be carried out to identify any shallow drains / depressions and preferential flow paths from the works area towards the Blackwater River or active drainage ditches. Depressions/ preferential flow paths shall be fitted with e.g., cut-off drains/structures, geotextile and stake and/or staked down strawbale silt traps that will intercept and slow water velocity, encourage dispersal of flows and settlement of silt prior to meeting the interface with the river or check-dams in the drainage ditch. Any sediment/silt-traps, and check dams necessary to control run-off will be regularly checked, maintained, cleaned and/or replaced, if necessary, during the construction phase.
Avoid loss of contaminated material or leachate to the Blackwater River	Best Practice during Construction (Contaminated Materials)	Prior to undertaking any works on site, a silt fence will be erected adjacent to the bank of the Blackwater River (as illustrated in the CEMP) to intercept any silt and contamination laden runoff from excavated areas that may arise during heavy rainfall. The silt fence shall be maintained until excavation has been completed

		and vegetation is well established on topsoiled areas and the risk of silt laden runoff entering the river is minimised. The extent of the silt fence is shown within the CEMP included as part of the planning application. The efficacy of the silt fence shall be monitored daily and a second silt fence erected as required to avoid or reduce mobilisation of sediment into the river.
Control of Sediment Loss	Best Practice during Construction – Sediment	There must be no discharge of suspended solids or any other deleterious matter to the drainage channels within the site or the Blackwater River during the construction phase. Any silt contaminated water from the works area must be treated prior to discharge. If dewatering is required after heavy rain from e.g., excavated areas, contaminated water must be treated prior to discharge. The Contractor shall employ best practice settling systems to ensure maximum removal of suspended solids prior to discharge of any surface water or groundwater from excavations to receiving waterbodies. This may include treatment via settlement tanks; settlement tanks shall be used in preference to settlement ponds to avoid the risk of affecting natural flow regimes. There must be no direct pumping of silt/sediment laden water from the works area to drains or an active watercourse at any time.
Avoid Hydrocarbon Loss to Water	Best Practice during Construction (Hydrocarbons)	Temporary parking and refuelling areas shall be within a designated area within and adjacent to the construction compound. As illustrated within the CEMP accompanying the planning application, these areas are at the south of the site and are over 150m away from watercourses and drains. Best practice for hydrocarbon use and storage will be followed as set out in Section 4.2.2 of the CEMP.
Avoid loss of concrete to water	Best Practice during Construction (Concrete)	Best practice for concrete use, disposal and wash down will be followed as set out in Section 4.2.4 of the CEMP.
Avoid disturbance to otter	Pre-construction survey	Pre-construction otter surveys shall be undertaken prior to the commencement of any works in order to identify any changes in otter activity and holt locations since surveys for this report were completed to address possible impacts on otters. It is also important to ensure that no new holts have been created in the intervening period. This shall be conducted by a suitably qualified ecologist No otter holts have been recorded within 150m of the proposed development to date, therefore a derogation license for otters is not required at this time. However, in the event that otter holts are recorded at the site during pre-construction surveys, the removal of otters from affected holts, and the subsequent destruction of these holts, can only be conducted under a Section 25 derogation under the 1997 Habitats Regulations. Derogations are also required for any works likely to cause disturbance to active breeding holts (when present within c.150m of

		a scheme). The National Parks and Wildlife Service (NPWS), of the Department of the Environment, Heritage and Local Government, is responsible for processing these licenses. If otter holts are recorded on site, an application for a Section 25 derogation shall be submitted to the NPWS along with the relevant ecological information from otter surveys. Closure of holts requires a monitoring period to ensure that there is no current otter activity at the holt. Derogations may not be provided by the NPWS for the closure of holts containing a breeding female or young otters. In the event of otter holts being identified within proximity to the proposed works area, the following mitigation measures shall take place to ensure no disturbance of the local otter population during the construction phase of the proposed works (NRA 2008): ▪ No works shall be undertaken within 150m of any holts at which breeding females or cubs are present. Following consultation with NPWS, works closer to such breeding holts may take place – provided a derogation licence and appropriate mitigation measures are in place, e.g. screening and/or restricted working hours on site. ▪ No wheeled or tracked vehicles (of any kind) shall be used within 20m of active, but non-breeding, otter holts. Light work, such as digging by hand or scrub clearance shall not take place within 15m of such holts, except under licence. ▪ The prohibited working area associated with otter holts will be fenced with temporary fencing prior to any possibly invasive works. Appropriate awareness of the purpose of the enclosure shall be conveyed through notification to site staff and sufficient signage shall be placed on each exclusion fence. All contractors or operators on site shall be made fully aware of the procedures pertaining to each affected holt.
Invasive Species	Best Practice (Invasive Plant Species)	No invasive species were identified on site during the site walkovers. However, in line with best practice, the following measures shall be undertaken: ▪ Undertake further invasive species survey prior to the commencement of construction. ▪ In the event that any such species are identified an Invasive Species Management Plan shall be prepared and implemented by the Contractor. This shall include plant specific control measures for any invasive species identified. ▪ Biosecurity measures shall be undertaken to prevent the importation of invasive species from contaminated areas into the study area. ▪ For any material entering the site, the supplier shall provide an assurance that it is free of invasive species.

		▪ Machinery or plant to be inspected upon arrival and departure from site and cleaned when necessary. ▪ Ensure all site users are aware of invasive species management plan and treatment methodologies. This can be achieved through "toolbox talks" before works begin on the site. ▪ Adequate site hygiene signage shall be erected in relation to the management of non-native invasive species material.
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6.2 Operational Phase Mitigation

No potential for likely significant effects on European sites has been identified during the operational phase, therefore no specific mitigation measures are required.

6.3 Likely Success of Mitigation

The mitigation provided in Section 6.1 is based on best practice measures provided in current best practice pollution prevention guidelines. With the effective implementation of these measures, there is a high level of confidence in their likely success.

6.4 Monitoring

The aim of monitoring is to alert personnel to any increase in threat to aquatic QI species and, in particular, freshwater pearl mussel so that timely mitigation may be deployed as appropriate, and to assess the effectiveness of mitigation already in place. Monitoring shall include inspection and photographic records of potential pathways for pollutants to reach and impact on freshwater pearl mussel populations. Effective monitoring with well documented results will aid in auditing and revising emergency response plans.

A water quality monitoring system will be put in place on the Blackwater River and the drainage ditch within the proposed site. As a minimum the monitoring system will measure turbidity, suspended solids, phosphorus, BOD/ dissolved oxygen & pH on the Blackwater River upstream and downstream of the area of the proposed site situated adjacent to the Blackwater River (Monitoring Sites A and B, Figure 6-1) and within the drainage ditch upstream and downstream of the location of the new runway (Monitoring Sites C & D, Figure 6-1).

The details of the monitoring system, including duration, frequency of sampling, monitoring locations, and parameters to be monitored will be agreed in advance with Inland Fisheries Ireland and the National Parks & Wildlife Service. Chemical analysis will be carried out only at laboratories that have been accredited by EPA for the analyses to be carried out.

Figure 6-1: Water quality monitoring sites



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7 Analysis and Conclusions

7.1 Integrity of the European Site

From “Managing Natura 2000 sites: The provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC” (EC, 2018), the meaning of integrity is described as follows:

‘The integrity of the site involves its constitutive characteristics and ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the habitats and species for which the site has been designated and the site’s conservation objectives.’ (MN2000, Section 4.6.4)’.

7.2 Integrity of the Blackwater River (Cork/Waterford) SAC

Site specific Conservation Objectives were published for Blackwater River (Cork/ Waterford) SAC in July 2012. This document provides specific attributes and targets by which the maintenance of favourable conservation conditions of qualifying interests within the Blackwater River (Cork/ Waterford) SAC are measured. The overarching conservation objective for this European Site is as follows:

Objective: 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 (see **Section 3**).

Potential exists for impacts to the qualifying interests of Blackwater River (Cork/ Waterford) SAC during the construction phase of the proposed aerodrome development at Rathcoole; however, these can be readily mitigated through the implementation of mitigation as outlined in **Section 6**.

From the information gathered and the predictions made about the changes that are likely to result from the construction stage of the project and the mitigation measures proposed to avoid impacts to the SAC, the ‘Integrity of Site’ checklist is completed for Blackwater River (Cork/ Waterford) SAC in Table 7-1 below.

Table 7-1: Integrity of Site Checklist for Blackwater River (Cork/ Waterford) SAC

Conservation Objectives		
Does the project have the potential to:	Yes or No	Comment
Cause delays in progress towards achieving the conservation objectives of the site?	No	The Proposed Development will not cause delays in achieving the conservation objectives of the site. Potential impacts in the form of water quality deterioration to the Blackwater (Munster) River and Blackwater River (Cork/ Waterford) SAC can be readily mitigated. Required mitigation measures are outlined in Section 6 .
Interrupt progress towards achieving the conservation objectives of the site?	No	The Proposed Development will not interrupt progress towards achieving the conservation objectives of the site. Potential impacts in the form of water quality deterioration to the Blackwater (Munster) River and Blackwater River (Cork/ Waterford) SAC can be readily mitigated. Required mitigation measures are outlined in Section 6 .
Disrupt those factors that help to maintain the favourable conditions of the site?	No	The Proposed Development will not disrupt factors that help to maintain the favourable conditions of the site. Potential impacts in the form of water quality deterioration to the Blackwater (Munster) River and Blackwater River (Cork/ Waterford) SAC can be readily mitigated. Required mitigation measures are outlined in Section 6 .
Interfere with the balance, distribution and density of key species that are the	No	The Proposed Development will not interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site. Potential

indicators of the favourable condition of the site?		impacts in the form of water quality deterioration to the Blackwater (Munster) River and Blackwater River (Cork/ Waterford) SAC can be readily mitigated. Required mitigation measures are outlined in Section 6 .
Other Indicators		
Does the project or plan have the potential to:		
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	No	Potential impacts in the form of water quality deterioration to the Blackwater (Munster) River and Blackwater River (Cork/ Waterford) SAC can be readily mitigated. Required mitigation measures are outlined in Section 6 .
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 site?	No	Potential impacts in the form of water quality deterioration to the Blackwater (Munster) River and Blackwater River (Cork/ Waterford) SAC can be readily mitigated. Required mitigation measures are outlined in Section 6 .
Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	No	Potential impacts in the form of water quality deterioration to the Blackwater (Munster) River and Blackwater River (Cork/ Waterford) SAC can be readily mitigated. Required mitigation measures are outlined in Section 6 .
Reduce the area of key habitats?	No	There will be no direct loss of key habitats within Blackwater River (Cork/ Waterford) SAC. Potential indirect impacts may occur as a result of contaminated surface water run-off during the construction phase, but this can be readily mitigated. Required mitigation measures are outlined in Section 6 .
Reduce the population of key species?	No	There will be no direct reduction of key species within Blackwater River (Cork/ Waterford) SAC. Potential indirect impacts may occur as a result of contaminated surface water run-off during the construction phase, but this can be readily mitigated. Required mitigation measures are outlined in Section 6 .
Change the balance between key species?	No	The Proposed Development will not change the balance between key species associated with Blackwater River (Cork/ Waterford) SAC. Mitigation measures are prescribed to safeguard the Blackwater (Munster) River and the Blackwater River SAC. Required mitigation measures are outlined in Section 6 .
Reduce diversity of the site?	No	The Proposed Development will not reduce the diversity of Blackwater River (Cork/ Waterford) SAC. Potential impacts through the deterioration of water quality in the Blackwater (Munster) River and Blackwater River (Cork/ Waterford) SAC can be readily mitigated. Required mitigation measures are outlined in Section 6 .
Result in disturbance that could affect population size or density or the balance between key species?	No	No impacts have been identified that would result in disturbance that could affect population size or density or balance between key species associated with Blackwater River (Cork/ Waterford) SAC.

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Cork

Result in fragmentation?	No	No impacts have been identified that would result in fragmentation of habitats for which Blackwater River (Cork/ Waterford) SAC has been designated.
Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)?	No	No key features associated with the Blackwater River (Cork/ Waterford) SAC will be lost as a result of construction or operation of the proposed development.

7.3 Conclusions

This NIS has been prepared following the Department of the Environment, Heritage and Local Government guidance 'Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities' (DoEHLG, 2010a). The assessment for the proposed Development at Rathcoole Aerodrome, Co. Cork investigates the potential adverse effects on the qualifying interests of European sites arising from the proposals. The assessment considers whether the proposed development works and operation, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects.

Provided that the mitigation measures recommended in Section 6 are implemented in full, it can be objectively concluded that the proposed development at Rathcoole Aerodrome will not adversely affect the integrity of the Blackwater River (Cork/Waterford) SAC in view of the sites conservation objectives and that the conservation status of the qualifying interests will not be compromised by the proposed development directly, indirectly or cumulatively.

The key considerations that have contributed towards this conclusion are summarised as follows:

- The Proposed Development is not within the Blackwater River (Cork/Waterford) SAC. There are no resource requirements (e.g. excavation or abstraction) from European sites for the Proposed Development and no QI habitats or species have been recorded within the proposed site. Consequently, none of the lands designated as part of European sites will be directly impacted or removed as a result of the proposed development.
- No indirect impacts on the water quality of the Blackwater River (Cork/Waterford) SAC are expected in relation to sediment or pollution laden surface water run-off during the construction phase of the Proposed Development due to the requirement for the proposed construction works to adhere to best practice construction guidelines and the specific mitigation measures provided in Section 6.
- No potential for likely significant effects on Blackwater River (Cork/Waterford) SAC during the operational phase has been identified.

The conclusion of this NIS is that with the implementation of best practice there will be no potential for direct, indirect or cumulative impacts arising from the proposed Development at Rathcoole Aerodrome, Co. Cork either alone or in combination with any other plans or projects. The integrity of the Blackwater River (Cork/Waterford) SAC will not be adversely affected. No reasonable scientific doubt remains as to the absence of such adverse effects.

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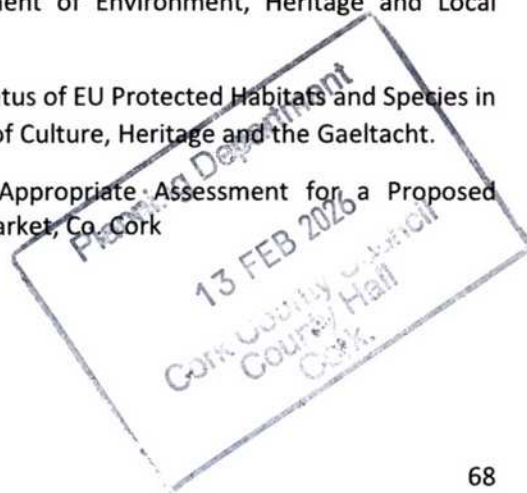
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Appendix A: Appropriate Assessment Screening Report

Report to Inform Screening for Appropriate Assessment

Development at Rathcoole Aerodrome
Co. Cork

Report prepared for Rathcool Flying Club

By Karen Banks MCIEEM

18th March 2025



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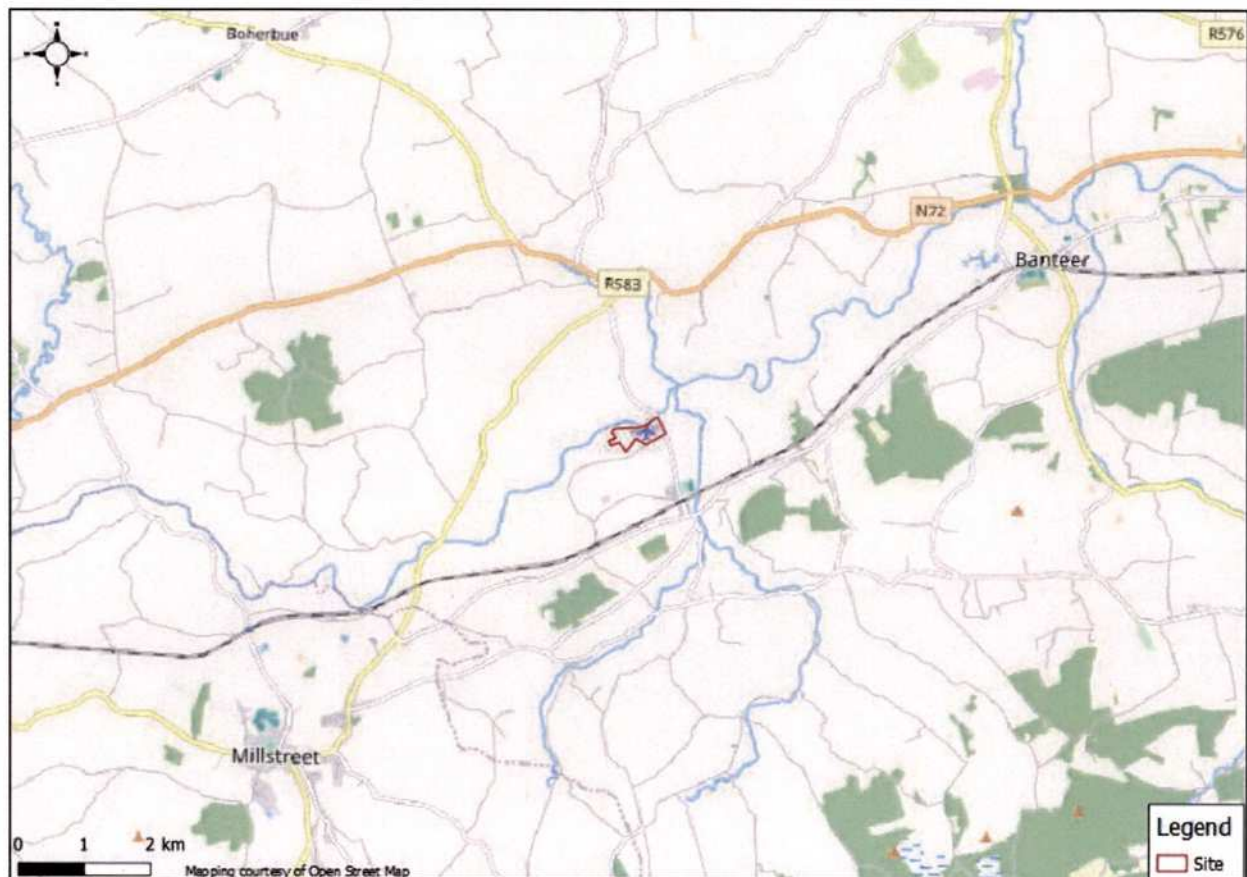


1 Introduction

Greenleaf Ecology was commissioned by Rathcoole Flying Club to prepare a Report to Inform Screening for Appropriate Assessment (AA) for the proposed Development at Rathcoole Aerodrome (hereafter referred to as the Proposed Development) (see **Figure 1-1**).

This report comprises information in support of screening for AA to be undertaken by the competent authority for the purposes of Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora as transposed by the Planning and Development Act (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) as amended.

Figure 1-1: Site Location



1.1 Legislative Context for Appropriate Assessment

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as “The Habitats Directive”, provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000.

The Habitats Directive has been transposed into Irish law by Part XAB of the Planning and Development Act (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011) as amended. In the context of the Proposed Development, the governing legislation is the Birds and Habitats Regulations.

Articles 6(3) of the Habitats Directive set out the decision-making tests for plans and projects likely to adversely affect the integrity of European sites (Annex 1.1). Article 6(3) establishes the requirement for AA:

Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In 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.

Natura 2000 sites are defined under the Habitats Directive (Article 3) as a coherent European ecological network of special areas of conservation, 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. In Ireland, these sites are designated as European sites and include Special Protection Areas (SPAs), established under the EU Birds Directive (79/409/EEC, as codified by 2009/147/EC) for birds and Special Areas of Conservation (SACs), established under the Habitats Directive 92/43/EEC for habitats and species.

The competent authority is obliged to consider, in view of best scientific knowledge, whether the proposed works are likely to have a significant effect either individually or in combination with other plans and projects. If screening determines that there is likely to be significant effects on a European site, then AA must be carried out for the proposed works at Rathcoole, including the compilation of a Natura Impact Statement (NIS) to inform the decision making by the Competent Authority.

1.2 Statement of Competence

This AA Screening was carried out by Karen Banks, MCIEEM. Karen is an ecologist with Greenleaf Ecology and has 18 years' experience in the field of ecological assessment. Karen has extensive experience in the production of reports to inform AA screenings and Natura Impact Statements including those for transport infrastructure, small to large scale housing and mixed-use developments, flood alleviation schemes, solar farms and wind farms.



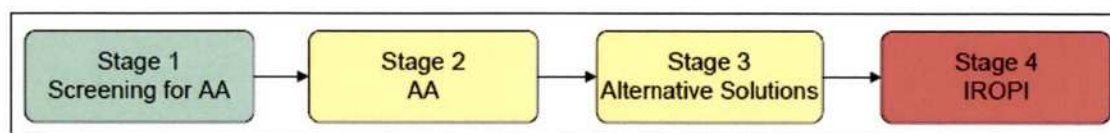
2 Methodology

2.1 Stages of Appropriate Assessment

The Department of the Environment, Heritage and Local Government guidelines (DELHG, 2009, rev. 2010) outlines the European Commission's methodological guidance (EC, 2002) promoting a four-stage process to complete the AA and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

The four stages are summarised diagrammatically in Figure 2-1. Stages 1-2 deal with the main requirements for assessment under Article 6(3) of the Habitats Directive, and Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations. Stage 3 may be part of the Article 6(3) Assessment or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

Figure 2-1: Four stages of Appropriate Assessment



Stage 1 - Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

- i. whether a plan or project (in this instance the proposed project) is directly connected to or necessary for the management of the European sites, and
- ii. whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on the European sites in view of their conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). This report fulfils the information necessary to enable the competent authority to screen the proposal for the requirement to prepare an AA.

This report forms Stage 1 of the AA process and sets out the following information:

- Description of the proposed works;
- Characteristics of the proximal European sites; and
- Assessment of significance of the proposed works on the European sites in question.

The methodology followed in relation to this assessment has had regard to the following guidance and legislation:

- European Union Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora 92/43/EEC;
- Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities (DOEHLG 2009, rev 2010);
- The Planning and Development Act, 2000 (as amended);
- Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg (EC, 2018);
- European Commission Notice Brussels C (2021) 6913 final 'Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (EC, 2021);
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission 2013;
- The European Union (Environmental Impact Assessment and Habitats) Regulations 2011; and

- The European Communities (Birds and Natural Habitats) Regulations, S.I. No. 477 of 2011 (as amended).

2.2 Information consulted for this report

The Screening assessment had regard to the following sources of data and information:

- Information on the location, nature and design of the proposed project provided by RPS;
- Department of Housing, Planning, and Local Government – online land use mapping [Home - My Plan](#);
- Department of Housing, Planning, and Local Government- EIA Portal [gov.ie - EIA Portal \(www.gov.ie\)](#);
- Environmental Protection Agency (EPA) – Water Quality and Water Framework Directive data [EPA Maps](#);
- Geological Survey of Ireland – Geology, soils and Hydrogeology [www.gsi.ie](#);
- National Parks and Wildlife Service – online European site network information, including site conservation objectives [www.npws.ie](#);
- National Parks and Wildlife Service – Information on the status of EU protected habitats in Ireland (NPWS 2019a, 2019b);
- National Biodiversity Data Centre – [www.biodiversityireland.ie](#);
- Ordnance Survey of Ireland – Mapping and Aerial photography [www.osi.ie](#); and
- Site surveys, undertaken between March and August 2024 by Ms K. Banks (see Section 3.4).

2.3 Screening Protocol

The sequence of events when completing the AA Screening process is provided below:

- Ascertain whether the plan or project is necessary for the management of the European site;
- Description of the plan or project and its potential impact;
- Definition of the likely zone of influence for the proposed works;
- Identification of the European sites that are situated (in their entirety or partially or downstream) within the likely zone of influence of the proposed works;
- Identification of the most up-to-date QIs and SCIs for each European site within the zone of influence;
- Identification of the environmental conditions that maintain the QIs/SCIs at the desired target of Favourable Conservation Status;
- Identification of the threats/impacts of the proposed works – actual or potential that could negatively impact the environmental conditions of the QIs/SCIs within the European sites;
- Highlighting the activities of the proposed works that could give rise to significant negative impacts; and
- Identification of other plans or projects, for which in-combination impacts would likely have significant effects.

2.3.1 Screening Determination

In accordance with Part XAB of the Planning Acts and/or the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) as amended, the competent authority shall:

“determine that an Appropriate Assessment of a plan or project is not required where the plan or project is not directly connected with or necessary to the management of the site as a European site and if it can be excluded on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site”.

2.3.2 Zone of Influence

In accordance with EC (2021) *Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC*, identification of the European sites that may be affected should be done by taking into consideration all aspects of the plan or project that could have potential effects on any European sites located within the zone of influence of the

plan or project. This should take into account all of the designating features (species, habitat types) that are significantly present on the sites and their conservation objectives.

In particular, it should identify:

- Any European sites geographically overlapping with any of the actions or aspects of the plan or project in any of its phases, or adjacent to them;
- Any European sites within the likely zone of influence of the plan or project. Natura 2000 sites located in the surroundings of the plan or project (or at some distance) that could still be indirectly affected by aspects of the project, including as regards the use of natural resources (e.g. water) and various types of waste, discharge or emissions of substances or energy;
- European sites in the surroundings of the plan or project (or at some distance) which host fauna that can move to the project area and then suffer mortality or other impacts (e.g. loss of feeding areas, reduction of home range);
- European sites whose connectivity or ecological continuity can be affected by the plan or project.
- The range of European sites to be assessed, i.e. the zone in which impacts from the plan or project may arise, will depend on the nature of the plan or project and the distance at which effects may occur.

2.3.3 Likely Significant Effects

The threshold for a likely significant effect is treated in the screening exercise as being above a *de minimis* level¹. The opinion of the Advocate General in CJEU case C-258/11 outlines:

“the requirement that the effect in question be ‘significant’ exists in order to lay down a de minimis threshold. Plans or projects that have no appreciable effect on a European site are thereby excluded. If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill.”

In this report, therefore, ‘relevant’ European sites are those within the potential zone of influence of the construction and / or operation of the proposed development, and to which likely significant effect pathways were identified through the source-pathway-receptor model.

¹ *Sweetman v. An Bord Pleanála* (Court of Justice of the EU, case C-285/11). A *de minimis* effect is a level of risk that is too small to be concerned with when considering ecological requirements of an Annex I habitat or a population of Annex II species present on a European site necessary to ensure their favourable conservation condition. If low level effects on habitats or individuals of species are judged to be in this order of magnitude and that judgment has been made in the absence of reasonable scientific doubt, then those effects are not considered to be likely significant effects.

3 Project and Site Description

3.1 Project Description

The construction of a hard surfaced runway (740m in length) and taxiway (147.6m in length) with associated ground level lighting, associated interceptors, along with the demolition of an existing hangar to the east of the site and construction of a replacement hangar of approximately the same size and design to the west of the site; the demolition of the existing operations building and paramedic base building to the east of the site, and construction of a new operations and paramedic base building to the west of the site; and the demolition of an existing helipad to the east of the site, and construction of a new helipad to the west of the site, all associated with the HSE Air Ambulance. The development is to be served by a new proprietary waste water treatment system and includes the closure of an existing vehicular entrance onto the L-5215-0 road and its relocation further west along the same road, the upgrade of an existing entrance onto the L-5215-0 road, site landscaping and all other associated site development works. An Environmental Impact Assessment Report (EIAR) has been prepared and will be submitted to the Planning Authority with the application. The EIAR will be available for inspection or purchase at a fee not exceeding the reasonable cost of making a copy during office hours at the offices of the Planning Authority. A Natura Impact Statement will be submitted to the planning authority with the application. The Natura Impact Statement will be available for inspection or purchase at a fee not exceeding the reasonable cost of making a copy during office hours at the offices of the Planning Authority.

3.1.1 Surface Water Drainage

It is proposed to use nature-based, slow-draining solutions and on-site attenuation and infiltration of surface water. The following measures are proposed:

- Grass filter strips of a 5m width with a pea gravel spreader at the edge of the runway/taxiway
- Filter drains filled with stone/gravel at the foot of the filter strips
- Run-off water from the runway filter drains will be conveyed via hydrocarbon separators to attenuation/ soakaways systems

The run-off from the roofs of the re-located air ambulance base will pass through a silt trap to 1 no. soakaway.

Run-off from the concrete apron and heli-pad will drain to gullies and will be conveyed through a full-retention hydrocarbon separator to 1 no. soakaway to the north of the proposed hangar.

3.1.2 Foul Water

Foul water will be treated by a tertiary treatment system and infiltration/ treatment area. A Tri-cel secondary wastewater system and Puraflo Tertiary 2 Module Filter on a 250 square metre gravel bed is proposed.

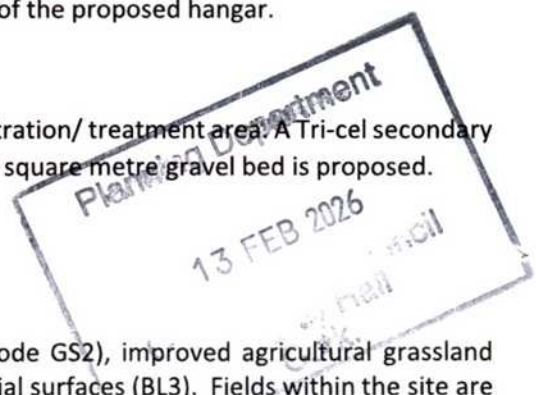
3.2 Existing Environment

3.2.1 Site Description

The proposed site supports semi-improved grassland (Fossitt code GS2), improved agricultural grassland (GA1), a small area of arable crops (BC1) and buildings and artificial surfaces (BL3). Fields within the site are bound by linear features including earth banks (BL2), hedgerows (WL1) and treelines (WL2); an active drainage ditch (FW4) is also present.

The Blackwater (Munster) River (FW2) is not located within the proposed site boundary but is adjacent to part of the northern site boundary. Waterbodies are further described in Section 3.2.2 of this report.

No invasive plant species were recorded within the proposed site and its immediate environs.



No Annex I habitats were recorded within the proposed site.

Otter have been recorded in the Blackwater River² and an otter print was recorded in soft mud at the west of the site during ecology surveys undertaken in 2024.

Full details of the existing habitats and species recorded at the proposed site are enclosed within the Biodiversity Chapter of the EIAR accompanying the planning application.

3.2.2 Surface Water

3.2.2.1 Water Bodies

The proposed site is located within the Blackwater (Munster)_070 sub basin. The Blackwater (Munster) River is a 5th order watercourse is located adjacent to the northern boundary of the proposed site where it forms part of Blackwater River (Cork/Waterford) SAC. The Blackwater flows in an easterly direction and eventually discharges into Youghal Harbour approximately 105km downstream.

The northern portion of the proposed site overlies the Rathmore West Ground Waterbody (GWB) and the southern portion of the site overlies the Banteer GWB.

EPA codes for these water bodies are shown below in Table 3-1.

Table 3-1: EPA water body codes

EPA water body name	Water body type	EPA Code	EPA water body code
Blackwater (Munster)_070	River	18B02	IE_SW_18B020900
Rathmore West	Groundwater	n/a	IE_SW_G_070
Banteer	Groundwater	n/a	IE_SW_G_018

3.2.2.2 Surface Water Quality and Risk Characterisation

Macroinvertebrate sampling for Q-value determination was conducted within the Blackwater River as part of EPA's Water Framework Directive monitoring. The nearest sampling point is located within the Blackwater River adjacent to the north-eastern corner of the proposed site at Colthurst Bridge. In 2021 (the latest score available) the Q value score was 4, 'Good'. The Blackwater (Munster)_070 is classified as 'At risk' and has been assigned a 'Good' status under the WFD 2016-2021 round. Rathmore West ground waterbody and Banteer ground waterbody were both considered 'Not at risk' and 'Good' under the WFD.

A summary of the WFD and risk status³ is shown below in Table 3-2.

Table 3-2: Summary of WFD status for waterbodies at the site and its environs

EPA Waterbody Name	Code	Risk	WFD Status 2016-2021
Blackwater (Munster)_070	IE_SW_18B020900	At Risk	Good
Rathmore West	IE_SW_G_070	Not at risk	Good
Banteer	IE_SW_G_018	Not at risk	Good

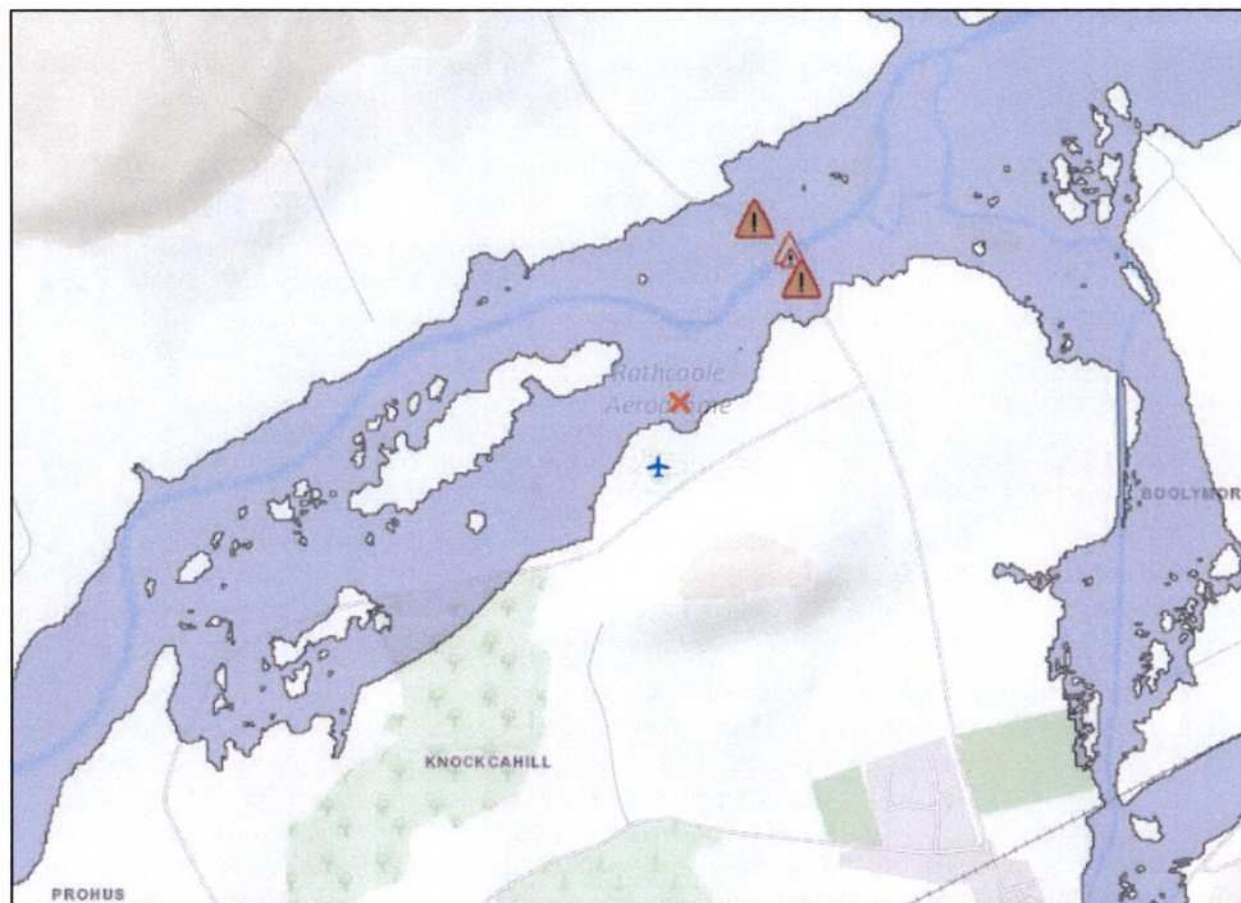
² <https://maps.biodiversityireland.ie/Map>

³ <https://www.catchments.ie/maps/>

3.2.3 Flooding

The Office of Public Works (OPW) flood mapping (<http://www.floodinfo.ie/map/floodmaps/>) indicates the flood extents for the Blackwater River. As indicated in Figure 3-1, the flood extents overlap the proposed site.

Figure 3-1: OPW Flood Risk Mapping of the Study Area



A Site Specific Flood Risk Assessment (SSFRA) completed by IE Consulting (2024) found that:

- The primary potential flood risk to the proposed development site can be attributed to an extreme fluvial event in the River Blackwater. The site is not at risk of pluvial or groundwater flooding.
- In the context of the 'Planning System and Flood Risk Management Guidelines, DOEHLG, 2009' the assessment and analysis undertaken as part of this Site Specific Flood Risk Assessment indicates that the area of the site where the new runway and new taxiway are proposed falls within a delineated fluvial Flood Zone 'A' and Flood Zone 'B'.
- The area of the site where the new HSE Air Ambulance hanger, paramedic prefab base, crew prefab base and new proprietary wastewater treatment system are proposed falls within Flood Zone 'C'.
- The proposed runway and taxiway and associated infrastructure shall be constructed at existing ground levels and shall not involve any significant infilling or ground level raising.
- The proposed runway and taxiway shall therefore have no adverse impact on overland flow conveyance paths or the existing hydrological regime of fluvial flood waters associated with the River Blackwater.
- In addition, surface water runoff from the hard-standing runway shall be collected and attenuated on site in an underground infiltration system and will not result in an increased fluvial or pluvial flood risk elsewhere.

- In summary, and in consideration of the findings of the Site Specific Flood Risk Assessment and the incorporation of the recommendations presented within the SSFRA, the development as proposed is not expected to result in an adverse impact to the existing hydrological regime of the area or increase flood risk elsewhere and is therefore considered to be appropriate from a flood risk perspective.

3.2.4 Soil, Geology and Hydrogeology

The Geological Survey of Ireland (GSI) online database (www.gsi.ie) was consulted for available edaphic, geological and hydrological information of the site and its environs. The site is overlaid by AminDW, Deep well drained mineral (Mainly acidic) and Alluvial (mineral) soils adjacent to the Blackwater River. In terms of bedrock geology, the Dinantian formation, composed of limestone underlies the site to the south and Grey shale, thin siltstone and sandstone underlie the site to the north.

The bedrock units which underlie the site are mapped by the GSI as part of the same Regionally Important Karstified Aquifer to the south and Poor Aquifer to the north of the site. Groundwater vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease at which groundwater may be contaminated. The study area is of 'Moderate' groundwater vulnerability.

3.3 Description of European Sites

This stage of the screening for AA process describes European sites within the likely zone of influence of the proposed project. The methodology for establishing the likely zone of influence is described in Section 2.3.2.

Connectivity between the proposed development and European sites has been reviewed. Connectivity is identified via the potential source-pathway-receptor model which identifies the potential impact pathways such as land, air, hydrological, hydrogeological pathways etc. which may support direct or indirect connectivity of the proposed development to European sites and/or their qualifying features.

In view of the location and characteristics of the proposed development (i.e. hard surfaced runway, taxiway and helipad and associated works, see Section 3.1 for the project description) and the source, pathway and receptors of potential impacts, a 15km radius is considered an appropriate zone of influence to screen all likely significant effects that might impact upon the European sites. Establishment of the likely zone of influence is in line with EC (2021) *Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC*.

The European sites located within 15km of the proposed development are outlined in Table 3-3 and Figure 3-2. There are 4 European sites located within 15km of the proposed development:

1. Blackwater River (Cork/Waterford) SAC (002170)
2. Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC (000365)
3. Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161)
4. Mullaghanish to Musheramore Mountains SPA (004162)

Source – pathway – receptor dynamics were assessed for European sites and it was determined that there is no connectivity (via surface water, groundwater, air or other environmental vectors) between the proposed development and Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC, Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and Mullaghanish to Musheramore Mountains SPA and so these European sites will not be considered further in this assessment.

The proposed development is located adjacent to Blackwater River (Cork/Waterford) SAC and supports hydrological connectivity to this European site via an active drainage ditch.

Figure 3-2: European Sites Located within 15km of the Proposed Development

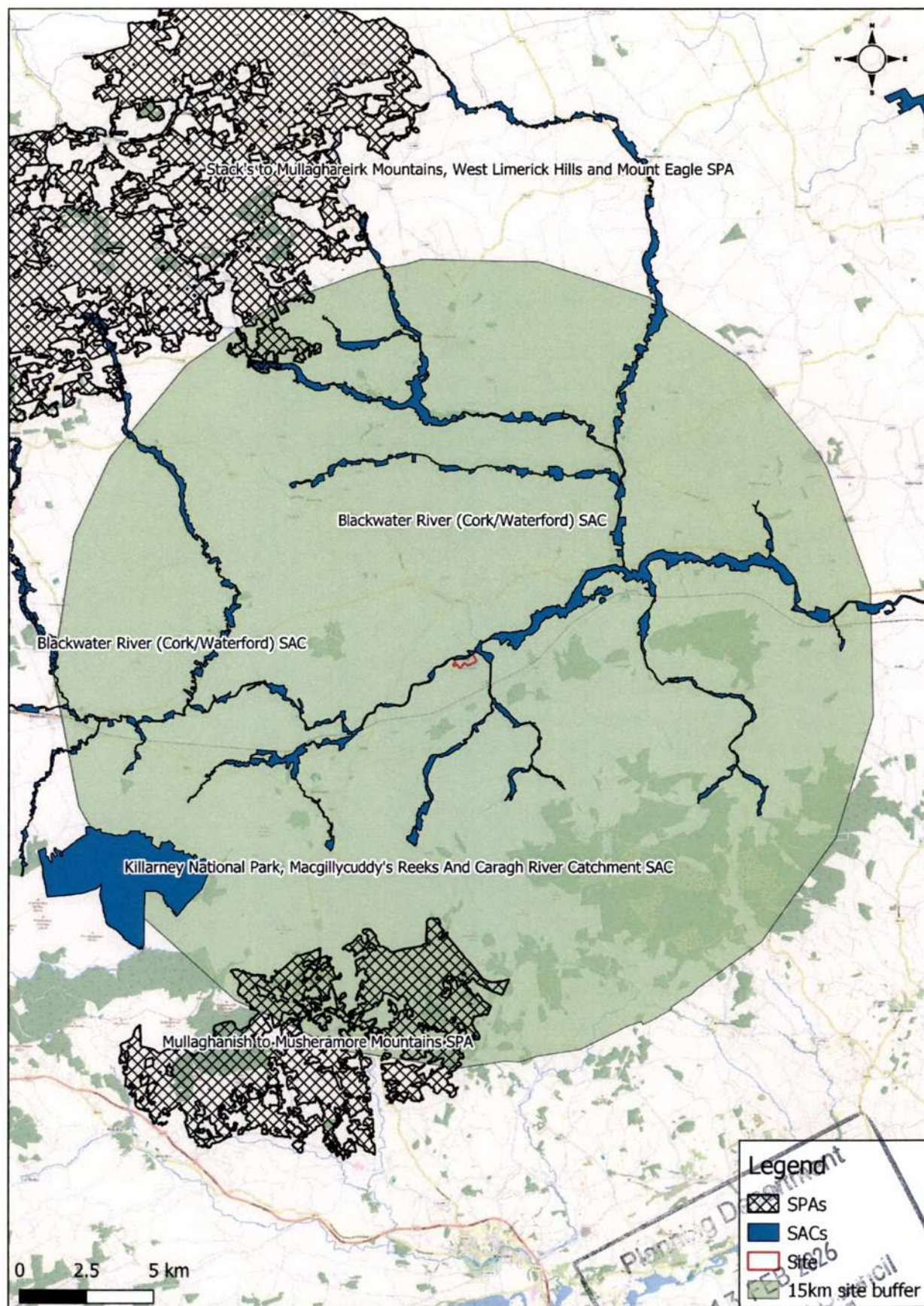


Table 3-3: European Sites within 15km of the Proposed Development

Site Name and Code	Qualifying Features (Annex I Habitats/Annex II Species)	Distance from proposed development	Connectivity
Blackwater River (Cork/Waterford) SAC (002170)	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0] <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029] <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092] <i>Petromyzon marinus</i> (Sea Lamprey) [1095] <i>Lampetra planeri</i> (Brook Lamprey) [1096] <i>Lampetra fluviatilis</i> (River Lamprey) [1099] <i>Alosa fallax fallax</i> (Twait Shad) [1103] <i>Salmo salar</i> (Salmon) [1106] <i>Lutra lutra</i> (Otter) [1355] <i>Trichomanes speciosum</i> (Killarney Fern) [1421]	0km (adjacent)	Potential connectivity due to proximity and hydrological connectivity via a drainage ditch. The proposed site and this SAC are both within the Rathmore West Ground Waterbody. GW and SW connectivity exists.
Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (000365)	Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoetes-Nanojuncetea</i> [3130] Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]	11.8km	There is no connectivity via surface water, ground water or any other pathway.

	European dry heaths [4030] Alpine and Boreal heaths [4060] Juniperus communis formations on heaths or calcareous grasslands [5130] Calaminarian grasslands of the Violetalia calaminariae [6130] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] Blanket bogs (* if active bog) [7130] Depressions on peat substrates of the Rhynchosporion [7150] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Taxus baccata woods of the British Isles [91J0] Geomalacus maculosus (Kerry Slug) [1024] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Euphydrias aurinia (Marsh Fritillary) [1065] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Salmo salar (Salmon) [1106] Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] Lutra lutra (Otter) [1355] Trichomanes speciosum (Killarney Fern) [1421] Najas flexilis (Slender Naiad) [1833] Alosa fallax killarnensis (Killarney Shad) [5046]		
Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161)	Hen Harrier (Circus cyaneus) [A082]	12.6km	There is no connectivity via surface water, ground water or any other pathway.
Mullaghanish to Musheramore Mountains SPA (004162)	Hen Harrier (Circus cyaneus) [A082]	9.5km	There is no connectivity via surface water, ground water or any other pathway.



4 Screening Assessment Criteria

4.1 Management of European Sites

Appropriate Assessment is not required where the proposed development is connected with, or necessary to, the management of any European site.

In this case, the proposed development is not directly connected with or necessary to the management of any European site(s).

4.2 Likely Direct, Indirect or Secondary Impacts of the Project on the European Sites

The proposed works include site clearance, earthworks, drainage, and installation of the runway, taxi-way, drainage trenches, new hangar and new air ambulance base (see **Section 3** for the full project description).

There is potential for run-off of deleterious substances from these works to the surrounding environment.

Potential connecting pathways to the Blackwater (Munster) River and Blackwater River (Cork/Waterford) SAC include the drainage ditch at the proposed site, which drains into the Rathcool River c.0.4km to the east of the proposed site, the Rathcool River then flows into the Blackwater (Munster) River a further 0.3km downstream (i.e. a total of 0.6km downstream of the proposed site); there is also potential for overland flow of surface water from the proposed works into the Blackwater (Munster) River.

The potential significant effects on European sites as a result of the proposed development at Rathcoole Aerodrome are primarily related to a change in water quality within Blackwater River (Cork/Waterford) SAC and disturbance impacts, as discussed below.

4.2.1 Overview of Potential Impact Sources and Pathways

Pollutant washout to surface waters during the construction phase

Potential impacts resulting from construction phase works near watercourses are primarily related to three sources of possible water borne pollutants: suspended solids (sediment washout), concrete and hydrocarbons.

The pathways for these pollutants to enter nearby surface waters are via an existing drainage ditch and preferential overland flow paths.

- **Suspended Solids:** The principal source of potentially negative impact on aquatic receptors arises from the escape of excessive amounts of suspended solids / sediment during the construction phase. Sediment export can arise from earthworks and/or erosion of soil stockpiles and excavated areas relating to, e.g., excavation for the runway, taxi-way, drainage trenches and new air ambulance base, material stockpiles and hydrocarbon interceptor excavation; it is also proposed to extend the existing runway culvert by approximately 30m to facilitate the new runway alignment. Escaped solids can settle in watercourses, smothering plants and macroinvertebrates, causing fish to abandon the area at least in the short-term. This can result in reduced recruitment of young fish from affected reaches as a result of egg and fry mortalities and displacement of juveniles from nursery areas.
- Elevated concentrations of suspended solids and resulting turbidity within the water column can also potentially damage the gills, physiology and behaviour of fish (e.g., respiration, migration) and/or benthic macroinvertebrates (e.g., respiration, drift responses).
- Similar to salmonids, lampreys also depend on clean gravels for spawning, and although lamprey nursery areas depend on marginal sediments, excessive amounts of sediment deposition within a short time period could cause smothering of ammocoetes through loss of oxygen exchange.

- Freshwater pearl mussel is a species that is demanding of pristine water quality conditions and is very sensitive to a range of pollutants. Toxic pollution can have very serious and long-term effects on *Margaritifera* which, being benthic suspension feeders, are exposed to pollutants in surface water, sediment, interstitial water and through ingestion of filtered particles with sorbed contaminants.⁴
- **Cement:** Owing to its highly alkaline and corrosive nature, cement is potentially toxic to instream fauna and can cause fish and invertebrate kills downstream. Any concrete spills that did enter drains could be transported to the Rathcool River and/or Blackwater River which can result in localised mortality of fish, bivalves and invertebrates if quantities were large enough. Best practice in construction site layout and management means that the risk of wet concrete loss to surface waters is usually very low.
- **Hydrocarbons:** Hydrocarbons from construction sites can emanate from poorly maintained and leaky construction vehicles, mobile plant and cranes and stationery plant such as pumps and generators. Leakage from poorly secured or non-bunded fuel storage areas including spills during re-fuelling of plant and equipment can also occur. Hydrocarbon spills and leakages can result in oil slicks and tainting of fish, or (if large enough) localised fish and invertebrate kills. Loss of hydrocarbons during the construction phase can be prevented / avoided through best practice in construction management.

As described above, run-off of water-borne pollutants, if severe, could potentially impact on water quality, which could also impact on fish stocks. In turn, a reduction in fish stocks may potentially impact on populations of Otter (*Lutra lutra*).

4.2.2 Blackwater River (Cork/Waterford) SAC

The proposed site is located adjacent to the Blackwater River (Cork/Waterford) SAC, however the works footprint is located outside the boundary of this SAC, therefore no direct impacts will occur through land take or fragmentation of habitats.

There will be no direct impacts on the aquatic habitats of the Blackwater River and Blackwater River (Cork/Waterford) SAC as the works have no riparian or instream physical footprint.

The following freshwater aquatic/ semi aquatic species and habitats are listed as QI species for Blackwater River (Cork/Waterford) SAC:

- *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]
- *Austropotamobius pallipes* (White-clawed Crayfish) [1092]
- *Petromyzon marinus* (Sea Lamprey) [1095]
- *Lampetra planeri* (Brook Lamprey) [1096]
- *Lampetra fluviatilis* (River Lamprey) [1099]
- *Alosa fallax fallax* (Twaite Shad) [1103]
- *Salmo salar* (Salmon) [1106]
- *Lutra lutra* (Otter) [1355]
- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]

Freshwater habitat within the proposed site is limited to an active drainage ditch, which in periods of high rainfall supports flowing water but supports low levels of standing water/ water with a sluggish flow in

⁴ Atkinson, S., Magee, M., Moorkens, E.A. & Heavey, M. (2024). Guidance on Assessment and Construction Management in Margaritifera Catchments in Ireland. <https://e-mussels.eu/europe/conservation-guidelines>



summer months. The drainage ditch is not of fisheries value and does not provide supporting habitat for aquatic QI species for Blackwater River (Cork/Waterford) SAC.

Freshwater pearl mussel: The results from presence/absence and total count surveys for freshwater pearl mussel show that the Munster Blackwater has a scattered population of mussels over a very wide area from upstream at Knocknagree to as far downstream as Lismore⁵. Conservation Objective mapping for Blackwater River (Cork/ Waterford) SAC⁶ indicates that the stretch of the Blackwater River adjacent to the site is located within the known distribution range for freshwater pearl mussel.

White-clawed crayfish: Within the Blackwater River system, white-clawed crayfish is present only on the Awbeg River, which flows through limestone geology. The main Blackwater is considered chemically unsuitable for the crayfish.

Lamprey species: lamprey have been recorded upstream of the proposed site at Nohoval⁷ and downstream of the site near Banteer.

Twaite shad: limited records of adult shad are listed for the Blackwater, up to Clondulane weir (downstream of Fermoy), but in a survey carried out in summer 2013, no juvenile shad were caught in the Blackwater.

Atlantic salmon: The Blackwater River is a salmonid river and is included within the S.I. 293: European Communities (Quality of Salmonid Waters) Regulations, 1988. Salmon (both 0+ and 1+ and older salmon) have been recorded upstream and downstream of the proposed site during surveys conducted by IFI in 2022.⁸

Otter: the National Biodiversity Data Centre (NBDC) database hold records of otter from Colthurst Bridge, last recorded in 2015. No otter holts or couches were recorded within or adjacent to the site during the site surveys, however otter prints were recorded in soft mud at the west of the site during a site survey in March 2024.

Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation: Water-crowfoot (*Ranunculus* spp) was recorded within the Blackwater River adjacent to the site during site surveys. However, it is noted that p. 36 of the site-specific conservation objectives for the Blackwater River (Cork/Waterford) SAC states that: "*rooted macrophytes should be absent or trace (< 5% cover) in freshwater pearl mussel (*Margaritifera margaritifera*) habitat. The freshwater pearl mussel (1029) conservation objective takes precedence over this objective for habitat 3260 in this SAC, because the mussel requires environmental conditions closer to natural background levels*".

Construction Phase

Elevated levels of turbidity in association with earthworks during the construction phase or release of deleterious substances such as cement or hydrocarbons could temporarily affect the Blackwater River, which may result in likely significant effects on freshwater pearl mussel, lamprey species and Atlantic salmon as a result of degradation of water quality.

A reduction in water quality may result in a reduction in prey species available for otter that forage along the Blackwater River. However, any reduction in water quality is likely to be temporary and localised. The high

⁵ Atkinson, S., Magee, M., Moorkens, E.A. & Heavey, M. (2023). Supplementary Guidance on Assessment and Construction Management in Margaritifera Catchments in Ireland: Blackwater River (Cork/Waterford) SAC <https://e-mussels.eu/europe/conservation-guidelines>

⁶ [Site specific cons obj \(npws.ie\)](https://www.npws.ie/en/conservation/objectives)

⁷ Inland Fisheries Ireland (2023) Fish in Rivers Factsheet: Blackwater (Munster) River Catchment Factsheet 2023/06.

⁸ As Ref 7.

mobility and large foraging ranges of otter means that they are likely to be able to accommodate such localised changes in prey distribution and abundance.

There is potential for temporary visual and noise disturbance to otters foraging in the Blackwater River in the vicinity of the site during construction. No evidence of otter holts was recorded at the proposed site and its environs, however there is suitable habitat for this species in the environs of the site.

There are two locations for Killarney Fern associated with Blackwater River (Cork/Waterford) SAC; one near Lismore and one near Youghal, c.71km and 74km to the east of the site respectively. No potential for likely significant effects on this species as a result of the proposed development has been identified.

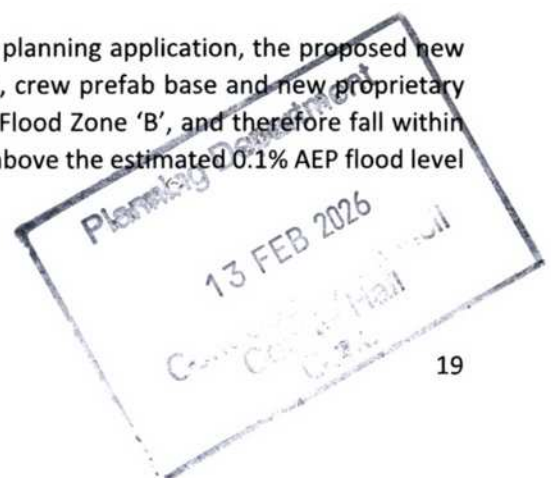
The QI habitats for Blackwater River (Cork/Waterford) SAC (Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Perennial vegetation of stony banks [1220], *Salicornia* and other annuals colonising mud and sand [1310], Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) [1330], Mediterranean salt meadows (*Juncetalia maritimi*) [1410]) are coastal or estuarine habitats located within the Blackwater Estuary/ Youghal Harbour c.80km downstream of the proposed site. In view of the nature, size, scale and location of the proposed works, the dilution provided in the estuarine environment of the Blackwater Estuary and naturally fluctuating levels of silt, no impacts on coastal and estuarine Annex I habitats during construction will occur.

The banks of the Blackwater River adjacent to the proposed site were vegetated with grasses and abundant Bracken, with Alder, Ash, Sycamore, Willow and occasional Hawthorn and do not correspond to Annex I habitat or any QI habitats of Blackwater River (Cork/Waterford) SAC. The Priority Annex I habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) [91E0] is present c.4.9km to the north-east of the proposed site, however, there is no connectivity between the proposed site and this parcel of Alluvial woodland. In view of the nature, size, scale and location of the proposed works, it is not likely that deleterious substances arising from the works will reach this parcel of Alluvial forest. Further, pollution is not noted as an important threat or pressure to Alluvial forests ([N2K IE0000343 dataforms \(europa.eu\)](#)). In view of these factors, significant impacts on Alluvial forests are not expected. There are no Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] mapped within the zone of influence of the proposed development within the conservation objectives for Blackwater River (Cork/Waterford) SAC. No Oak woodland was recorded at the proposed site and its immediate environs. Therefore, the proposed development will not result in likely significant effects on Old sessile oak woods during the construction phase.

Operational Phase

The Conservation Objectives for the Blackwater River (Cork/Waterford) SAC state that the availability of suitable freshwater pearl mussel habitat is largely determined by flow (catchment geology being the other important factor). In order to restore the habitat for the species, flow variability over the annual cycle must be such that: 1) high flows can wash fine sediments from the substratum, 2) low flows do not exacerbate the deposition of fines and 3) low flows do not cause stress to mussels in terms of exposure, water temperatures, food availability or aspects of the reproductive cycle.

As detailed in Chapter 7: Hydrology of the EIAR accompanying the planning application, the proposed new location of the HSE Air Ambulance hanger, paramedic prefab base, crew prefab base and new proprietary wastewater treatment system do not fall within Flood Zone 'A' or Flood Zone 'B', and therefore fall within Flood Zone 'C'. The proposed finished floor level of the buildings is above the estimated 0.1% AEP flood level of 82.1m OD in the River Blackwater.



The proposed runway and taxiway will be constructed at existing ground levels and will not involve any significant infilling or ground level raising. The proposed runway and taxiway will therefore have no adverse impact on overland flow conveyance paths or the existing hydrological regime of fluvial flood waters associated with the River Blackwater. In addition, surface water runoff from the hard-standing runway shall be collected and attenuated on site in an underground infiltration system and will not result in an increased fluvial or pluvial flood risk elsewhere.

It is proposed to extend the existing culvert under the existing runway by approximately 30m to accommodate the proposed runway alignment. It is also proposed to construct a 900mm pipe culvert under the proposed runway along the field drain in the western area of the site. The proposed culverts fall within an OPW NIFM 1% AEP (1 in 100 year – Flood Zone 'A') and a 0.1% AEP (1 in 1000 year – Flood Zone 'B') associated with the River Blackwater. These culvert structures shall be constructed below existing ground levels and are therefore unlikely to result in any adverse impact to the exiting hydrological regime of the area during the occurrence of an extreme fluvial event in the River Blackwater.

In summary, the proposed runway and taxiway will have no adverse effect on overland flow conveyance paths or the existing hydrological regime of fluvial flood waters associated with the River Blackwater; and the proposed development will not result in increased fluvial or pluvial flood risk elsewhere.

During the operational phase, surface water run-off from the runway will be managed by filter strips, filter drains and conveyance of storm water to attenuation systems via hydrocarbon separators. Run-off from the air-ambulance base will pass through a silt trap to a soakaway and run-off from the concrete apron and helipad will pass through a full retention hydrocarbon separator to a soakaway.

Foul water will be treated by a tertiary treatment system and infiltration/ treatment area.

In view of the proposed surface water management features, no adverse effects on surface or groundwater quality are anticipated during the operational phase.

No otter holts were recorded at the proposed site and its immediate environs, therefore there will be no disturbance to otter breeding or resting sites during the operational phase.

The navigation light corridor proposed for the development will increase light levels within the proposed development area. Artificial lighting at night may have an adverse effect on otter foraging and commuting along the Blackwater River and aquatic species within the river. The proposed lighting of the runway is limited to 18 no. runway edge lights plus threshold lights at each end of the runway, all of which are designed to mark the runway but not the area around the runway. The lux measurement at a distance of 10m from the runway will be 0.65lux, which is within the range of lux levels to be expected during a night with a clear full moon. As such, there will be no significant light spill on to important otter and aquatic QI habitat within the Blackwater River, located c.35m from the proposed runway at its closest point. The helipad will be lit by 12 no. green lights and the taxiways will both be lit by 8 no. blue lights; the helipad and taxiways are located to the south of the proposed runway and will not result in light spill onto the Blackwater River. Further, air ambulance services do not operate after the hours of darkness. The proposed development would facilitate the air ambulance service to land after the hours of darkness at Rathcool when required, however it is projected that the number of times that lighting will be used to facilitate a helicopter landing will be limited to 4 to 6 times a year. No nighttime flying will be undertaken by Rathcool Flying Club. In view of these factors, no significant adverse effects on otter or other aquatic species as a result of artificial lighting at night are expected.

No likely adverse impacts on Blackwater River (Cork/Waterford) SAC have been identified during the operational phase.

Invasive Species

No invasive plant species were recorded within the proposed site and its immediate environs. Therefore, no significant adverse effects on Blackwater River (Cork/Waterford) SAC are expected to occur due to the spread of invasive plant species.

4.2.3 Cumulative Impacts with Other Plans and Projects in the Area

As part of the screening for an AA, in addition to the proposed works, other relevant projects and plans in the region must also be considered at this stage and assessed in the context of potential for in-combination effects. These plans and projects are outlined and assessed in **Table 4-1** below.

It is concluded that there will be no negative in-combination effects between the proposed road improvement scheme and plans or projects in the area.

Table 4-1: Other Projects and Plans that could result in potential cumulative impacts

Plan / Programme/Policy	Key Objectives/Policies/Proposals	Potential for In-combination Effects and Mitigation
Cork County Development Plan 2022	The Cork County Development Plan includes the following Objectives of relevance to this report: BE 15-2: Protect sites, habitats and species: a) Protect all natural heritage sites which are designated or proposed for designation under European legislation, National legislation and International Agreements. Maintain and where possible enhance appropriate ecological linkages between these. This includes Special Areas of Conservation, Special Protection Areas, Marine Protected Areas, Natural Heritage Areas, proposed Natural Heritage Areas, Statutory Nature Reserves, Refuges for Fauna and Ramsar Sites. These sites are listed in Volume 2 of the Plan. b) Provide protection to species listed in the Flora Protection Order 2015, to Annexes of the Habitats and Birds Directives, and to animal species protected under the Wildlife Acts in accordance with relevant legal requirements. These species are listed in Volume 2 of the Plan. c) Protect and where possible enhance areas of local biodiversity value, ecological corridors and habitats that are features of the County's ecological network. This includes rivers, lakes, streams and ponds, peatland and other wetland habitats, woodlands, hedgerows, tree lines, veteran trees, natural and semi-natural grasslands as well as coastal and marine habitats. It particularly includes habitats of special conservation significance in Cork as listed in Volume 2 of the Plan. d) Recognise the value of protecting geological heritage sites of local and national interest, as they become notified to the local authority, and protect them from inappropriate development e) Encourage, pursuant to Article 10 of the Habitats Directive, the protection and enhancement of	Policies and objectives of the Cork County Development Plan 2022 ensure that local planning applications comply with proper planning and sustainability and with the requirements of relevant EU Directives and environmental considerations, there is no potential for adverse in-combination effects on European Sites.

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	features of the landscape, such as traditional field boundaries, important for the ecological coherence of the Natura 2000 network and essential for the migration, dispersal and genetic exchange of wild species. BE 15-6: Biodiversity and New Development: Provide for the protection and enhancement of biodiversity in the development management process and when licensing or permitting other activities by: a) Providing ongoing support and guidance to developers on incorporating biodiversity considerations into new development through preplanning communications and the Council's guidance document 'Biodiversity and the Planning Process – guidance for developments on the management of biodiversity issues during the planning process' and any updated versions of this advice; b) Encouraging the retention and integration of existing trees, hedgerows and other features of high natural value within new developments; c) Requiring the incorporation of primarily native tree and other plant species, particularly pollinator friendly species in the landscaping of new developments; d) Fulfilling Appropriate Assessment and Environmental Impact Assessment obligations and carrying out Ecological Impact Assessment in relation to development and activities, as appropriate; e) Ensuring that an appropriate level of assessment is completed in relation to wetland habitats subject to proposals which would involve drainage or reclamation. This includes lakes and ponds, watercourses, springs and swamps, marshes, heath, peatlands, some woodlands as well as some coastal and marine habitats; f) Ensuring that the implementation of appropriate mitigation (including habitat enhancement, new planting or other habitat creation initiatives) is incorporated into new development, where the implementation of such development would result in unavoidable impacts on biodiversity - supporting the principle of biodiversity net gain.	
Water Action Management Plan 2024	The Water Action Plan includes targeted measures for all water bodies, with the objective of either protecting water bodies at good or high status or restoring water bodies to at least good status. Where further specific measures are needed in addition to those set in this plan, integrated catchment planning approaches will be used to identify and decide on further specific measures for each water body. This will be reported in 46	The implementation and compliance with key environmental policies, issues and objectives of this management plan will result in positive in-combination effects to European sites. The implementation of this plan will have a positive impact for the biodiversity. It will not contribute to

	Catchment Management Work Plans. These will be used to locate measures within each catchment. The list of water bodies and their associated status, significant pressures/issues and targeted measures, which are to be included in the Catchment Management Work Plans, will include targets for the third-cycle, along with Key Performance Indicators to monitor progress and outcomes.	in-combination effects with the proposed development.
Uisce Éireann Capital Investment Plan 2020-2024	Proposals to upgrade and secure water services and water treatment services countrywide.	Likely net positive impact due to water conservation and more effective treatment of water.
WWTP discharges	Millstreet and Environs Banteer and Environs	Discharges from municipal WWTPs are required to meet water quality standards. Irish Water Capital Investment Plan 2020-2024 proposes to upgrade water treatment services countrywide. The long-term in-combination impact is predicted to be negligible.
IPPC Programme	ALPS Electric (Ireland) Ltd (P0835), located c.7.9km to the south-west of the site	Discharges from these facilities are governed by strict limits to ensure compliance with quality standards. The long-term in-combination impact is predicted to be negligible.
Residential Applications Under consideration	A search was conducted of planning applications (projects) within the vicinity of the proposed development, using the Cork County Council planning portal map viewer⁹. The search was limited to the five -year period preceding the date of issue of this report, and excluded retention applications (i.e. typically local-scale residential or commercial developments where an impact has already occurred), incomplete, withdrawn, and refused applications. Local planning applications in proximity and within the zone of influence of the proposed development are limited to a GAA sports facility (Ref: 236233), extension to dwelling (Ref: 235624), dwelling house (Ref: 245380 & 196001) and small agricultural development (Ref: 204802).	Adherence to the overarching policies and objectives of the Cork County Development Plan 2022 - 2028 ensure that local planning applications and subsequent grant of planning comply with the core strategy of proper planning and sustainability and with the requirements of relevant EU Directives and environmental considerations, there is no potential for adverse in combination effects on European Sites.



⁹[Amharcóir Pleanála - Planning Viewer \(arcgis.com\)](https://arcgis.com)

4.3 Screening Assessment

Table 4-2 identifies the potential direct, indirect and secondary impacts of the proposed development on European Sites within a 15 km radius.

Table 4-2: Potential Significant Effects on European Sites from the Proposed Development

Site Name and Code	Direct Impacts	Indirect / Secondary Impacts	Resource Requirements	Emissions (Disposal to land, Water or Air)	Excavation Requirements
Blackwater River (Cork/Waterford) SAC (002170)	No impact on QI	Potential impacts on aquatic QI species as a result of degradation of water quality, potential disturbance to otter	No impact on QI	Potential impacts on aquatic QI species as a result of degradation of water quality	No impact on QI
Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC (000365)	No impact on QI	No impact on QI	No impact on QI	No impact on QI	No impact on QI
Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161)	No impact on QI	No impact on QI	No impact on QI	No impact on QI	No impact on QI
Mullaghanish to Musheramore Mountains SPA (004162)	No impact on QI	No impact on QI	No impact on QI	No impact on QI	No impact on QI

4.4 Likely Changes to the European Site(s)

The likely changes that could arise from the proposed development at Rathcoole Aerodrome, have been examined in the context of a number of factors that could have a significant effect on the relevant European Sites (**Table 4.3**).

Table 4-3: Likely Changes to European Sites

Site Name and Code	Reduction of Habitat Area	Disturbance to Key Species	Habitat or Species fragmentation	Reduction in Species Density	Changes in Key Indicators of Conservation Value (Water Quality, etc.)	Climate Change
Blackwater River (Cork/Waterford) SAC (002170)	None	Potential disturbance to otter	None	None	Potential impacts on aquatic QI species as a result of	None

					degradation of water quality	
Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC (000365)	None	None	None	None	None	None
Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161)	None	None	None	None	None	None
Mullaghanish to Musheramore Mountains SPA (004162)	None	None	None	None	None	None

4.4.1 Elements of the Project where the Impacts are Likely to be Significant

There is potential for significant adverse effects on QI species freshwater pearl mussel, lamprey species and Atlantic salmon for Blackwater River (Cork/Waterford) SAC as a result of degradation of water quality during construction of the proposed Development at Rathcoole Aerodrome.



5 Conclusion

This AA screening report was completed with due regard to relevant European Commission guidance, national guidance and case law.

The potential impacts of the proposed development have been considered in the context of the European sites potentially affected, their qualifying interests or special conservation interests, and their conservation objectives.

Through an assessment of the source-pathway-receptor model, which considered the zone of influence of effects from the Proposed Development and the potential in-combination effects with other plans or projects, the following are the main conclusions:

- In view of the geographical location of the proposed project outside of the Blackwater River (Cork/Waterford) SAC boundary, there is no potential for direct effects on European sites.
- Potential conduits to the Blackwater River (Cork/Waterford) SAC are present via a drainage ditch and overland flow. There is potential for likely significant effects on QI species as a result of degradation of water quality.
- The drainage channel within the site is not suitable to support ex-situ populations of aquatic/semi aquatic QI for Blackwater River (Cork/Waterford) SAC.

In the absence of mitigation, and applying the precautionary principle, the potential for likely significant effects on aquatic and semi-aquatic QI species for Blackwater River (Cork/Waterford) SAC as a result of degradation of water quality and disturbance cannot be excluded. Therefore, a Stage 2 Appropriate Assessment is considered necessary for Blackwater River (Cork/Waterford) SAC.

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