

Irish Water Report

Appropriate Assessment Screening as part of the
Ballyvourney/Ballymakeera Discharge Licence Review D0299

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Introduction

This report provides an Appropriate Assessment (AA) screening of the operational discharges from the Ballyvourney/Ballymakeera agglomeration, County Cork. It assesses whether the discharge activities (i.e., primary discharge and Storm Water Overflow (SWO) from the WwTP and SWO and Emergency Overflow (EO) from the Pumping Station), alone or in combination with other plans and projects, are likely to have significant effects on a European Site(s) in view of best scientific knowledge and the conservation objectives of the site(s). European Sites are those identified as sites of European Community importance designated as Special Areas of Conservation under the Habitats Directive or as Special Protection Areas under the Birds Directive.

This AA Screening has been completed by Dr. Suvi Harris, MCIEEM, of Nicholas O' Dwyer Ltd. on behalf of Irish Water and contains the information required by the competent authority (in this case the EPA), to undertake an Appropriate Assessment Screening of the discharge activity in accordance with Regulation 42(1) of the European Communities (Birds and Natural Habitats) Regulations 2011.

Legislative Context

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. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC) as codified by Directive 2009/147/EC.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites (also known as European sites) (Annex 1.1). 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 [European] 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.

Article 6(4) states:

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

Methodology

Scope

The scope of this Appropriate Assessment (AA) Screening Report is to determine the likelihood of significant effects, if any, that the operational discharges from the Ballyvourney/Ballymakeera agglomeration could have on European sites.

Desk Study

A desk study was carried out to collate information available on European sites within the potential zone of influence of the operational discharges. The surrounding area were viewed using existing available satellite and street view imagery (last accessed on 24 November 2021). Cork County Council planning portal was accessed for information on planning applications in the immediate area, upstream and downstream of the operational discharges (last accessed 24 November 2021). The National Parks and Wildlife Service (NPWS) and National Biodiversity Data Centre (NBDC) websites (both last accessed 24 November 2021) were accessed for information on European sites.

Screening Approach

The approach to preparing this AA screening report is as follows: -

- Identify European sites, within the potential zone of influence of the operational discharges.
- Identify the features of interest of the European sites and review their conservation objectives.
- Review whether there is potential for the features of interest to be affected by the discharges
- Consider the likelihood of significant effects occurring based on the information collated and professional judgement.
- Identify the likelihood of significant effects in the absence of mitigation, alone or in – combination, on European sites occurring because of the operational discharges.
- Screening conclusion

The approach taken in preparing this document is based on standard methods and best practice guidance, as listed below .

Guidance Followed

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 relation to this AA has had regard to the following guidance:

- Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of Environment, Heritage and Local Government, (DoEHLG, 2010).
- Circular L8/08 – Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments. Department of Environment, Heritage and Local Government, (DoEHLG, 2008).
- Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg, (EC, 2000a).

- 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, 2000b).
- Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC (Commission Notice C(2018) 7621 final, Brussels, 21.11.2018)
- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Brussels (EC, 2001).
- 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, (EC, 2007).
- Guidelines for Good Practice, Appropriate Assessment of Plans under Article 6(3) Habitats Directive (International Workshop on Assessment of Plans under the Habitats Directive, 2011)
- Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC. Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Over-riding Public Interest, Compensatory Measures, Overall Coherence. Opinion of the European Commission (European Commission, January 2007)
- Nature and biodiversity cases: Ruling of the European Court of Justice. Office for Official Publications of the European Communities, Luxembourg (EC, 2006).
- Marine Natura Impact Statements in Irish Special Areas of Conservation: A working document, National Parks and Wildlife Service, Dublin (NPWS, 2012).
- European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No.477 of 2011).
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission (EC, 2013).

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Stages Involved in the Appropriate Assessment Process

The competent authority is required to carry out appropriate assessment, as required by Article 6(3) and 6(4) of the Habitats Directive, as follows:

- **Stage 1: Screening for Appropriate Assessment**

The first step to establishing if an appropriate assessment is required is referred to as 'screening' and its purpose is to determine, in view of best scientific knowledge, on the basis of a preliminary assessment and objective criteria if the plan or project, alone or in combination with other plans or projects, could have a significant effect on a European site in view of the sites conservation objectives. The process identifies any likely impacts upon a European site, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

- **Stage 2: Appropriate Assessment**

This is required if it cannot be excluded, on the basis of objective information, that the development, individually or in combination with other plans or projects, will have a significant effect on a European site.

The appropriate assessment must include a final determination by the competent authority as to whether or not a development/proposal would adversely affect the integrity of a European site. In order to reach a final determination, the consenting authority must undertake examination, analysis and evaluation, followed by findings, conclusions and a final determination. The appropriate assessment must contain complete, precise and definitive findings and conclusions, and may not have lacunae or gaps.

Additionally, where there are deemed to be adverse impacts, an assessment of the potential mitigation of those impacts is considered.

- **Stage 3: Assessment of Alternative Solutions**

This stage examines alternative means of achieving the objectives of the project or plan that aim to avoid adverse impacts on the integrity of the European site.

- **Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain**

This stage is the main derogation process outlined in Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project, which will have adverse effects on the integrity of a European site, to proceed.

Screening

Introduction

This section of the AA Screening report sets out a description of the new Ballyvourney/Ballymakeera WwTP, upgraded Pumping Station, and operational discharges, identifies the potential zone of influence, provides information on the European sites within the potential zone of influence and sets out the potential for likely significant effects.

Ballyvourney/Ballymakeera WwTP, Upgraded Pumping Station & Associated Operational Discharges

Ballyvourney and Ballymakeera are two contiguous settlements located approximately 15 km northwest of Macroom on the main N22 Cork to Killarney Road and are the largest settlements located within the Muskerry Gaeltacht region.

The objective of the Ballyvourney/Ballymakeera upgrade project was to design and construct a new WwTP, rising main and new outfall pipeline, and upgrade the pumping station to serve the agglomeration of Ballyvourney/Ballymakeera and to meet the current WWDL - Licence Register Number: D0299-01 granted to Irish Water in accordance with the Waste Water Discharge (Authorisation) Regulations (S.I. No. 684 of 2007) (now S.I. No. 244 of 2020) on the 9th October 2015.

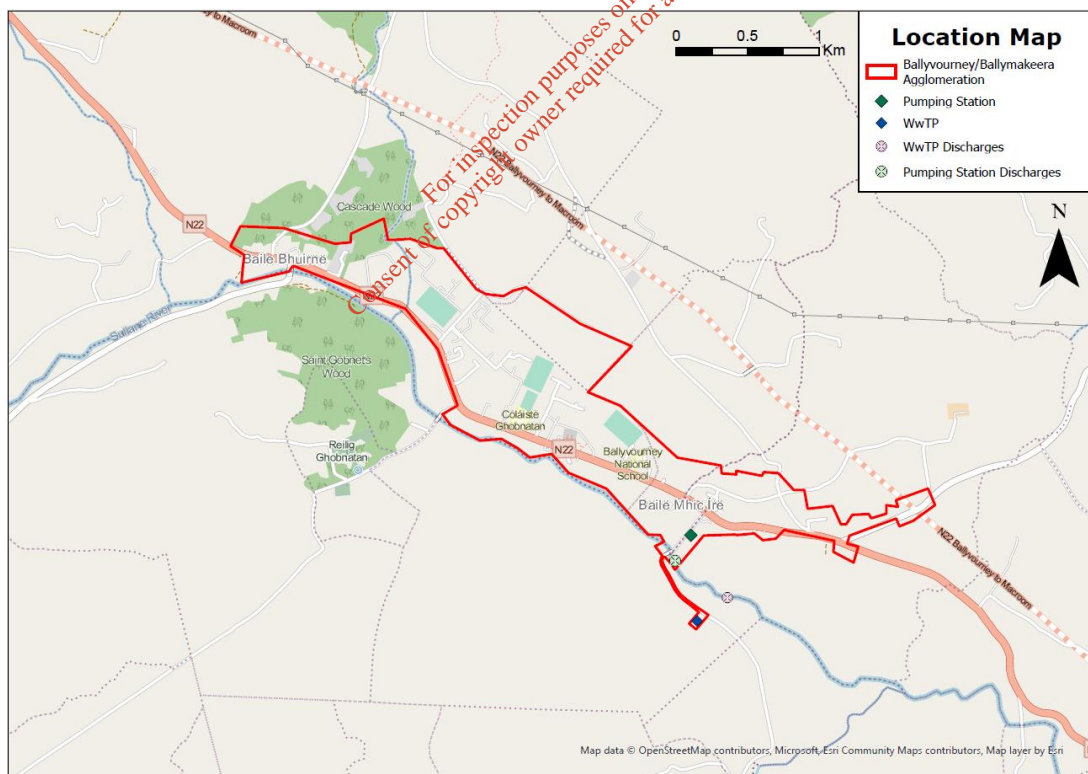


Figure 1.0: Ballyvourney and Ballymakeera Agglomeration Location

New WwTP

The new Ballyvourney/Ballymakeera WwTP is located at NGR 121316E, 076048N and is a tertiary treatment plant (oxidation ditches and disk filter), designed to treat 2,600 p.e (design horizon to 2046). At the time of submitting this WWDL review application, based on existing loads (2020), the projected 10-year load is 968 p.e.

The new WwTP has been completed and has been fully operational since the 9th September 2021.

The new WwTP consists of the following :

- New Inlet Works
 - Fine Screens
 - Coarse Screened Bypass
 - Vortex Grit Removal
 - Flow Measurement
 - Storm Overflow
 - Storm Holding Tank
- Secondary Treatment from 2No. Oxidation Ditches
- Secondary Settlement by 2No. Radial Flow FSTs
- Chemical Dosing for Phosphorus Removal
- Tertiary Treatment by Disk Filter
- Picket Fence Thickener including Sludge Storage
- New Outfall

Upgraded Pumping Station

The project involved upgrading the existing Ballymakeera Pumping Station at NGR 121295E, 076419N. Previously, the wastewater from the west of Ballymakeera village, including Ballyvourney, gravitated to a septic tank, whilst the remaining sewage from the east of the village gravitated to Ballymakeera Pumping Station, from where it was pumped to a septic tank via a rising main. Following the decommissioning of the septic tank, all flows are now diverted to the Pumping Station by gravity. The previous pumps have been removed and replaced with pumps each capable of transferring the 10-year Formula A flow of 39L/s to the new WwTP site. A new rising main, sized to carry the 30-year Formula A flow of 47.4l/s, has been installed from the Pumping Station to the new WwTP.

The overflow from the Pumping Station has been designed to function and operate as below:

- Activate during a complete mechanical/electrical failure of the Pumping Station;
- Activate when flows greater than Formula A (approx. 7 dry weather flow (DWF)) arrive at the pumping station.

The following design measures were incorporated into the design to prevent deleterious discharges from the overflows include:

- Standby pump activates automatically upon failure of duty pump;
- Provision for the connection of a mobile power generator facility in the event of power failure;
- Upgraded mechanical screen - Overflows will be screened to 6 mm in all directions before discharging to the river;

- Upgrade of pump capacity from 15.7l/s to 39 l/s, i.e., Formula A flow as set out in the DoEHLG Procedures and Criteria in Relation to Storm Water Overflows 1995, ensuring discharges occur during periods of high rainfall, which allows for increase dilution of discharge in receiving waterbody.

The pumping station upgrade works were completed on 29th March 2021.

Operational Discharges

Primary Discharge (SW001)

The primary discharge from the new WwTP discharges to the Sullane River at NGR 121449E, 076147N via a 280mm outlet pipe. The primary discharge is monitored continuously and recorded at the electromagnetic flowmeters which are installed at the WwTP.

The effluent standards for the new WwTP are tabled below and are in compliance with the WWDL D0299-01 ELVs.

Table 1.0 - Effluent Standards for New WwTP (as per D0299-01 ELVs)

Parameter	ELV	Units
pH	6-9	pH units
BOD, 5 days with Inhibition (Carbonaceous BOD)	25	mg/l
COD-Cr	125	mg/l
Suspended Solids	35	mg/l
Ammonia-Total (as N)	1.5	mg/l
Ortho-Phosphate (as P)	0.8	mg/l

Secondary Discharges:

There are no secondary discharge points associated with the agglomeration.

Storm Water Overflows (SW002 & SW003)

There is 1 no. SWO from the new WwTP (SW002). Upon activation this will discharge to the Sullane River via the primary discharge outfall at NGR 121449E, 076147N.

There is 1 no. SWO (SW003) from the Pumping Station which is connected to a combined sewer that discharges to the Sullane River at NGR 121225E, 076310N.

Both overflows have been designed in compliance with the definition of 'Storm Water Overflow' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended and the criteria as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995.

Any overflow event will be monitored and recorded at the electromagnetic flowmeters which have been installed at the WwTP and Pumping Station.

Emergency Overflows (SW004):

SW004 from the Pumping Station will only operate in an emergency event (e.g., prolonged power outage). SW004, when activated, will discharge via the same combined sewer as SW003 (NGR 121225E, 076310N).

The design of the overflows from the WwTP and Pumping Station will significantly reduce the likelihood of untreated water entering the receiving watercourse.

Description of the Surrounding Environment

Ballyvourney/Ballymakeera WwTP discharges to the Sullane River (Sullane_030). Sullane_030 is within the Lee Cork Harbour and Youghal Bay Catchment (Hydrometric Area 19). This catchment includes the area drained by the River Lee and all streams entering tidal water in Cork Harbour and Youghal Bay and between Knockaverry and Templebreedy Battery, Co. Cork, draining a total area of 2,153km². The largest urban centre in the catchment is Cork City. The other main urban centres in this catchment are Ballincollig, Macroom, Carrigaline, Crosshaven, Blarney, Glanmire, Middleton, Carrigtohill, Cobh, Passage West and Belvelly.

The draft 3rd cycle Catchment Report (2021) for this hydrometric area, determined that for river waterbodies excess nutrients remain the most prevalent issue, along with morphology, organic pollution, and hydrology. Pressures identified affecting the greatest number of waterbodies within hydrometric area 19 include hydromorphology, followed by agriculture, urban run-off, urban wastewater, domestic waste water, forestry, mines and quarries and industry.

The Sullane_030 is High Status and Not at Risk. There are no identified significant pressures for the Sullane_030.

The Biological quality rating (Q Value - 2004 to 2020) within this stretch of the Sullane_030 (RS19S020200, SULLANE - Br d/s Douglas R confl) is also High (Q4-5).

The Sullane_030 waterbody trends (at Br d/s Douglas R confl, downstream of the operational discharges) for Ortho-P for 2013-2018 are Downwards (i.e., decreasing concentrations); however, for Ammonia no trend is noted (i.e., approximately maintaining concentration levels). For 2013-2018, Ammonium and Ortho-P are noted as High under WFD status.

Recent ambient monitoring data for Sullane_020 (Jan 2019-July 2021), upstream and Sullane_030 (2019-2021) downstream is shown in the Tables below.

Table 2.0 Ambient monitoring upstream - Station RS19S020170

	pH (pH unit)	BOD (mg/l)	Orthophosphate (mg/l)	Total Ammonia (mg/l)	SS (mg/l)	DO (%sat)	Temp (°C)
Number of Samples	11	11	11	11	11	11	11
Max result	7.5	2.5	0.026	0.029	42	107.3	20.2
Min result	7.1	0.5	0.004	0.006	1.25	96.1	6.7
Average result	7.36	1.318	0.010	0.0144	7.95	101.2	12.8
Mean High EQS*		≤1.3	≤ 0.025	≤0.04			
Overall compliance with relevant EQS (High Status)		No	Yes	Yes			

*Mean High status under S.I. No. 77 of 2019

Note: Where data was reported as less than the limit of detection, LOD/2 was applied.

Table 3.0 Ambient monitoring downstream - Station RS19S020170

Parameter	pH (pH Unit)	BOD (mg/l)	Orthophosphate (mg/l)	Total Ammonia (mg/l)	SS (mg/l)	DO (%sat)	Temp (°C)
Number of Samples	11	11	11	11	11	11	11
Max result	7.6	2.7	0.019	0.055	13	103.1	19.9
Min result	6.5	0.5	0.006	0.015	1.25	92.4	6.7
Average result	7.35	1.25	0.010	0.0270	5.16	99.9	12.6
Mean High EQS *		≤1.3	≤ 0.025	≤0.04			
Overall compliance with relevant EQS (High Status)		Yes	Yes	Yes			

*Mean High status under S.I. No. 77 of 2019

Note: Where data was reported as less than the limit of detection, LOD/2 was applied.

Based on ambient monitoring results upstream and downstream of the discharge for the period between January 2019 to July 2021, the mean concentration for Ammonia and Ortho-P are within the required EQSs for High status. In terms of BOD, the upstream mean concentration is slightly above mean EQS, however the downstream concentration is below the required mean EQS for High status. The operational standards (as per D0299-01 ELVs) will ensure that the operational discharges from the agglomeration contribute towards maintaining High status of the River Sullane in accordance with the European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019 (S.I. No. 77 of 2019) (see WAC below).

Although the Sullane River is not designated as a *Margaritifera* First Order River, Freshwater Pearl Mussel (*Margaritifera margaritifera*) have been recorded, both upstream and downstream of the discharge. ELVs of 0.8 mg/l for Ortho-P, 1.5 mg/l for Ammonia and 25 mg/l for BOD have been put in place to ensure compliance with the High status standards set in European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended (now S.I. No. 77 of 2019). These ELVs were set by the EPA taking account the sensitivity of the receiving River with particular reference to the Freshwater Pearl Mussel (*Margaritifera margaritifera*). It should be noted that the Freshwater Pearl Mussel are not a qualifying interest for any European site with hydrological connection to the operational discharges.

Waste Assimilative Capacity

The Waste Assimilative Capacity (WAC) calculations based on 2,600 P.E (ultimate design to 2046) are summarised in **Table 4.0** below. This was carried out in 2021 and was based on 2019-2021 ambient monitoring data (Station Nr: RS19S020170) and EPA Estimated 95%ile River Flow at Station 19055 (0.26m³/s).

Table 4.0 - WAC for 2,600 PE

Parameter	Upstream River Conc <small>Note 1</small>	ELV	Contribution from Primary Discharge (mg/l)	Predicted D/S Conc (mg/l)	Relevant Standard (mg/l) (High Status)
BOD	1.318	25	0.635	1.919	<2.2 <small>Note 2</small>

Parameter	Upstream River Conc Note 1	ELV	Contribution from Primary Discharge (mg/l)	Predicted D/S Conc (mg/l)	Relevant Standard (mg/l) (High Status)
Ortho-Phosphate (MRP)	0.0144	0.8	0.020	0.030	<0.045 ^{Note 2}
Total Ammonia	0.0100	1.5	0.038	0.052	<0.09 ^{Note 2}

Note 1: Based on grab sampling carried out between 2019-2021.

Note 2: European Union Environmental Objectives (Surface Waters) (Amendment). Regulations 2019 (S.I. No. 77 of 2019)

The WAC calculations tabled above indicate that there is more than sufficient assimilative capacity in the River Sullane for BOD, Ammonia and Ortho-Phosphate (MRP) based on the actual upstream concentrations and that the relevant standards for High status will be met downstream of the WwTP.

Identification of European Sites

A 15 km buffer zone has been chosen along with identifying any other receptor pathways (*i.e.*, rivers, streams, or ecological corridors) as a precautionary measure, to ensure that all potentially affected European sites are included in the screening process, which is in line with Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities produced by the Department of the Environment, Heritage and Local Government.

Table 5.0 lists the European sites within 15 km of the Ballyvourney/Ballymakeera operational discharges and those that are connected downstream *via* a source – pathway – receptor connection. **Figure 2.0** shows their location in relation to the agglomeration.

For significant effects to arise from a proposal, there must be a risk triggered by having a 'source' (*e.g.*, in this case the operational discharges), a 'receptor' (*e.g.*, a European site or its qualifying interests), and a pathway between the source and the receptor (*e.g.*, a watercourse connecting the discharge to a European site). It is important to note that the identification of a pathway does not automatically mean that significant adverse effects will arise. The likelihood for significant adverse effects depend upon the characteristics of the source, the characteristics of the pathway (*e.g.*, water quality status of watercourse) and the characteristics of the receptor (*e.g.*, the sensitivities of the European site and its qualifying interests).

It is considered that “*no pathway*” exists by which any aspect of the proposal could impact upon any European site due to location and/or an absence of hydrological connectivity between the proposal and the European sites identified and detailed in **Table 5.0**.

Table 5.0: European sites within 15 km of the Ballyvourney/Ballymakeera operational discharges and those that are connected downstream via a source – pathway – receptor connection

Site Code	Site Name (ca. distance from Operation Discharges)	Qualifying Interest	General Conservation Objectives	Potential for Likely Significant Effects
000106	St Gobnet's Wood SAC (ca. 1.5 km North West of the operational discharges. This European site is upstream)	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	To restore the favourable conservation condition of Old sessile oak woods with Ilex and Blechnum in the British Isles in St. Gobnet's Wood SAC, which is defined by a specific list of attributes and targets set out in the NPWS (2021) Conservation Objectives: St. Gobnet's Wood SAC 000106. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.	No. No pathway present for likely significant effects.
001890	Mullaghanish Bog SAC (ca. 5.3 km North of the operational discharges)	Blanket bogs (* if active bog) [7130]	To restore the favourable conservation condition of Blanket bogs (* if active bog) in Mullaghanish Bog SAC, which is defined by the specific list of attributes and targets set out in the NPWS (2017) Conservation Objectives: Mullaghanish Bog SAC 001890. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.	No. No pathway present for likely significant effects.
000108	The Gearagh SAC (ca. 9.8 km South East. This European site is upstream of the confluence of the River Lee)	Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] Rivers with muddy banks with <i>Chenopodium rubri</i> p.p. and <i>Bidenton</i> p.p. vegetation [3270] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	To maintain the favourable conservation condition of Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation in The Gearagh SAC which is defined by a specific list of attributes and targets set out in the NPWS (2016) Conservation Objectives: The Gearagh SAC 000108. Version 1. National	No. No pathway present for likely significant effects.

Site Code	Site Name (ca. distance from Operation Discharges)	Qualifying Interest	General Conservation Objectives	Potential for Likely Significant Effects
		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>Lutra lutra</i> (Otter) [1355]	Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.	
002170	Blackwater River SAC (ca.11.9 km North of the operational discharges)	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 maritima</i>) [1410] Water courses of plain to montane levels with the <i>Ranunculion 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] Taxus baccata woods of the British Isles [91J0] <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> (Twaite Shad) [1103] <i>Salmo salar</i> (Salmon) [1106]	To restore the favourable conservation condition of the Freshwater Pearl Mussel in the Blackwater River (Cork/Waterford) SAC, which is defined by a specific list of attributes and targets set out in the NPWS (2012) Conservation Objectives: Blackwater River (Cork/Waterford) SAC 002170. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.	No. No pathway present for likely significant effects.

Site Code	Site Name (ca. distance from Operation Discharges)	Qualifying Interest	General Conservation Objectives	Potential for Likely Significant Effects
		<i>Lutra lutra</i> (Otter) [1355] <i>Trichomanes speciosum</i> (Killarney Fern) [1421]		
000365	Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (ca. 8.5 km North and North West of the operational discharges)	Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletalia uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> [3130] Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] Juniperus communis formations on heaths or calcareous grasslands [5130] Calaminarian grasslands of the <i>Viola calaminariae</i> [6130] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410] Blanket bogs (* if active bog) [7130] Depressions on peat substrates of the <i>Rhynchosporion</i> [7150] 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] Taxus baccata woods of the British Isles [91J0] <i>Geomalacus maculosus</i> (Kerry Slug) [1024] <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]	To restore the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) in Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC which is defined by a specific list of attributes and targets set out in the NPWS (2017) Conservation Objectives: Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC 000365. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.	No. No pathway present for likely significant effects.

Site Code	Site Name (ca. distance from Operation Discharges)	Qualifying Interest	General Conservation Objectives	Potential for Likely Significant Effects
		<p><i>Euphydryas aurinia</i> (Marsh Fritillary) [1065] <i>Petromyzon marinus</i> (Sea Lamprey) [1095] <i>Lampetra planeri</i> (Brook Lamprey) [1096] <i>Lampetra fluviatilis</i> (River Lamprey) [1099] <i>Salmo salar</i> (Salmon) [1106] <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat) [1303] <i>Lutra lutra</i> (Otter) [1355] <i>Trichomanes speciosum</i> (Killarney Fern) [1421] <i>Najas flexilis</i> (Slender Naiad) [1833] <i>Alosa fallax killarvensis</i> (Killarney Shad) [5046]</p>		
004162	Mullaghanish to Musheramore Mountains SPA (ca. 1.5 km North and North East of the operational discharges)	Hen Harrier (<i>Circus cyaneus</i>) [A082]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. As set out in NPWS (2021) Conservation objectives for Mullaghanish to Musheramore Mountains SPA [004162]. Generic Version 8.0. Department of Housing, Local Government and Heritage.	No. No pathway present for likely significant effects.
004109	The Gearagh SPA (ca. 9.8 km South East of the operational discharges. This European site is upstream of the confluence of the River Lee)	<p>Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Mallard (<i>Anas platyrhynchos</i>) [A053] Coot (<i>Fulica atra</i>) [A125] Wetland and Waterbirds [A999]</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</p> <p>To maintain or restore the favourable conservation condition of the wetland habitat at The Gearagh SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. As set out in NPWS (2021) Conservation objectives for The Gearagh</p>	No. No pathway present for likely significant effects.

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Site Code	Site Name (ca. distance from Operation Discharges)	Qualifying Interest	General Conservation Objectives	Potential for Likely Significant Effects
			SPA [004109]. Generic Version 8.0. Department of Housing, Local Government and Heritage	
004030	Cork Harbour SPA (ca. 68 km downstream)	<p>Little Grebe (Tachybaptus ruficollis) [A004] Great Crested Grebe (Podiceps cristatus) [A005] Cormorant (Phalacrocorax carbo) [A017] Grey Heron (Ardea cinerea) [A028] Shelduck (Tadorna tadorna) [A048] Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Pintail (Anas acuta) [A054] Shoveler (Anas clypeata) [A056] Red-breasted Merganser (Mergus serrator) [A069] Oystercatcher (Haematopus ostralegus) [A130] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Lapwing (Vanellus vanellus) [A142] Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Black-headed Gull (Chroicocephalus ridibundus) [A179] Common Gull (Larus canus) [A182] Lesser Black-backed Gull (Larus fuscus) [A183] Common Tern (Sterna hirundo) [A193] Wetland and Waterbirds [A999]</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</p> <p>To maintain or restore the favourable conservation condition of the wetland habitat at The Gearagh SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. As set out in NPWS (2014) Conservation Objectives: Cork Harbour SPA 004030. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>	No. Hydrologically connected however there is a significant remoteness (ca. 68 km) to this site for likely significant effects to occur.

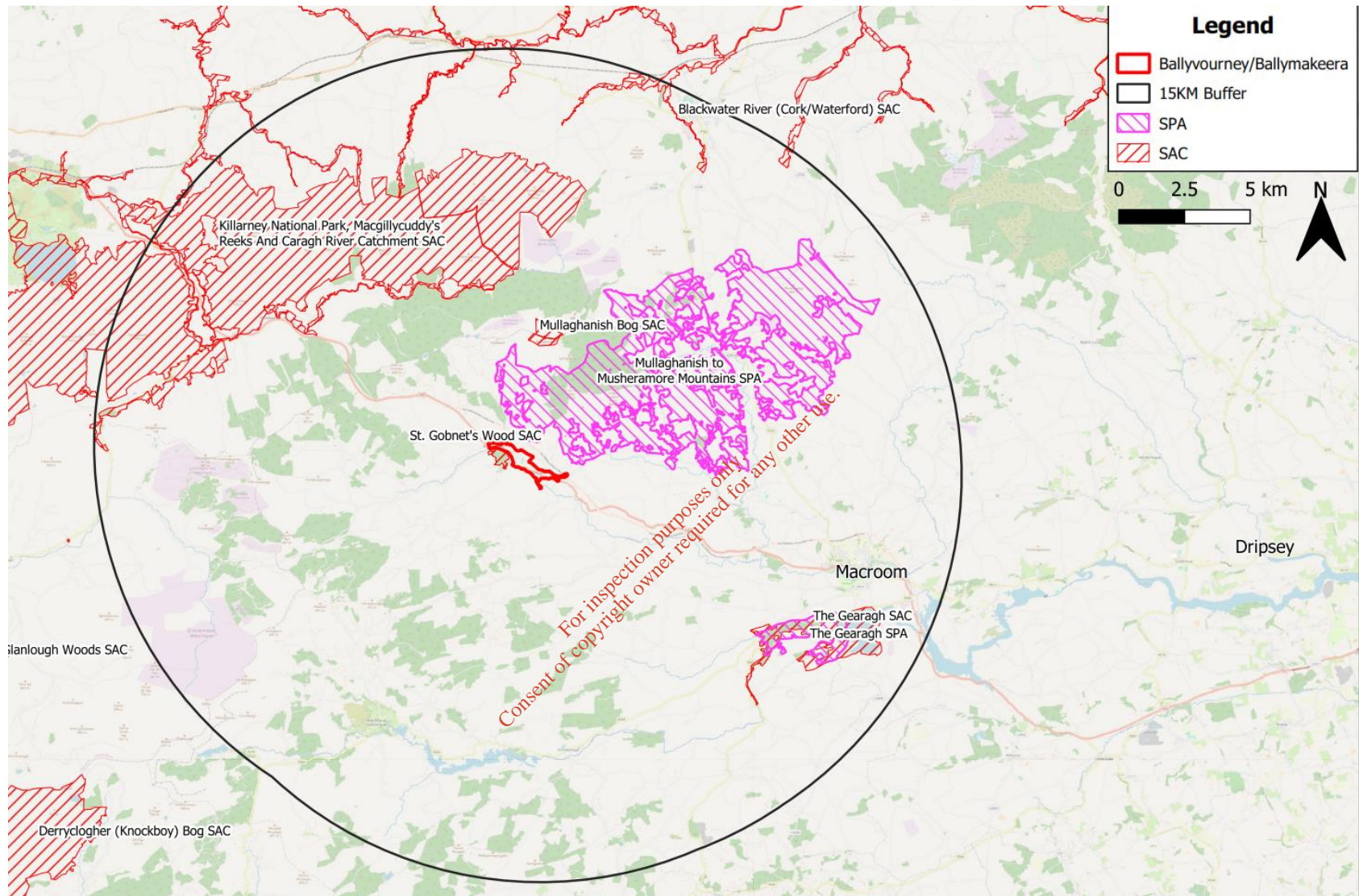


Figure 2.0: Proximity of Ballyvourney/Ballymakeera Agglomeration to European Sites

Assessment of Likely Significant Effects

The purpose of this section of the screening is to examine the possibility of likely significant effects, either individually or in combination with other plans and projects, that may result in significant effects on the Conservation Objectives of the identified European sites.

Direct, Indirect or Secondary Impacts

Land take is not a component of this proposal; therefore, no direct impacts will occur through land take or fragmentation of habitats.

The Ballyvourney/Ballymakeera WwTP and its primary effluent discharge (SW001) has been designed to meet these standards and to satisfy all relevant regulatory requirements including the Surface Water Regulations (S.I. No. 77 of 2019) and the Urban Wastewater Treatment Regulations (S.I. No. 254 of 2001). The agglomerations Storm Water Overflows (SW002 & SW003) have been designed in compliance with the definition of 'Storm Water Overflow' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended and the criteria as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995.

As mentioned above, the Emergency Overflow (SW004) from the Pumping Station will only operate in an emergency event (e.g., prolonged power outage). The likelihood of an emergency event is low, and there is provision for the connection of a mobile power generator facility at the pumping station in the event of a power failure.

The discharge limits for the WwTP as detailed in **Table 1.0** have been set by the EPA taking account the sensitivity of the receiving River Sullane. In addition, the adequate storm water storage facilities are provided within the agglomeration. Based on this information and the updated WAC calculations (**Table 4.0**), it is considered that the operational discharges from the Ballyvourney/Ballymakeera agglomeration will not have a detrimental impact on the water quality of the River Sullane.

There are no European sites immediately downstream of the operational discharges. The nearest downstream European Site is the Cork Harbour SPA which is ca. 68 km downstream of the operational discharges.

St Gobnet's Wood SAC and Mullaghanish to Musheramore Mountains SPA are located ca. 1.5 km to the northwest, and ca. 1.3 km northeast of the discharge points, respectively. The operational discharges have no hydrological connectivity with these two sites.

The Mullaghanish Bog SAC is located ca. 5.3 km north of the operational discharges. There is no hydrological connectivity however between the discharges and this site.

The Gearagh SAC and SPA are both ca. 9.8 km away from the operational discharges. They are located on the River Lee, but upstream of the confluence with the River Sullane.

The Blackwater River SAC and Killarney National Park, Maggilycuddy's Reeks and Caragh River Catchment SAC are ca. 11.9 km and 8.5 km North of the operational discharges, respectively.

These sites not hydrologically connected to the Ballyvourney/Ballymakeera operational discharges.

Due the significant distance of Cork Harbour SPA downstream of the operational discharges, and the location of St Gobnet's Wood SAC, Mullaghanish to Musheramore Mountains SPA, Mullaghanish Bog SAC, Blackwater River SAC, Killarney National Park, Maggilycuddy's Reeks and Caragh River Catchment SAC and the Gearagh SAC and SPA and the absence of hydrological connectivity between the discharges from the agglomeration and these European sites, it is considered that there is no likelihood of significant effects from the operation discharges on the Qualifying Interests of the above mentioned sites (including *ex-situ* species).

Cumulative and in Combination Impacts

Cumulative impacts are incremental changes in the environment that result from numerous manmade small-scale alterations. In-combination impacts can result from individually minor but collectively significant changes taking place over a period of time. The consequences of these changes are defined as in combination effects.

It is not anticipated that the operational discharges will result in any impacts on any European site.

Cumulative impacts resulting from proposals of this nature relate primarily to the potential for disturbances to key qualifying interests/features of a site and the degradation of water quality, both of which have the potential to have significant effects on the conservation objectives of European sites.

The new WwTP will treat the wastewater generated in the agglomeration to a high standard. The River WFD status 2013-2018 upstream of the WwTP is Good (Sullane_020), the discharge location is High (Sullane_030). The ELVs as per D0299-01 will have a cumulative effect of contributing towards maintaining the High status of the River Sullane in accordance with the European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019 (S.I. No. 77 of 2019) and will ensure that there is no environmental risk posed to the receiving water environment as a result of the discharges from the agglomeration.

Cork County Development Plan 2022-28

The Cork County Development Plan 2022-28 contains environmental policies and objectives to protect European sites and the aquatic environment in County Cork. Key environmental protection objectives include the following:

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, Appendix A of the Plan.

WM 11-1: EU Water Framework Directive and the River Basin Management Plan

- a)** Protect and improve the County's water resources and ensure that development permitted meets the requirements of the River Basin Management Plan and does not contravene the objectives of the EU Water Framework Directive.
- b)** Promote compliance with the River Basin Management Plan and associated environmental standards and objectives set out in the European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019 and the European Communities (Environmental Objectives) Groundwater Regulations, 2010, to prevent deterioration; restore good status; reduce chemical pollution, and achieve water related protected areas objectives in rivers, lakes, groundwater, estuaries and coastal waters (as applicable).
- f)** Support the prioritisation of the provision of water services infrastructure in: • Metropolitan Cork, the Key Towns and Main Towns to complement the overall strategy for economic and population growth while ensuring appropriate protection of the environment. • All settlements where services are not meeting current needs, are failing to meet the requirements of the Urban Wastewater Treatment Directive, and where these deficiencies are – interfering with Councils ability to meet the requirements of the Water Framework Directive; or – having negative impacts on Natura 2000 [European] sites; and
- g)** Development may only proceed where appropriate wastewater treatment is available which meets the requirements of environmental legislation, the Water Framework Directive and the requirements of the Habitats Directive.

WM 11-2: Surface Water Protection

- a)** Protect and improve the status and quality of all surface waters throughout the County, including transitional and coastal waters.
- b)** At least secondary treatment should be provided to all wastewater discharges from any new development, to surface waters.

WM 11-9: Wastewater Disposal

- a)** Require that development in all settlements connect to public wastewater treatment facilities subject to sufficient capacity being available which does not interfere with Council's ability to meet the requirements of the Water Framework Directive and the Habitats Directive. In settlements where no public wastewater system is either available or proposed, or where design, capacity or licensing issues have been identified in existing plants, new developments will be unable to proceed until adequate wastewater infrastructure is provided.
- b)** In assessing proposals for development, it is a requirement that adequate assimilative capacity in the receiving waterbody be retained so as to allow for the overall growth of the settlement.

The WwTP satisfies all relevant regulatory requirements including the Surface Water Regulations (S.I. No. 77 of 2019) and the Urban Wastewater Treatment Regulations (S.I. No. 254 of 2001). The discharge limits for the WwTP take into account the above regulations and the WAC of the Sullane River. Along with the provision of adequate storm water storage facilities within the agglomeration and the design of the overflows it is considered that the operational discharges will not have a detrimental impact on the water quality of the Sullane_030 or downstream River Lee and will aid the receiving water body in maintaining its High WFD status.

Planning Applications

Cork County Council planning portal was reviewed to identify any planning applications which have been submitted and/or granted within the last 5 years (from November 2021). 49 no. applications were identified within the region of Ballyvourney and 34 no. Ballymakeera within this time period, the majority of which were domestic dwellings. It is considered that there is no pathway of additive effect for significant cumulative or in-combination effects which can be considered to significantly affect the qualifying interests or conservation objectives of the European sites listed in **Table 5.0**.

Screening Assessment Conclusions

This Screening for AA was undertaken to assess, in view of best scientific knowledge and the conservation objectives of European sites, if the operational discharges from the Ballyvourney/Ballymakeera agglomeration, individually or in combination with other plans or projects is likely to have a significant effect on any European site.

The screening assessment undertaken demonstrates that the operational discharges are not likely to have significant effects, in terms of maintaining favourable conservation status of the qualifying interests, on any European Sites having regard to their conservation objectives, for the following reasons.

- The nearest downstream European site, is the Cork Harbour SPA which is ca. 68 km downstream of the operational discharges.
- The absence of hydrological connectivity between the discharges from the agglomeration and the St. Gobnet's Wood SAC, Mullaghanish Bog SAC, Mullaghanish to Musheramore Mountains SPA, Blackwater River SAC and Killarney National Park, Maggilycuddy's Reeks and Caragh River Catchment SAC and the Gearagh SAC and SPA.
- The high water quality status assigned to the receiving water (Sullane River).
- The Ballyvourney/Ballymakeera WwTP and its primary effluent discharge (SW001) have been designed to meet the standards to satisfy all relevant regulatory requirements including the Surface Water Regulations (S.I. No. 77 of 2019) and the Urban Wastewater Treatment Regulations (S.I. No. 254 of 2001).
- The capacity of the receiving water to assimilate the discharges from the agglomeration.
- The design of the Storm Water Overflows in compliance with the definition of '*Storm Water Overflow*' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended and the criteria as set out in the DoEHLG '*Procedures and Criteria in Relation to Storm Water Overflows*', 1995.
- Current monitoring in the Sullane River indicates that current discharge is not impacting on the ecological status of the Sullane River.

Based on the above It has been concluded following screening that the operational discharges from the Ballyvourney/Ballymakeera agglomeration are not directly connected with or necessary to the management of any European Site and that it can therefore be excluded, on the basis of objective information, that the operational discharges, individually or in combination with other plans or projects, will have a significant effect on any European Site. Therefore, it is concluded that an Appropriate Assessment and the production of a Natura Impact Statement is not required.

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