



ATTACHMENT D.2.2:

AA SCREENING REPORT

AUGUST 2022

Irish Water Report

Appropriate Assessment Screening as part of the Grenagh Waste
Water Discharge Licence Application



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Introduction

This report provides an Appropriate Assessment (AA) screening of the operational discharges from the Grenagh WwTP in Grenagh, County Cork. It assesses whether the discharge activity, 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 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/ECC) 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 Grenagh WwTP 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 areas were viewed using existing available satellite and street view imagery (last accessed on 2 August 2022). 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 on 2 August 2022). The National Parks and Wildlife Service (NPWS) and National Biodiversity Data Centre (NBDC) websites (both last accessed on 2 August 2022) 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 Screening for Development Management, OPR Practice Note PN01 (OPR, 2021).
- 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).

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 proposed development 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 Grenagh WwTP and its associated 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.

Grenagh WwTP & Associated Operational Discharges

WwTP

The Grenagh agglomeration consists largely of a village with a substantial residential element. The agglomeration is located approximately 16 km north of Cork City and west of the N20 Cork-Mallow road and railway line. The effluent from the agglomeration arises mainly from domestic sources.

The WwTP is located at NGR 158817E, 084754N and is currently operated by EPS Ltd. on behalf of Irish Water.

The agglomeration is served by a combined gravity sewer. The plant provides secondary treatment to reduce the biological load to the standards required by the Urban Wastewater Treatment (UWWT) Regulation (S.I. No. 254 of 2001).

The treatment plant consists of the following:

- Mechanical Inlet Screening.
- Gravity overflow to underground storm water storage with pumped return.
- A secondary treatment process based on dual stream activated sludge.
- Fine bubbled diffused aeration system.
- Dual secondary clarifiers complete with rotating half bridge scrapers systems.
- Single sludge storage tank.
- Block built control building.

Sludge is stored in a sludge holding tank and is removed once a month to various WwTPs and composting farms.

The design capacity of the WwTP is 1,200 p.e. The current p.e. based on 2021 collected loads is 561 p.e. At the time of preparing this AA Screening Report to inform the determination of the WWDL application, based on existing collected loads (2021), the projected 10-year load is 750 p.e.

Treated effluent from the WwTP discharges *via* gravity to the Martin River (Martin_010) at NGR 158833E, 084980N which is part of the Lee, Cork Harbour and Youghal Bay catchment area (HA 19).

Operational Discharges

Primary Discharge (SW001)

The primary discharge (SW001), which operates 24hrs a day and 365 days a year, discharges to the Martin River (Martin_010) primary discharge outfall pipe at NGR 158833E, 084980N. There is no composite sampling or continuous flow monitoring in place at present on the discharge point.

The proposed effluent standards for the WwTP are tabled below.

Table 1.0 Proposed Treated Effluent Standards

| Parameter | Proposed Standard/ELV | 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) | 3 | mg/l |
| Ortho-Phosphate (as P) | 1.65 | mg/l |
| pH | 6-9 | pH Unit |

Secondary Discharges

There were no secondary discharge points associated with the waste water works.

Dual Function Overflow from WwTP (SW002)

There is one Dual Function Overflow (SW002) at the WwTP *i.e.*, overflow which can act as a Storm Water Overflow (SWO) or as an Emergency Overflow (EO) depending on the event.

The SWO at the WwTP is located after the grit trap and before the inlet screen. Stormwater passes through a mesh screen with an approximate spacing of 20-25mm. Wastewater overflows *via* a 300mm weir channel at a depth of 150mm and is diverted to a Storm Water Overflow tank (ca. 115.1m³). There are two pumps within the storage tank which return stormwater to the inlet chamber. Return pumped flows are operated by a level sensor. Should the capacity of the storage tank be exceeded a high-level Storm Water Overflow from the storm tank discharges to the primary outfall and combines with the treated effluent before being discharged to the Martin River.

This SWO operates 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.

In the unlikely event of an emergency (*i.e.*, power failure or a failure of the submersible storm tank pumps), wastewater will discharge to the Martin River *via* the primary discharge outfall pipe.

Description of the Surrounding Environment

Grenagh WwTP discharges to the Martin River (Martin_010). Martin_010 is within the Lee, Cork Harbour and Youghal Bay Catchment (Hydrometric Area 19). The Martin River flows southward joining the Shournagh River and then southeast joining the Lee River entering Cork Harbour.

The Lee, Cork Harbour and Youghal Bay 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 draft 3rd Cycle Catchment Report (2021) for this Hydrometric Area (HA), 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 HA 19 include hydromorphology, followed by agriculture, urban run-off, urban wastewater, domestic waste water, forestry, mines and quarries and industry. Grenagh WwTP is not listed as a significant pressure in At Risk waterbodies in the draft 3rd cycle catchment assessment. The Martin_010 is listed as an area for action under the 3rd cycle (and the 2nd cycle). The WFD status of the Martin_010 is Poor and At Risk of not achieving Good water quality status during 2022-2027. Significant pressures for the Martin_010 have been determined, within the draft 3rd cycle Catchment Report, as Hydromorphology (embankments) and Other (illegal dumping).

The Martin River is not a Designated Salmonid Water under S.I. No. 293/1988. The WwTP is hydrologically connected to the Lee [Cork] Salmonid River ca. 23.5km downstream of the operational discharge point.

The EPA undertake biological monitoring of the Martin River at various locations. Upstream of the WwTP at RS19M010100 (ca. 1.6 km upstream), the 2020 monitoring reported a Q value of 3-4 (Moderate). Downstream of the WwTP at RS19M010200 and RS19M010300 (ca. 1.3 km and 4.3 km downstream, respectively) the 2020 monitoring reported a Q value of 4 (Good). Further downstream at RS19M010400 (ca. 7.1 km downstream of the WwTP), the 2020 monitoring reported a Q value of 4-5 (High).

Irish Water have conducted ambient monitoring sampling in 2022 ca. 1.6km d/s of RS19M010100 and directly u/s of the WwTP discharges and ca. 4km u/s of RS19M010300 and ca. 260m d/s of WwTP discharges. Details of the 2022 monitoring results are tabled below.

Table 2.0. 2022 Ambient Monitoring – ca. 1.6km d/s of RS19M010100 and directly u/s of WwTP discharges (Data Source: IW/CCC)

| | BOD (mg/l) | Ortho-P (mg/l) | Total Ammonia (mg/l) | DO (% sat) | Suspended Solids (mg/l) | Temp (°C) |
|---|------------|----------------|----------------------|------------|-------------------------|-----------|
| Number of Samples | 2 | 2 | 2 | 2 | 2 | 2 |
| Average result | 1.9 | 0.024 | 0.048 | 99.75 | 8 | 9.15 |
| Mean EQS – Good Status * | ≤1.5 | ≤0.035 | ≤0.065 | | | |
| 95thile EQS – Good status * | ≤2.6 | ≤0.075 | ≤0.14 | | | |

* EQSs under S.I. No. 77/2019

Table 3.0. 2022 Ambient Monitoring – ca. 4km u/s of RS19M010300 and ca. 260m d/s of WwTP discharges (Data Source: IW/CCC)

| | BOD (mg/l) | Ortho-P (mg/l) | Total Ammonia (mg/l) | DO (% sat) | Suspended Solids (mg/l) | Temp (°C) |
|-----------------------------------|------------|----------------|----------------------|------------|-------------------------|-----------|
| Number of Samples | 2 | 2 | 2 | 2 | 2 | 2 |
| Average result | 1.5 | 0.023 | 0.056 | 97.5 | 6.625 | 9.3 |
| Mean EQS – Good Status * | ≤1.5 | ≤0.035 | ≤0.065 | | | |
| 95%ile EQS – Good status * | ≤2.6 | ≤0.075 | ≤0.14 | | | |

* EQSs under S.I. No. 77/2019

Based on grab sampling results obtained in 2022, the concentration for Ammonia and Ortho-P are within the required EQSs for Good status (mean and 95%ile). In relation to BOD, the mean upstream concentration was 1.9mg/l, indicating that the mean EQS for Good status is not met upstream of the WwTP. However, the 95%ile Good status EQS is met. The downstream mean BOD, Ortho-P and Ammonia concentrations are below the EQS for Good status (both mean and 95%ile). As noted above, the significant pressures for the Martin_010 have been cited within the draft 3rd cycle Catchment Report as Hydromorphology (embankments) and Other (illegal dumping), both of which are outside of the control of IW. Grenagh WwTP is not listed as a significant pressure on this At Risk Martin_010 waterbody.

A Small Stream Risk Score (SSRS) Report was completed in 2018. The report concluded that there was no apparent impact to the macroinvertebrate community of the Martin River downstream of the WwTP due to the WwTP operational discharge.

Based on the above it is considered that there is no environmental risk posed to the receiving water environment as a result of the discharges from the agglomeration.

Waste Assimilative Capacity

Waste Assimilative Capacity (WAC) calculations have been completed to inform this WWDL application process and to show the impact of the primary discharge from the WwTP on the receiving waterbody, the Martin River (Martin_010).

The calculations were based on the 95%ile and mean river flow in the river, 0.06m³/s and 0.72m³/s (as determined by IW, see **Attachment D.2.6** Hydrological Estimation), the projected normal waste water loading of 135m³/d (750 p.e x 180/p.e/day) and the proposed operational standards/ELVs. Due to limited background data, and the fact that the current WFD status of the Martin_010 is Poor, and that the significant pressures for the Martin_010 have been cited as Hydromorphology (embankments) and Other (illegal dumping), both of which are outside of the control of IW, the EPA's "notionally clean river" concentrations were applied in the WAC calculations. Refer to **Table 4.0** and **Table 5.0** below.

Table 4.0 WAC for 750 PE (based on Notionally Clean River) - 95%ile River Flow

| Parameter | Upstream River Conc ^{Note 1} | Proposed ELV | Contribution from Primary Discharge (mg/l) | Predicted D/S Conc (mg/l) | Relevant Standard (mg/l) |
|-----------------------|---------------------------------------|--------------|--|---------------------------|--------------------------|
| BOD | 0.26 | 25 | 0.63 | 0.888 | <2.6 ^{Note 2} |
| Total Ammonia | 0.008 | 3 | 0.08 | 0.084 | <0.14 ^{Note 2} |
| Ortho-Phosphate (MRP) | 0.005 | 1.65 | 0.04 | 0.047 | <0.075 ^{Note 2} |

Note 1: Based on notionally clean river approach.

Note 2: European Union Environmental Objectives (Surface Waters) (Amendment). Regulations 2019 (S.I. No. 77 of 2019) – Good Status 95%ile EQS

Table 5.0 WAC for 750 PE (based on Notionally Clean River) - Mean River Flow

| Parameter | Upstream River Conc ^{Note 1} | Proposed ELV | Contribution from Primary Discharge (mg/l) | Predicted D/S Conc (mg/l) | Relevant Standard (mg/l) (Good Status) |
|-----------------------|---------------------------------------|--------------|--|---------------------------|--|
| BOD | 0.26 | 25 | 0.054 | 0.314 | <1.5 ^{Note 2} |
| Ortho-Phosphate (MRP) | 0.008 | 3 | 0.006 | 0.014 | <0.065 ^{Note 2} |
| Total Ammonia | 0.005 | 1.65 | 0.004 | 0.009 | <0.035 ^{Note 2} |

Note 1: Based on notionally clean river approach.

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

As shown above, the resultant downstream concentrations for BOD, Total Ammonia and Ortho-P comply with the relevant Good status EQSs for each parameter for both the 95%ile and mean river flows. Refer to **Attachment D.2.3** of the WWDA application for further details on the WAC.

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.

Table 6.0 lists the European sites within 15 km of the Grenagh WwTP operational discharges and those that are connected downstream *via* a source – pathway – receptor connection. **Figure 1.0** shows their location in relation to the discharges.

For significant effects to arise from a proposal, there must be a risk triggered by having a ‘source’ (*e.g.*, in this case the WwTP 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 discharges 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 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).

Table 6.0: European sites within 15 km of the Grenagh WwTP operational discharges and those that are connected downstream via a source – pathway – receptor connection

| Site Code | Site Name (Approx. distance from WwTP Operational Discharges) | Qualifying Interest |
|-----------|--|--|
| 002170 | Blackwater River (Cork/Waterford) SAC (ca. 5 km (direct) from operational discharges) – not hydrologically connected | <p>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 Ilex and Blechnum 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> (Twaite Shad) [1103] <i>Salmo salar</i> (Salmon) [1106] <i>Lutra lutra</i> (Otter) [1355] <i>Trichomanes speciosum</i> (Killarney Fern) [1421]</p> |
| 004030 | Cork Harbour SPA (ca. > 30km downstream of operational discharges) | <p>Little Grebe (<i>Tachybaptus ruficollis</i>) [A004] Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Grey Heron (<i>Ardea cinerea</i>) [A028] Shelduck (<i>Tadorna tadorna</i>) [A048] Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052]</p> |

| Site Code | Site Name (Approx. distance from WwTP Operational Discharges) | Qualifying Interest |
|-----------|--|---|
| | | Pintail (<i>Anas acuta</i>) [A054] Shoveler (<i>Anas clypeata</i>) [A056] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Common Tern (<i>Sterna hirundo</i>) [A193] Wetland and Waterbirds [A999] |
| 001058 | Great Channel Island SAC (ca. > 34km downstream of operational discharges) | Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] |

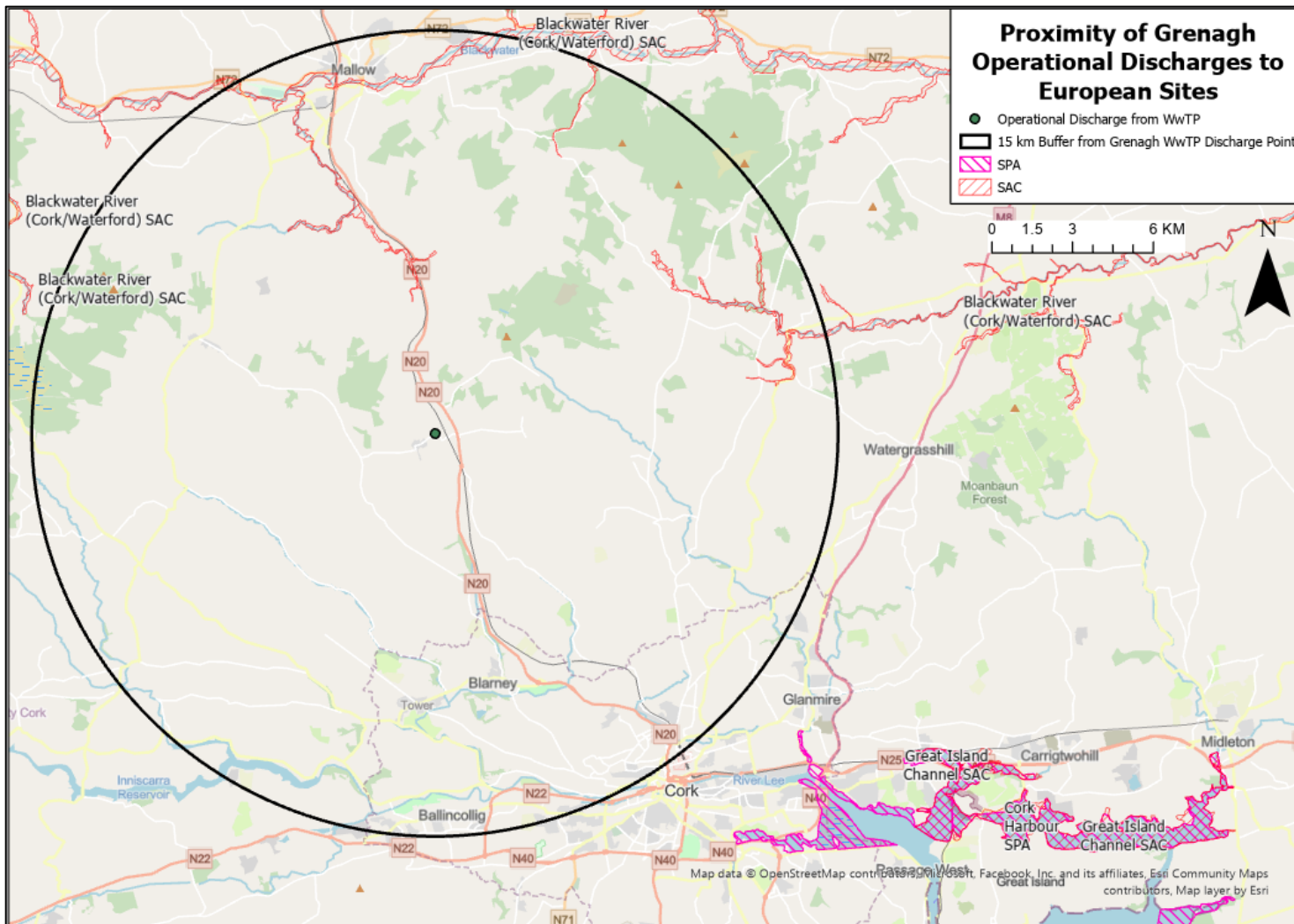


Figure 1.0: Proximity of Grenagh Operational Discharges to European Sites

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 negative effects on the Conservation Objectives of European sites.

Direct, Indirect or Secondary Impacts

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

The WwTP discharges to the Martin River which flows southward joining the Shournagh River and then southeast joining the Lee River entering Cork Harbour.

A single European site, the River Blackwater (Cork/Waterford) SAC lies within 15km of the Grenagh discharge point. This SAC is not hydrologically connected to the Martin River and therefore there is no likelihood of any significant effects arising.

The Cork Harbour SPA and Great Channel Island SAC are both distantly hydrologically connected to the Martin River (over 30km downstream from the WwTP operational discharges). While ambient and effluent data is limited, the Martin River downstream of the WwTP meets the Surface Water Regulations standards as indicated by the available monitoring data. There is also no evidence to suggest that the WwTP discharge is impacting on the Martin River locally and the operational discharges from the WwTP are not considered to be a significant pressure on the Martin_010, consequently it can be confidently concluded that there is no likelihood of any significant effect on water quality in these remotely connected European sites arising from Grenagh WwTP operational discharges.

In accordance with the Regulations European Union (Waste Water Discharge) Regulations 2007 to 2020, the operational discharges will not impact on the conservation objectives of Blackwater River (Cork/Waterford) SAC or any remotely connected European site *i.e.*, Cork Harbour SPA and Great Channel Island SAC. No significant adverse impacts on the Annex I habitats or Annex II species of any of these European sites are anticipated as a result of the operational discharges from Grenagh WwTP.

Based on the above, it is considered that there is no likelihood of significant effects from the operational discharges on the Qualifying Interests of the River Blackwater (Cork/Waterford) SAC, Cork Harbour SPA and Great Channel Island SAC, or indeed any other European site.

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.

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 Communities (Environmental Objectives) Surface Water Regulations, 2009 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 proposed discharge limits take into account the above regulations. It is considered that the operation of the WwTP will continue not to have a detrimental impact on the water quality of the Martin River or the Shournagh River downstream and will aid the receiving water body in achieving its Good WFD status by 2027.

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 July 2022). 20 no. applications (validated) were identified within the region of Grenagh North within this time period. Applications were all for small scale developments, typically residential and agricultural, which do not have the potential to significantly impact water quality in Martin River in-combination with Grenagh WwTP.

In summary given Grenagh WwTP is not impacting '*alone*' on the Martin River and given the distance to the nearest connected European sites, there is no potential for the WwTP discharge to contribute to any cumulative impacts on any European site.

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 Grenagh WwTP, individually or in combination with other plans or projects are likely to have a significant effect on any European site.

The screening assessment undertaken demonstrates that the proposed operational discharges are not likely to have significant effects on any European Sites having regard to their conservation objectives, for the following reasons.

- The Grenagh agglomeration is a small catchment area currently serving 561 p.e. (2021 peak week loading) with a maximum p.e. of 750 for the duration of the licence .
- The fact that the Blackwater River (Cork/Waterford) SAC is not hydrologically connected to the Martin River into which the operational discharges are made.
- The fact that the Cork Harbour SPA and Great Island Channel SAC are greater than 30 km downstream of the operational discharges.
- The status of the receiving water downstream of the operational discharges.

- Downstream of the WwTP at RS19M010200 and RS19M010300, the 2020 monitoring reported a Q value of 4 (Good). Further downstream at RS19M010400, the 2020 monitoring reported a Q value of 4-5 (High).
- The Grenagh WwTP and its primary effluent discharge (SW001) operate 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 design of the Storm Water Overflow (SW002) at the WwTP 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.

Based on the above, it has been concluded following screening that the operational discharges from the Grenagh agglomeration are not directly connected with or necessary to the management of any European Site, and it is considered, for the reasons set out above, that it can 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 and accordingly determined that an Appropriate Assessment is not required.

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