



**SANITARY SURVEY AND SAMPLING PLAN
FOR CORK HARBOUR, Co. CORK –
AUGUST 2026**



**AN t-ÚDARÁS UM
CHOSAINT
IASCAIGH MHARA**

**SEA-FISHERIES
PROTECTION
AUTHORITY**

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DISCLAIMER

Under EU Regulation 2019/627, which lays down uniform practical arrangements for the performance of official controls on products of animal origin intended for human consumption, a sanitary survey relevant to bivalve mollusc production in Cork Harbour was undertaken in 2025. The sanitary survey evaluates pollution sources and environmental factors so that the authorities can design a suitable hygiene-classification zoning and monitoring plan using the best available information and supporting evidence. Aqualicense Limited undertook the desktop component of this work on behalf of the SFPA; SFPA conducted the shoreline survey.

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ABBREVIATIONS

ABBREVIATION	DEFINITION
BIM	Bord Iascaigh Mhara
BMPA	Bivalve Mollusc Production Area
CoP	Code of Practice
CPG	Copies per gram
CSO	Central Statistics Office or Combined Sewer Overflow
DAFM	Department of Agriculture, Food and the Marine
DWWTS	Domestic Waste Water Treatment System
<i>E. coli</i>	<i>Escherichia coli</i>
ED	Electoral Division
EPA	Environmental Protection Agency
EU	European Union
GPS	Global Positioning System
GSI	Geological Survey of Ireland
GWVul	Ground Water Vulnerability
IE	Industrial Emissions
IFI	Inland Fisheries Ireland
IPC	Integrated Pollution Control
I-WeBS	Irish Wetland Bird Survey
ISO	International Organisation for Standardisation
MPN	Most Probable Number
NAP	Nitrates Action Programme
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Service
PE	Population Equivalent
PoI	Points of Interest
PSU	Practical Salinity Unit
Q	Water flow rate
RIB	Rigid Inflatable Boat
RMP	Representative Monitoring Point
RT-qPCR	Reverse Transcription Quantitative Polymerase Chain Reaction
SAC	Special Area of Conservation
SFPA	Sea Fisheries Protection Authority
SFPO	Sea Fisheries Protection Officers
SPA	Special Protection Area
SPR	Source-Pathway-Receptor
UWWTP	Urban Waste Water Treatment Plant
WFD	Water Framework Directive
WGS84	World Geodetic System 1984
WWTP	Waste Water Treatment Plant

EXECUTIVE SUMMARY

Faecal contamination in shellfish waters poses a significant public health risk, particularly for filter-feeding bivalve molluscs such as oysters and mussels, which can accumulate harmful bacteria and increase the risk of foodborne illness. To mitigate these risks, Article 56 of the EU Commission Implementing Regulation 2019/627 mandates that a Sanitary Survey be conducted before classifying a shellfish production or relay area.

In line with the regulation, Aqualicense has been contracted by the Sea-Fisheries Protection Authority (SFPA) to prepare this Sanitary Survey report. Its purpose is to ensure compliance with the relevant legislation, refine or confirm the delineation of the Bivalve Mollusc Production Area (BMPA), and identify appropriate Representative Monitoring Point(s) (RMP). This assessment provides the necessary evidence base to support classification decisions, reviews of existing classifications and ongoing monitoring to ensure that public health protections are maintained.

This report presents the findings of the sanitary survey for Cork Harbour, undertaken to support the classification of waters within the Cork Harbour Bivalve Mollusc Production Area (BMPA), which currently hosts aquaculture licenses for the commercial cultivation of European flat oysters (*Ostrea edulis*), Pacific oysters (*Magallana gigas*) and Blue mussel (*Mytilus edulis*).

The report encompasses the following key components:

1. A desk-based assessment of the harbour hydrodynamics and the seasonal potential for faecal contamination sources using a Source-Pathway-Receptor (SPR) model;
2. A field-based shoreline survey conducted by SFPA officers to confirm known risks and identify additional sources of contamination;
3. A bacteriological survey of selected inflows and runoff points;
4. A recommendation on the extent of the BMPA (geographic delineation) based on hydrodynamics, catchment influence, and aquaculture activity;
5. Species and location specific recommendations to support the development of appropriate sampling plans for the Representative Monitoring Points (RMPs) within the zoned production areas in line with EU and SFPA requirements.

The desk-based study employed a Source-Pathway-Receptor (SPR) model to assess contamination risks within Cork Harbour. This study was based on the defined "Contributing Catchment," encompassing river networks and associated sub-basins draining into the harbour. This approach allowed for the identification of potential pollution sources, their transport pathways, and their circulation within the Bivalve Mollusc Production Area (BMPA), with consideration for the effects of seasonality and microbial loads. Highlights of the key stages of the SPR model and main findings are outlined below and discussed in further detail throughout the report.

1. The first step in the desk-based study was to characterise the Bivalve Mollusc Production Area (BMPA), i.e. the receptor. The BMPA spans approximately 93.71 km² within Cork Harbour, Co. Cork. It currently supports four licenced sites (licensed aquaculture sites and fishery orders), two within the Belvelly Channel, north of Great Island (one inactive) and two within the Rostellan area, south of Great Island. The licensed and authorised bivalve activities within Cork Harbour include Pacific oyster, European flat oyster and

Blue mussel visible on the [DAFM web mapping](#). Current SFPA classification status varies by species and zoned production areas as outlined in Table 2-1.

2. The desk-based study examined the movement of pollutants, hydrological pathways to, and hydrodynamics within the BMPA. It also assessed the influence of weather patterns on hydrography and hydrodynamics.
 - a. The findings indicate that the primary source of freshwater inflow, and consequently potential contamination, is via the River Lee (Inflow 19) which drains a large portion of the catchment including Cork City and the surrounding urbanised areas. Additional contributions arise from the northern inflows (notably the Owennacurra and Tibbotstown inflows).
 - b. Hydrodynamic characteristics of the BMPA, as identified through the desk-based review, indicated complex extended flushing patterns and tidal cycles within Cork Harbour. These tidal dynamics suggest a potential for temporary accumulation of pollutants, particularly during neap tides when flushing rates are reduced, enhancing the risk of contamination persistence within the shallow, sheltered areas of the BMPA.
 - c. Seasonal variations in surface water run-off were also noted, with heavy rainfall events in winter likely to influence microbial loads entering the harbour. (See Section 2.4.4)
3. An inventory of potential pollutants was compiled, identifying key sources including failing municipal waste water treatment plants, diffuse agricultural activities (slurry spreading and livestock grazing, predominantly sheep and cattle), industrial operations, tourism related facilities and wildlife (See Table 2-10).

Overall SPR Conclusion

The overall SPR model determined that the key area of concern for organic pollutants is from the waste water discharges, Section 4 licences and intensive agricultural activities, with the highest risk in the northern and north-eastern sectors where poor circulation and short travel times increase exposure.

The licenced sites are in close proximity to critical inflows such as Tibbotstown and Owennacurra, creating direct pathways for contaminant transport. Secondary concerns include diffuse urban runoff and seasonal loading (tourism and agriculture), which can exacerbate pollutant inputs under high rainfall or low-flow conditions. In contrast, marine vessels, informal recreation and wildlife represent only minor or episodic risks. Nutrient loading from point and diffuse sources with cumulative loading pose the most significant challenges to the water quality in the region.

Sanitary Survey and Bacteriological Results

A comprehensive shoreline survey of the Cork Harbour BMPA was carried out by SFPA personnel between May and October 2025 using a combination of walkover inspections and vessel-based coverage to ensure full coverage of the coastline. Surveys were undertaken across both rising and falling tides to maximise detection of intertidal pipes and drains, with predominantly dry and settled weather conditions offering good, though seasonally limited, observation conditions. In total, 183 features were recorded, including municipal and stormwater outfalls, agricultural

drains, industrial discharges, port and marina infrastructure, and various legacy structures. Several clusters of concern were identified, particularly around Midelton/Ballinacurra, Little Island, Ringmahon-Blackrock-Douglas and Rochestown-Passage-Monkstown, where multiple active outfalls or indicators of sewerage influence were observed. Diffuse agricultural inputs, industrial discharges, and small craft activity were also noted as contributing pressures, with potential implications for microbiological water quality and localised pollution hotspots.

To complement the shoreline assessment, bacteriological sampling was undertaken at 8 targeted locations where faecal contamination was suspected. Samples were collected under dry weather conditions for logistical reason and results indicated *E. coli* concentrations ranging from <10 to 24,196 MPN/100 mL. Most sites showed low to moderate contamination consistent with diffuse rural or mixed-catchment inputs, while one site at Saleen Creek (Rostellan, northwest in the southern harbour) recorded exceptionally high levels, indicating a significant localised source.

Overall, the findings suggest that faecal contamination within the BMPA is mainly associated with known point discharges, outfalls, and local drainage inputs, with limited evidence of widespread contamination under the prevailing dry-weather conditions. Season factors such as rainfall, river flow, and agricultural activity remain important considerations for future monitoring and sampling design.

Amended BMPA

The initial proposed Cork Harbour BMPA spanned the full extent of the harbour out to its mouth, matching the Marine Institute's monitored inshore shellfish production area for harmful algal blooms. A reduction in this spatial extent is proposed due to major navigational and infrastructural constraints, including commercial shipping lanes, naval and industrial ports operations and restricted access near the River Lee and Lough Mahon. The amended BMPA is approximately 14.8 km², within which the proposed zoned production areas comprise approximately 12.8 km² (North Channel: 3.5 km² and Rostellan 9.3 km²).

Shoreline survey results supported this refinement by identifying previously undocumented contamination sources and confirming the appropriate locations for RMPs. In collaboration with the SFPA, the amended BMPA boundary has been aligned with existing and potential future bivalve production sites and subsequently divided into two distinct zoned production areas, North Channel and Rostellan, to improve management and operational practicality. The coordinates defining these amended BMPA boundaries are provided in [Section 6](#).

Conclusion

Considering the findings of the desk-based study, SPR assessment, shoreline survey and bacteriological analysis, provide a comprehensive understanding of the contamination dynamics within the wider BMPA and the proposed Cork Harbour zoned production areas – North Channel and Rostellan. These findings confirm the suitability of the zoned production areas for continued shellfish cultivation and identify certain areas requiring focused monitoring.

The evidence base established through this survey supports the delineation of the amended BMPA and recommended RMPs and ensures that classification and management decisions remain aligned with EU regulatory requirements. In consideration of the available datasets and

the absence of site-specific hydrodynamic survey data (with modelling outputs serving as the primary source of information for flushing estimations etc.), a precautionary approach has been applied to the selection of the RMPs.

In conclusion, a sanitary survey has been completed following EU Regulation 2019/627. Based on the desk-based study, shoreline survey, and bacteriological monitoring, six species-specific RMPs were identified. These include active, interim and inactive/proposed RMPs, depending on current production, stock availability and SFPA sampling requirements. Within the North Channel zoned production area these comprise one active and one inactive RMP for Pacific oyster, and one RMP for European flat oyster. One proposed RMP each for European flat oyster and Blue mussel and one active RMP for Pacific oyster was identified within the Rostellan zoned production area.

Species-specific sampling plans were developed for the Cork Harbour BMPA microbiological monitoring programme, which will inform the annual review of classifications.

1 INTRODUCTION

The presence of faecal contamination in the marine environment can result in the accumulation of harmful microorganisms in shellfish, posing a public health risk. Bivalve molluscs such as oysters, mussels, and clams are filter feeders, meaning they draw in and process large volumes of water, which can lead to the concentration of microbial contaminants. *Escherichia coli* (*E. coli*) is a key indicator organism used to assess faecal contamination, as its presence suggests potential pollution from human or animal waste. If such contamination includes pathogenic bacteria or viruses, it can increase the risk of foodborne illness for consumers.

To mitigate these risks, the European Union has established a regulatory framework governing the classification and monitoring of shellfish production and relaying areas. EU Regulation 2019/627 outlines the requirements for sanitary surveys. Article 56 of the Regulation mandates that competent authorities (i.e. the SFPa in an Irish context) conduct a sanitary survey before classifying a production or relaying area. This survey must include:

- a) *an inventory of the sources of pollution of human or animal origin likely to be a source of contamination for the production area;*
- b) *an examination of the quantities of organic pollutants released during the different periods of the year, according to the seasonal variations of human and animal populations in the catchment area, rainfall readings, waste-water treatment, etc.;*
- c) *determination of the characteristics of the circulation of pollutants by virtue of current patterns, bathymetry and the tidal cycle in the production area.*

Furthermore, under the SFPa Code of Practice (SFPa, 2025), a sanitary survey may include four elements:

- 1. A desk-based study to identify pollution sources;
- 2. A shoreline survey to confirm initial findings of the desk-based study;
- 3. A bacteriological survey;
- 4. Data assessment.

In addition, ongoing monitoring is required under Article 57, ensuring that sampling programmes are informed by sanitary surveys and designed to produce representative data on water quality and potential contamination risks. Article 58 further stipulates that authorities must establish procedures to ensure that both sanitary surveys and monitoring programmes accurately reflect the conditions within shellfish production areas.

Cork Harbour has previously been classified as a Bivalve Mollusc Production Area (BMPA). However, a sanitary survey has not previously been produced. This sanitary survey will enable a review of the existing RMPs for Blue mussel and Pacific oyster and will support the identification of a potential additional RMP for European flat oyster. It examines all potential sources of faecal contamination, pathways, circulation and seasonal variations, with particular consideration of the contributing catchment's urban and rural mosaic. The report aims to inform classification decisions and provide the necessary evidence for effective monitoring in line with EU regulatory requirements.

2 DESK-BASED STUDY

2.1 INTRODUCTION TO THE GENERAL AREA

Cork Harbour is one of the largest natural harbours in the world, opening to the southeast and connecting with the Celtic Sea. Its 1.5 km wide entrance between Roches Point and Weaver's Point gives way to an 18,100-ha sheltered basin, threaded by the former River Lee channel. Key geomorphological features include Great Island, which naturally divides the harbour into northern and south-eastern arms, along with the smaller limestone islands of Spike, Haulbowline and Little Island. Low sandstone and limestone peninsulas such as Monkstown/Passage West and Crosshaven frame the waterbody, whose depths are generally <5 m outwith the maintained navigation channel (dredged to 6.5 m).

Licensed aquaculture and bivalve fishery order sites are confined to two areas: the North Channel (west of Little Island) and the Rostellan area (lower South Harbour) (Figure 2-1). There are four licenced sites currently occupying an area of c.1,074 ha in total. One currently inactive license exists for Pacific oyster (*Magallana gigas*), covering 8 ha in the North Channel (bag and trestle grow method) and a fishery order is in place for oysters in the North Channel, covering an area of 129 ha., where European flat oysters and Pacific oyster are produced.

In the Rostellan area, one bottom culture Blue mussel (*Mytilus edulis*) site is licensed, covering an area of 8 hectares. This is surrounded by the larger site, for which an oyster fishery order is granted, which covers a c. 929 ha section of mud to sand flats habitats. Oysters are grown on the bottom throughout this area, with trestles placed in the north and south of the mussel area.

Currently there are no marine finfish cages, seaweed lines or other non-bivalve ventures licensed within the harbour boundaries.

Commercial inshore fishing activities target periwinkle (*Littorina littorea*) and shrimp (Marine Institute, 2025).

2.2 CHARACTERISATION OF THE PRODUCTION AREA

Key characteristics of the BMPA are outlined in Table 2-1.

Table 2-1: Characteristics of the Bivalve Mollusc Production Area

CRITERIA	DESCRIPTION
Location and extent	This Bivalve Mollusc Production Area (BMPA) is within Cork Harbour, Co. Cork. It covers an area of c. 93.71 km ² .
Bivalve species	Pacific oyster (<i>Magallana gigas</i>) European flat oyster (<i>Ostrea edulis</i>) Blue mussel (<i>Mytilus edulis</i>)

CRITERIA	DESCRIPTION
Aquaculture or wild stocks	North Channel At present there is a fishery order in place in the North Channel area for European flat oyster and Pacific oyster: T05-017OFO (129.14 ha) An inactive Pacific oyster licensed site is also present in: T05-294(A) (8 ha). Rostellan A fishery order is in place for Pacific oyster and European flat oyster within the Rostellan production area: T05-002OFO (929 ha) In addition, there is a licensed site for Blue mussel: T05-522 (8 ha).
Seasonality of harvest	Shellfish may be harvested year-round in accordance with market demand. With respect to license T05-522B (Blue mussel), it is a requirement that all vessel activities take place during daylight hours (two hours before sunset and one hour after sunrise) to aid in avoiding potential disturbance to Cormorant, Red-breasted Merganser and Great Crested Grebe roost sites.
Growth and harvesting techniques	European flat oyster/Pacific oyster (T05-017OFO): Bottom culture dredging Pacific oyster (T05-294): Bag and Trestle (Inactive) Rostellan European flat oyster/Pacific oyster: Bag and Trestle Blue mussel (T05-522B): Bottom culture European flat oyster/Pacific oyster: T05-002OFO: Bottom culture dredging
Any conservation controls (e.g. closed season)	No conservation controls are employed, with the exception of those under license T05-522B detailed above.
Existing classification data	For Cork Harbour, the most recent annual classification is Class B for both European flat oyster and Pacific oysters in the North Channel.

CRITERIA	DESCRIPTION
	Cork Harbour was previously classified as a C for Blue mussels in the North Channel and subsequently declassified for Blue mussel in 2016¹. In the Rostellan Area, Pacific oysters are classified as B for production by aquaculture. The established process for defining a BMPA boundary is set out in Section 2.2.1. The boundary is then finalised based on the outcomes of the sanitary survey, specifically with regard to the area that can be reliably represented by the designated Representative Monitoring Point(s) (RMPs).
Norovirus data	Norovirus monitoring information provided by the Marine Institute (MI) is included in Appendix - 10 as supplementary contextual information. The available data indicates that both North Channel and Rostellan production areas are impacted by a high level of norovirus contamination with a high degree of certainty. This information has not been incorporated into the screening or RMP selection rationale, which are based on the sanitary survey evidence base including catchment pressures, hydrodynamic connectivity, shoreline observations and <i>E. coli</i> bacteriological results.

¹ No other production area in the country to date has been classified as Class C (pers. comms. Cork Port Officer, March 2026).

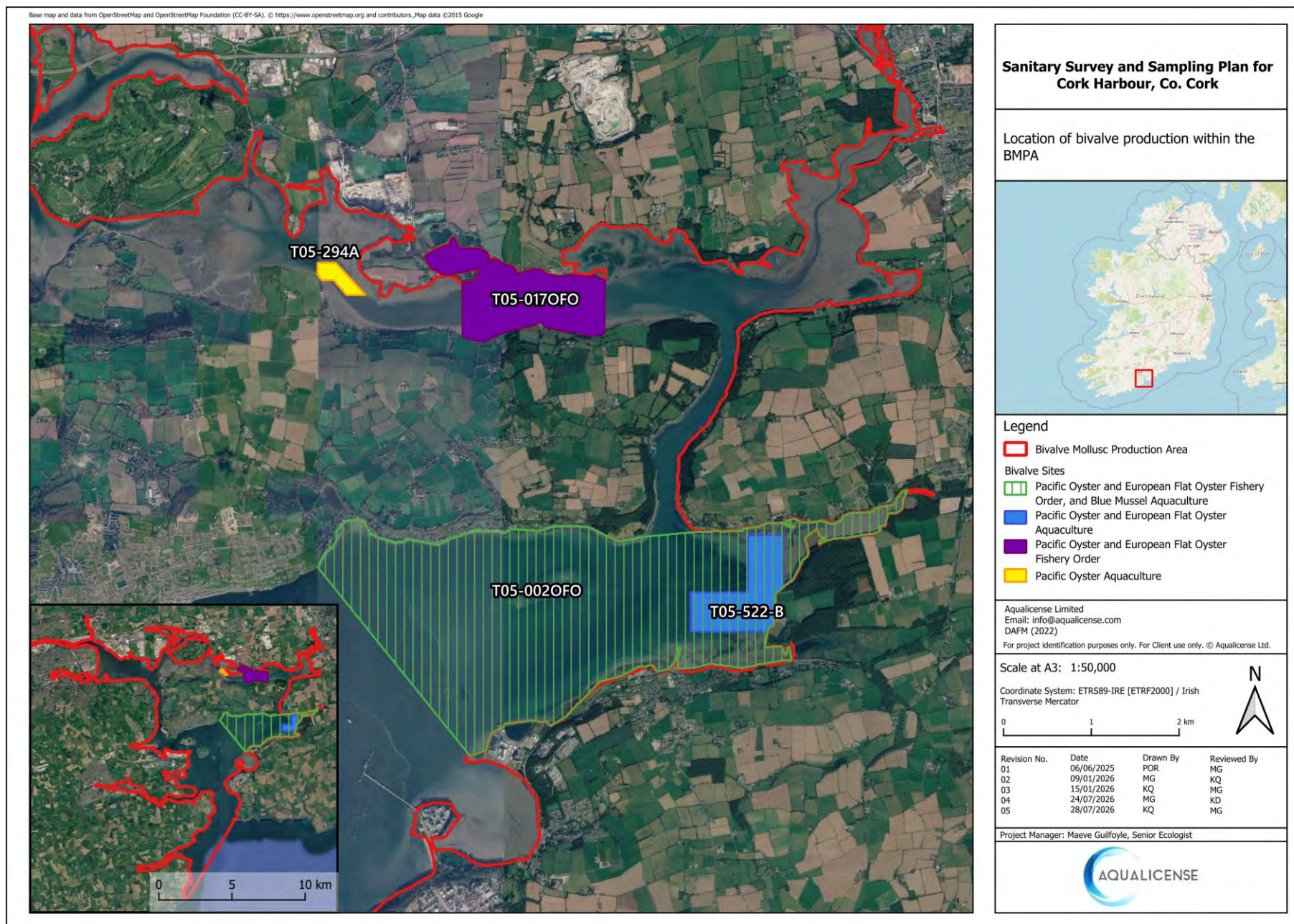


Figure 2-1: Location of bivalve production within the BMPA (Accessed 02/12/2025)

2.2.1 BIVALVE MOLLUSC PRODUCTION AREA DELINEATION PROCESS

The process for defining a Bivalve Mollusc Production Area (BMPA) boundary is that the SFPA initially proposes the BMPA boundary by assessing the maximum area suitable for aquaculture that can be effectively covered by a localised sanitary survey. This is done in consultation with key stakeholders involved in aquaculture development and licensing, such as BIM, industry representatives, and the Department of Agriculture, Food and the Marine (DAFM).

The boundary is then finalised based on the findings of the sanitary survey, ensuring it encompasses both the potential shellfish production area and the zones that may impact it through pollutant inputs. This approach ensures that the designated Representative Monitoring Point(s) (RMPs) provide reliable representation of the microbiological quality within the BMPA.

2.3 ASSESSMENT METHODOLOGY

The desk-based study will follow SFPA guidelines (SFPA, 2025) and align with EU Regulation 627/2019, Article 56. It forms the first part of the sanitary survey, informing the shoreline and bacteriological surveys (if required).

A Source-Pathway-Receptor (SPR) model is applied to systematically identify and describe potential routes by which faecal contamination may be transferred from sources within the catchment and coastal environment to shellfish growing areas. The use of the SPR framework provides a structured and precautionary basis for the identification and screening of contamination pressures while focusing the assessment on relevant and plausible linkages affecting the overall BMPA.

The SPR model is applied here as a qualitative screening tool, consistent with its intended use and established regulatory practice. The evidence base comprises a review of a combination of desk-based information, published literature, historical information and professional judgement, to cautiously determine the presence of credible source-pathway- receptor linkages, rather than quantify risk.

Numerical scoring or weighted ranking is not applied, as this could imply a level of precision or comparability that is not supported by the available data and may obscure uncertainty. Pathways identified as plausible and potentially significant are considered in the context of subsequent requirements, such as targeted field investigations, shoreline surveys, sampling design and any further data gathering needed to confirm or refine initial conclusions. This ensures that follow up work is directed toward those sources and transport routes that are most likely to influence the BMPA, in accordance with the staged sanitary survey process.

This assessment applies the SPR model to evaluate the ecological risk associated with faecal contamination within the BMPA (i.e. the receptor).

- **Source:** Faecal contaminants originate from identifiable inputs including but not limited to agricultural runoff, waste water treatment plant effluents, combined sewer overflows, and diffuse urban or wildlife sources. These inputs introduce microbiological pollutants such as *E. coli*, enteric viruses, and protozoan cysts into the aquatic environment.
- **Pathway:** Contaminants are transported via hydrological and tidal processes, surface water flows, and stormwater conveyance systems. Transport dynamics are influenced

by rainfall events, land use, catchment topography, and the retention or resuspension of faecal material in sediments. Temporal variation is considered to identify peak contamination windows.

- **Receptor:** Shellfish species, particularly filter feeders, accumulate faecal contaminants present in the water column. These organisms serve as biological indicators and direct receptors of microbial loading. The receptor area in this instance is the entire BMPA, within which aquaculture activities are possible.

If any element (source, pathway, or receptor) is absent, no impact occurs, allowing targeted evaluation for the BMPA.

Key SPR components are indicated in Figure 2-2.

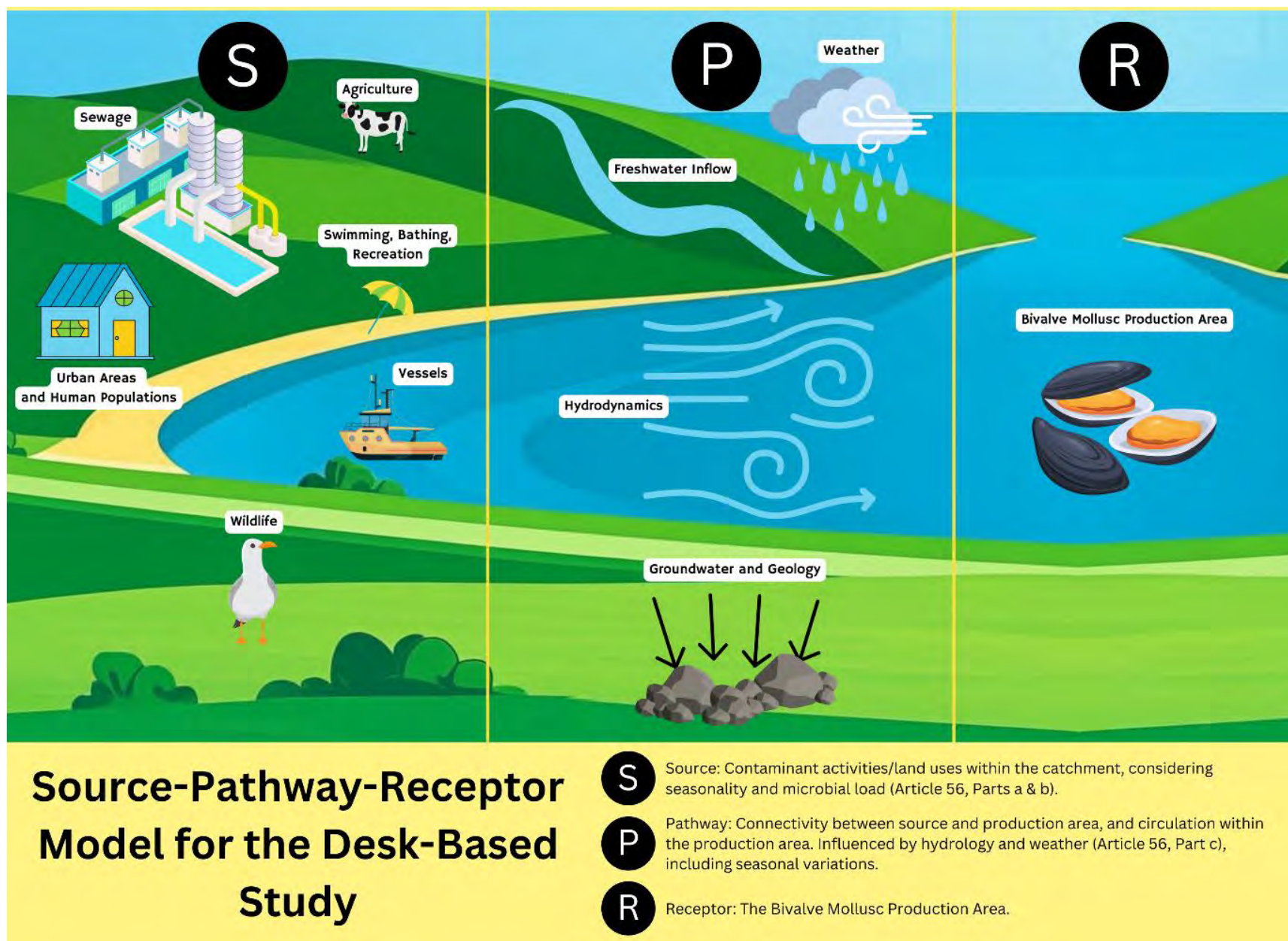


Figure 2-2: Key elements to be considered in this Desk-Based Study under the SPR Model

2.3.1 CONTRIBUTING CATCHMENT

The first step for assessing sources and pathways is to define the “Contributing Catchment”. This is the area of land from which there is a hydrological connection or pathway to the proposed BMPA.

A catchment is broadly defined as: “*an area of land that drains into a river, lake or other body of water*” (EPA, 2025a). While the EPA further identifies catchments and sub-catchments for the purposes of Water Framework Directive (WFD) monitoring; however, these are at too large a scale for the purposes of a sanitary survey.

Therefore, a specific “Contributing Catchment” has been allocated solely for the purposes of this survey. This contributing catchment has been selected by identifying all river networks (EPA, 2022) which enter the BMPA. Subsequently, to account for land draining into these river networks, the EPA river sub-basin (EPA, 2022), through which each river flows, is also included in the contributing catchment (EPA, 2022).

The identified contributing catchment covers an area of 1,926.95 km² and contains 81 sub-basins. The defined contributing catchment is identified in Figure 2-3.

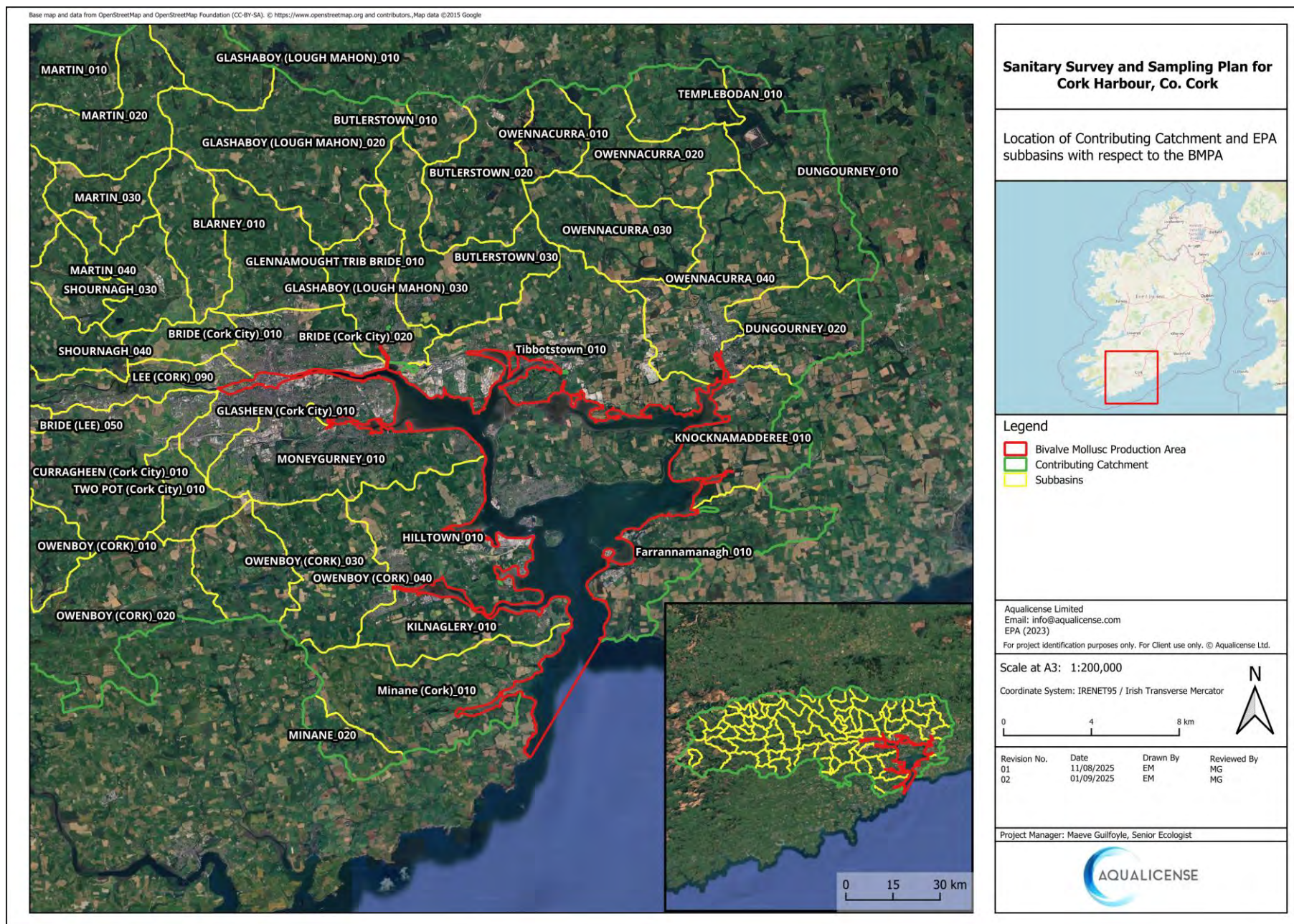


Figure 2-3: Location of contributing catchment and EPA mapped subbasins with respect to the BMPA (Accessed 01/09/2025)

2.4 CHARACTERISTICS OF CIRCULATION OF POLLUTANTS

Prior to identifying pollution sources and their seasonality, an examination of pollutant circulation within the BMPA was conducted. This analysis provided the foundation for the detailed pathway assessments presented in subsequent sections of this desk-based study.

This section describes the movement of pollutants within the harbour, outlining the hydrological pathways leading to the BMPA and the hydrodynamic processes operating within it. It also considers the influences of weather patterns, particularly their seasonal influences on hydrography and pollutant dispersion. These insights directly inform the delineation of the BMPA and placement of RMPs.

2.4.1 FRESHWATER INFLOWS

The contributing catchment consists of 81 river subbasins Figure 2-4. These subbasins and associated watercourses have been categorised based on their points of inflow (36) to the BMPA (Table 2-2). Assessing these inflows is the first step in understanding the entry of pollutants and lays the foundation for further examination of pollutant circulation.

A total of 65 hydrometric gauges are present within the contributing catchment. The Ballyedmond hydrometric station is located on the Owennacurra River (EPA Code: 19O03) to the northeast of the BMPA, upstream from the licensed sites and it has flow data from 1976 to 2025. The Ballyedmond station records show that flow typically ranges between 5–9 Qm³/s. The peak flow recorded at the station is approximately 24 Qm³/s. Flow values peak in winter and spring and are at their lowest in autumn and summer.

The Lee, Moneygurney_010, Owenboy and Owennacurra sub basins are the sources of major freshwater inputs to the BMPA (Figure 2-4). The Lee [Cork] watercourse (EPA Code: 19L03) is the primary freshwater input to Cork Harbour, draining an area of c. 1250 km² and flowing through Cork City prior to entering the northwest upper harbour area at Lough Mahon. The Moneygurney_010 sub basin also contributes to this general area flowing into Lough Mahon in the west of the upper harbour, to the south of Cork City.

The Owennacurra River (EPA Code: 19O03) is a significant inflow to the eastern region of the upper harbour where the licensed sites are located. Upstream, it flows through agricultural land with “extreme” groundwater vulnerability (EPA, 2025) and the town of Midleton prior to entering the BMPA at its most northeasterly point. The Owenboy (EPA Code: 19O01) enters the lower harbour from the southwest of the BMPA at Carrigaline town and will therefore have a reduced impact on the licensed sites.

The Water Framework Directive (WFD) aims to protect and enhance the quality of rivers, lakes, transitional waters, coastal waters, and groundwater. WFD monitoring assesses biological, physicochemical, and hydro morphological parameters to determine waterbody status. While not all WFD parameters are directly relevant to sanitary surveys, some, such as the assessment of nutrients (nitrogen and phosphorus) and dissolved oxygen, serve as key indicators of organic pollution, including faecal contamination. WFD monitoring also identifies pressures on water quality, such as nutrient enrichment, waste water discharges, and diffuse pollution, which are further explored in Section 2.5 to assess their relevance as pollutant sources.

The WFD status (2019-2024) of the Lee [Cork] and the Owenboy (Cork)_040 as they enter the BMPA are both “Moderate”. The WFD status of and Owennacurra_040 and Moneygurney_010 watercourses as they enter the BMPA are “both “Poor”. The majority of inflows to the BMPA are classified as “Good”, with the exception of inflows in the northeast and northwest of the upper harbour at Middleton town and Cork City (Table 2-2). This will be discussed in more detail in Section 2.5 in respect of individual pollution sources.

Table 2-2: Locations of freshwater inflow to the BMPA (EPA, 2025)

INFLOW POINT	RIVER SUBBASIN (EPA CODE)	RIVER NAME (EPA CODE)	SUB BASIN WFD STATUS (2019-2024)
1	Minane 010 (IE_SW_20M010200)	Ringabella (20R08)	Good
2		Kilbeg (20K23)	
3		Unnamed River	
4		Annacarriga (20A08)	
5		Laharran (20L09)	
6	Minane 010 (IE_SW_20M010200) Minane 020 (IE_SW_20M010100)	Minane (20M01) All associated rivers and tributaries in the Minane 010 and 020 subbasins	Good Moderate
7	Minane 010 (IE_SW_20M010200)	Unnamed River	Good
8		Fountainstown (20F04)	
9		Ringabella (20R36) Tributary Fountainstown (20F30) Tributary Hoddersfield (20H09)	
10	Kilnaglery 010 (IE_SW_19K620850)	Knocknagore (19K68) 1 Unnamed Tributary	Good
11		Frenchfurze (19F15)	
12		Kilnaglery (19K62) Tributary Kilnaglery (19K72) Tributary Fahalea (19F10)	
13	Aughnaboy 010 (IE_SW_19A020300) Owenboy 010 (IE_SW_19O010400) Owenboy 020 (IE_SW_19O010800) Owenboy 030 (IE_SW_19O011000) Owenboy 040 (IE_SW_19O011400)	Owenboy (19O01) All associated rivers and tributaries within the five listed subbasins	Moderate Moderate Moderate Moderate Moderate
14	Hilltown 010 (IE_SW_19H050470)	Hilltown (19H05) Tributary Raheenerring (19R30) Tributary Shannonpark (19S30) Tributary Shannonpark Cross (19S35)	Good
15		Hop Island (19H03)	Poor

INFLOW POINT	RIVER SUBBASIN (EPA CODE)	RIVER NAME (EPA CODE)	SUB BASIN WFD STATUS (2019-2024)
	Lee [Cork] 020 (IE_SW_19L030100) Lee [Cork] 030 (IE_SW_19L030200) Lee [Cork] 040 (IE_SW_19L030300) Lee [Cork] 050 (IE_SW_19L030360) Lee [Cork] 060 (IE_SW_19L030400) Lee [Cork] 070 (IE_SW_19L030500) Lee [Cork] 080 (IE_SW_19L030600) Lee [Cork] 090 (IE_SW_19L030800) Martin 010 (IE_SW_19M010200) Martin 020 (IE_SW_19M010300) Martin 030 (IE_SW_19M010400) Martin 040 (IE_SW_19M010600) Rathcoola 010 (IE_SW_19R450050) Shournagh 010 (IE_SW_19S010100) Shournagh 020 (IE_SW_19S010200) Shournagh 030 (IE_SW_19S010300) Shournagh 040 (IE_SW_19S010500) Douglas [Sullane] 010 (IE_SW_19D040700) Sullane 010 (IE_SW_19S020100) Sullane 020 (IE_SW_19S020170) Sullane 030 (IE_SW_19S020200) Sullane 040 (IE_SW_19S020300) Sullane 050 (IE_SW_19S020400) Sullane 060 (IE_SW_19S020480) Toon 010 (IE_SW_19T020700)		Good Good High Good Good Moderate Moderate Good Good Moderate Good Good High Good Moderate High Good Good High High Good Good Good Good
20	Bride [Cork City] 010 (IE_SW_19B140110) Bride [Cork City] 020 (IE_SW_19B140300) Glennamought Trib Bride 010 (IE_SW_19G880990)	Kiln (19K75) Tributary Bride [Cork City] (19B14) Tributary Glen [Cork City] (19G09) Tributary Glennamought Trib Bride (19G88) All other associated tributaries within the three listed subbasins.	Moderate Poor Moderate
21	Butlerstown 010 (IE_SW_19B060200) Butlerstown 020 (IE_SW_19B060500) Butlerstown 030 (IE_SW_19B060800) Glashaboy [Lough Mahon] 010 (IE_SW_19G010200)	Glashaboy (19G01) All associated rivers and tributaries within the six listed subbasins.	Moderate Moderate Good Good Good

INFLOW POINT	RIVER SUBBASIN (EPA CODE)	RIVER NAME (EPA CODE)	SUB BASIN WFD STATUS (2019-2024)
	Glashaboy [Lough Mahon] 020 (IE_SW_19G010400) Glashaboy [Lough Mahon] 030 (IE_SW_19G010600)		Good
22	Glashaboy [Lough Mahon] 030 (IE_SW_19G010600) Tibbotstown 010 (IE_SW_19T250870)	Rowgarrane (19R34) Kilcoolishal (19K66)	Good Good
23	Tibbotstown 010 (IE_SW_19T250870)	Tower Hill (19T27)	Good
24		Killacloyne (19K61) Tributary Harpers Island (19H04)	
25		Tibbotstown (19T25) Tributary Springhill (19S34) Anngrove (19A18) Tributary Foaty Island (19F13)	
26		West Ballintubrid (19W10)	
27		West Ballyvodock (19W11)	
28	Owennacurra 040 (IE_SW_19O030500)	Oatencake (19O08)	Poor
29	Owennacurra 010 (IE_SW_19O030500) Owennacurra 020 (IE_SW_19O030500) Owennacurra 030 (IE_SW_19O030500) Owennacurra 040 (IE_SW_19O030500) Templebodan 010 (IE_SW_19T010100)	Owennacurra (19O03) All associated rivers and tributaries within the five listed subbasins.	Good Moderate Good Poor Good
30	Dungourney 010 (IE_SW_19D070500) Dungourney 020 (IE_SW_19D070700)	Dungourney (19D07) All associated tributaries in the Dungourney 010 and 020 subbasins.	Good Moderate
31	Knocknamadderee 010 (IE_SW_19K630910)	West Ballynacora (19W17)	Good
32		Loughataia (19L49)	
33		Knocknamadderee (19K63) Tributary Spital (19S38) Tributary Kilva (19K64)	
34	Farrannamanagh 010 (IE_SW_19F110740)	Farrannamanagh (19F11) Tributary Rostellan (19R33) Tributary Aughane (19A25)	Good

INFLOW POINT	RIVER SUBBASIN (EPA CODE)	RIVER NAME (EPA CODE)	SUB BASIN WFD STATUS (2019-2024)
		Tributary Aghada (19A17)	
		Tributary Lower Aghada (19L46)	
35		Ardnabourkey (19A23)	
36		White Bay (19W19)	

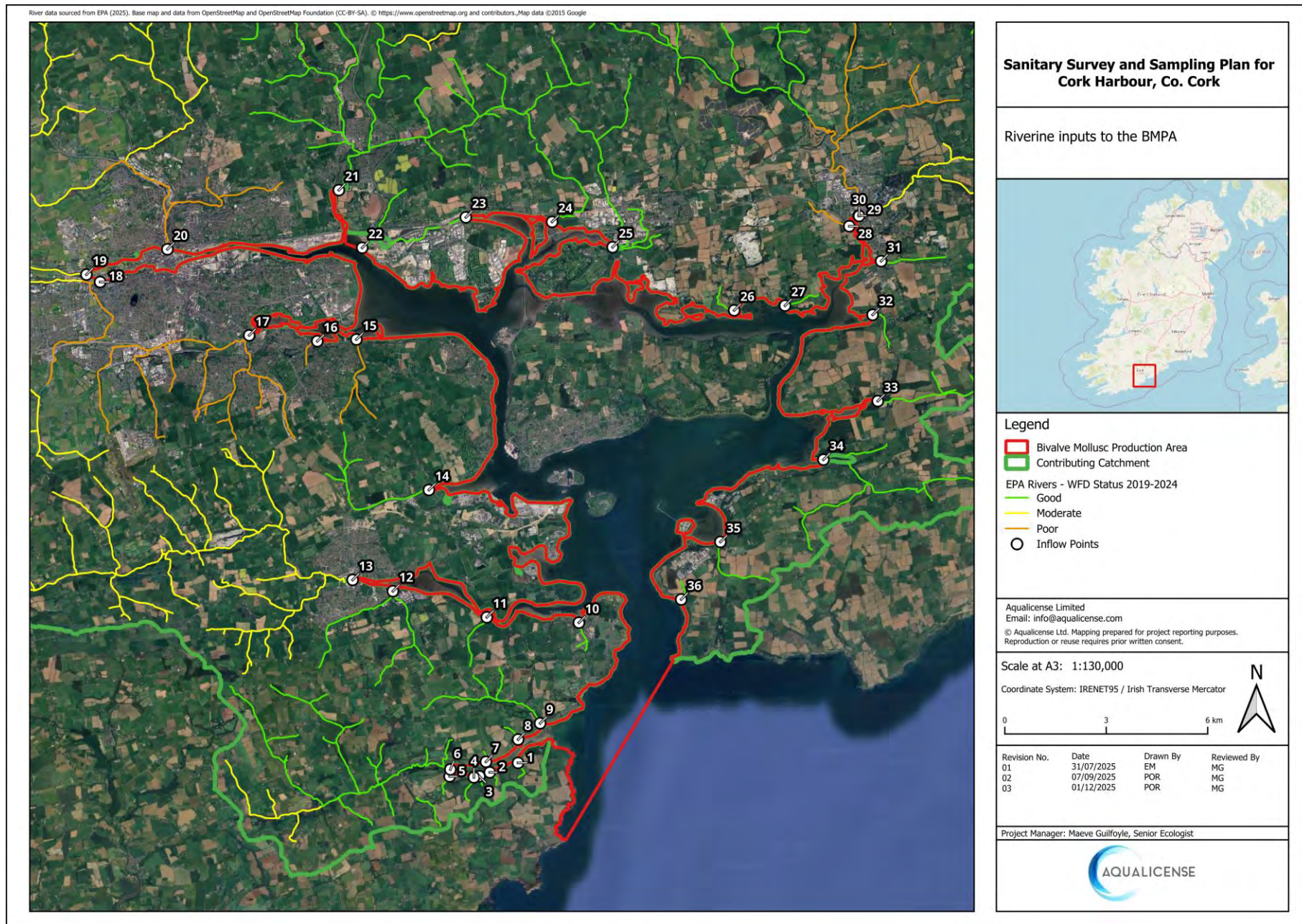


Figure 2-4: Riverine inputs to the BMPA (Accessed 01/12/25)

2.4.2 GEOLOGY AND GROUNDWATER

The movement of microbial pollutants, such as *E. coli*, within a catchment is influenced by the underlying geological conditions. In particular, groundwater vulnerability determined by the depth to the water table, subsoil permeability and the nature of the bedrock, plays a critical role in assessing the potential for contaminants to reach the groundwater and subsequently the marine environment. The EPA methodology classifies areas into vulnerability categories (e.g. low, moderate, high, extreme) based on the permeability to the groundwater table.

Pollutants can enter the marine environment via groundwater through two primary pathways. The first is via surface water, where groundwater inflow contributes to rivers, lakes, and other surface waters that eventually discharge into the marine environment. The second pathway is direct submarine groundwater discharge, where groundwater seeps directly into the sea from the seabed, including the intertidal zone (Arévalo-Martínez, et al., 2023). Further detail on groundwater conditions in relation to individual pollution sources is provided in Section 2.4.5.

The contributing catchment overlies 19 groundwater (GW) bodies: "Ballincollig", "Ballinhassig East", "Ballinhassig West", "Waste Facility (W0023-01)", "Beara Sneem", "Cahersiveen", "Cloyne", "Glenville", "Knockadoon East", "Midleton", "Ringaskiddy", "Whitegate", "Bandon", "Brinny Gravels East", "Brinny Gravels West", "Industrial Facility (P0016-02)", "LittleIsland", "Waste Facility (W0012-03)" and "Lee Valley Gravels". These GW bodies were all classified as having "Good" GW WFD status from 2019-2024, with the exception of "Waste Facility (W0023-01)", which was classed as poor (EPA, 2025).

Groundwater vulnerability (GWVul) mapping (GSI, 2021) indicates that 19.48% and 35.36% of the contributing catchment is classified as having highly permeable geology such as "Rock at or near Surface or Karst" and "Extreme" vulnerability respectively (Figure 2-5). These areas allow contaminants to move more easily and quickly through the groundwater systems. Overall, the majority of the catchment exhibits a least "High" GWVul.

Areas of elevated GWVul surrounds the BMPA, on all sides, with areas classified as having "Extreme" vulnerability present to the east and west in particular. All currently licensed aquaculture sites are adjacent to areas classified as "Rock at or near Surface or Karst" which present the highest risk for pollutant infiltration via groundwater, particularly where they intersect with surface water pathways.

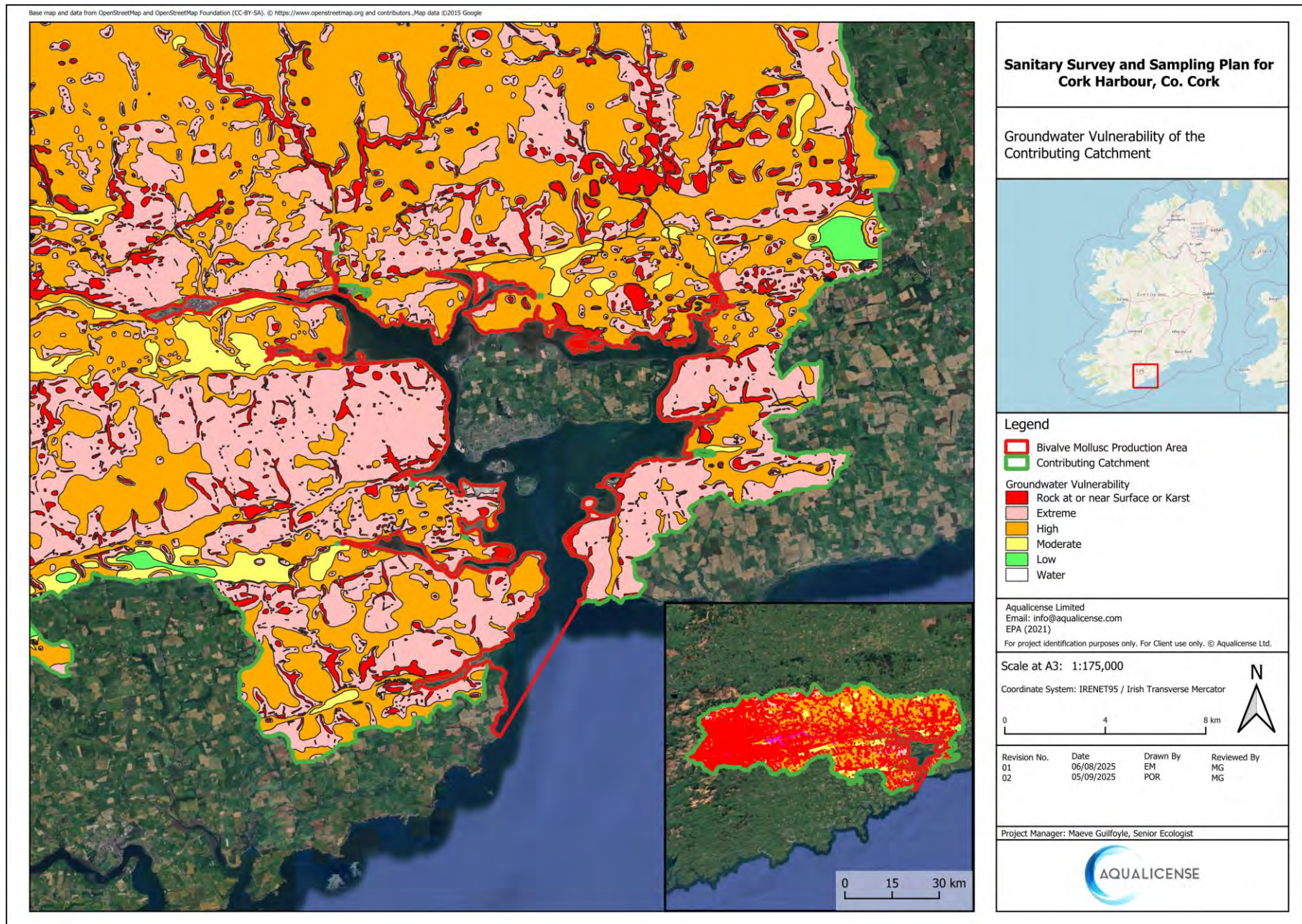


Figure 2-5: Groundwater vulnerability of the contributing catchment

2.4.3 HYDRODYNAMICS

The Cork Harbour model (Nash, Hartnett, & Dabrowski, 2011) and Hartnett, Nash and Olbert's hydrodynamic model (2012) were used to inform the hydrodynamics of Cork Harbour, with additional insights drawn from Admiralty Charts 1773, 1777 and 2420 (UK Hydrographic Office, 2025).

2.4.3.1 BATHYMETRY

Cork Harbour has a complex bathymetric profile with significant variability in seabed elevations (Figure 2-6). In the lower harbour, Whitegate Bay, Monkstown Creek, Lough Beg, the coast of Ringaskiddy, Spike Island and Haulbowline Island are at drying height. The intertidal areas of the harbour change from sand to mud towards the upper reaches.

There is a narrow, deep channel from Roche's Point at the harbour's entrance through West Passage to Lough Mahon in the inner harbour. Shallow mudflats are located to either side of the channel and they are cyclically submerged and exposed with the tides.

In the upper harbour, there are shellfish beds to the southeast of Great Island. They extend from Cuskinny Beach and Aghada to Rostellan. There is a narrow, deep channel from the region southeast of Great Island through East Passage to the northeast of the harbour. Lough Mahon is predominantly at drying height with the exception of the aforementioned channel, which is maintained at a dredged depth of 5–6 m.

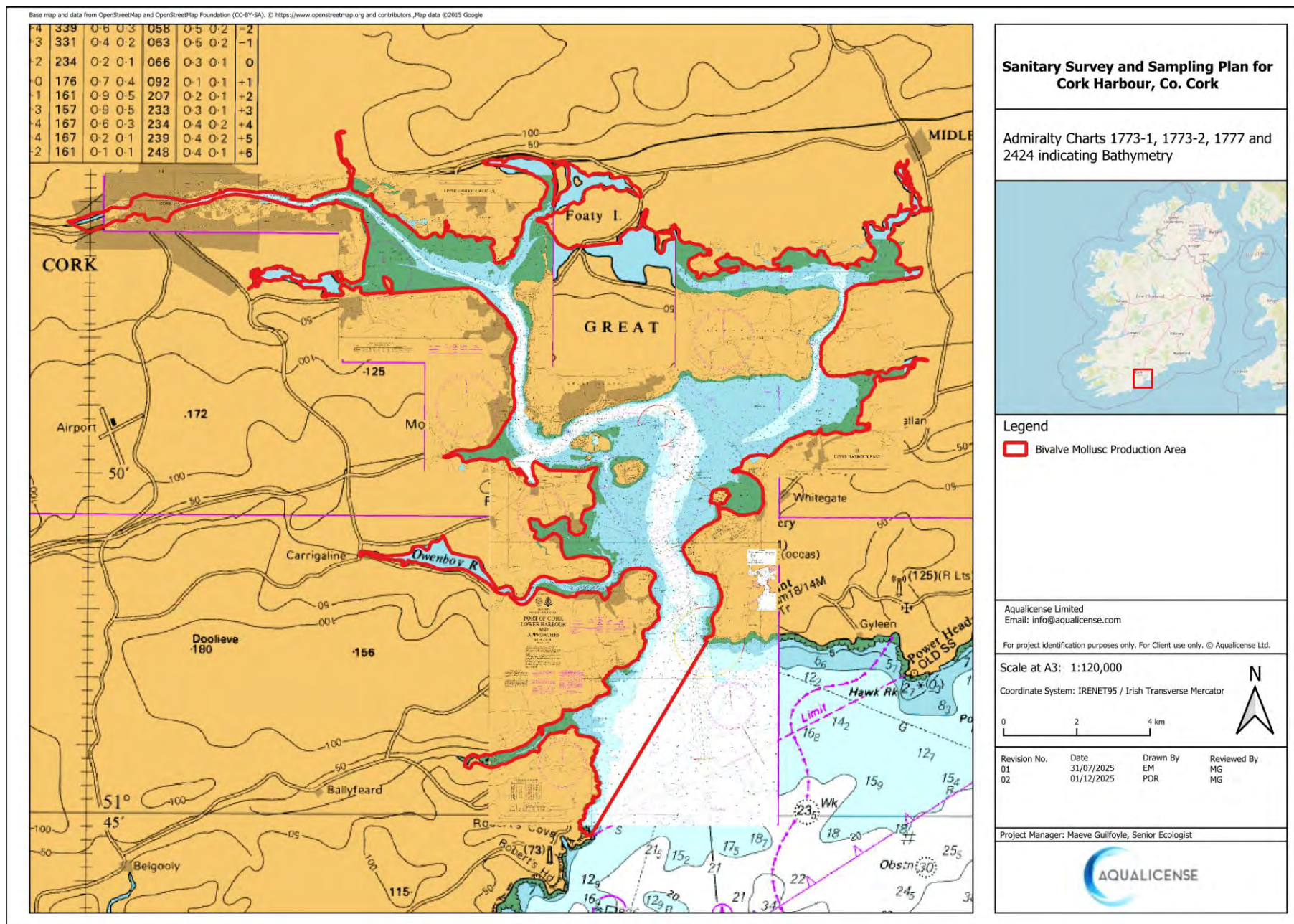


Figure 2-6: Admiralty Charts 1773-1, 1773-2, 1777 and 2424 indicating bathymetry (Accessed 30/07/25)

2.4.3.2 TIDAL INFLUENCE

Cork Harbour is classified as a semi-diurnal, macro-tidal estuary, meaning it experiences two tidal cycles per day, with large variations in water levels between the high and low tides. The tidal range can exceed 4 m.

According to Nash, Hartnett, & Dabrowski (2011) the mean spring tidal range is approximately 4.2 m, while the mean neap tidal range is circa 2.1 m. The principal tidal period is 12.5 hours, corresponding to the time between the two successive high or low tides.

Additionally, the spring-neap tidal cycle is approximately 337.5 hours (circa 14 days) (Nash, Hartnett, & Dabrowski, 2011). These tidal dynamics significantly influence water movement, sediment transport, salinity distribution and ecological processes within the harbour.

2.4.3.3 TEMPERATURE AND SALINITY

Although salinity levels vary throughout Cork Harbour, it does exhibit a clear gradient, decreasing progressively from the seaward harbour entrance inland due to the diminishing marine influence of the Celtic Sea and the increased freshwater inputs from the River Lee (Nash, Hartnett, & Dabrowski, 2011).

At the Main Channel at the entrance to the harbour, salinity is at its highest (c. 32 ppt). In the main harbour at the entrance to Passage West, to the west of Haulbowline Island, salinity varies from c. 27 – 30 ppt. Further north, at the entrance to Lough Mahon via Passage West, salinity is c. 24 – 27 ppt. In the northwest of the upper harbour, where the River Lee meets Lough Mahon, salinity falls to around 16 – 17 ppt. The water temperature in Cork Harbour varies from c. 9 – 15 °C throughout the year, peaking in summer.

2.4.3.4 CURRENT PATTERNS

Cork Harbour's current hydrodynamic regime is primarily influenced by freshwater inputs from the River Lee and tidal activity (Nash, Hartnett, & Dabrowski, 2011). In the North Channel, tidal inundations and the River Lee inputs are greatly reduced, whereas in eastern portion of the North Channel the Owenacurra River significantly shapes local current patterns.

The modelled mid-flood current pattern (Figure 2-7), shows a dominant inflow of marine water entering through the harbour mouth and propagating landward along the main channels, with the strongest velocities occurring in the lower harbour and central navigation channel. As this inflow progresses upstream toward the inner sections of the harbour, it divides around Great Island: one branch veers northwards into Lough Mahon, while the other continues eastwards toward the Owennacurra-Dangan area.

In contrast, the semi-enclosed side basins (including the North Channel, East Ferry and the upper reaches of the Owennacurra) exhibit very weak current velocities and limited exchange with the main tidal flow. These sheltered zones correspond to areas of prolonged residence times and reduced flushing efficiency. Overall, the pattern demonstrates a system characterised by strong tidal forcing in the lower and central harbour, transitioning to markedly slower, circulation-restricted conditions in peripheral channels and embayment's.

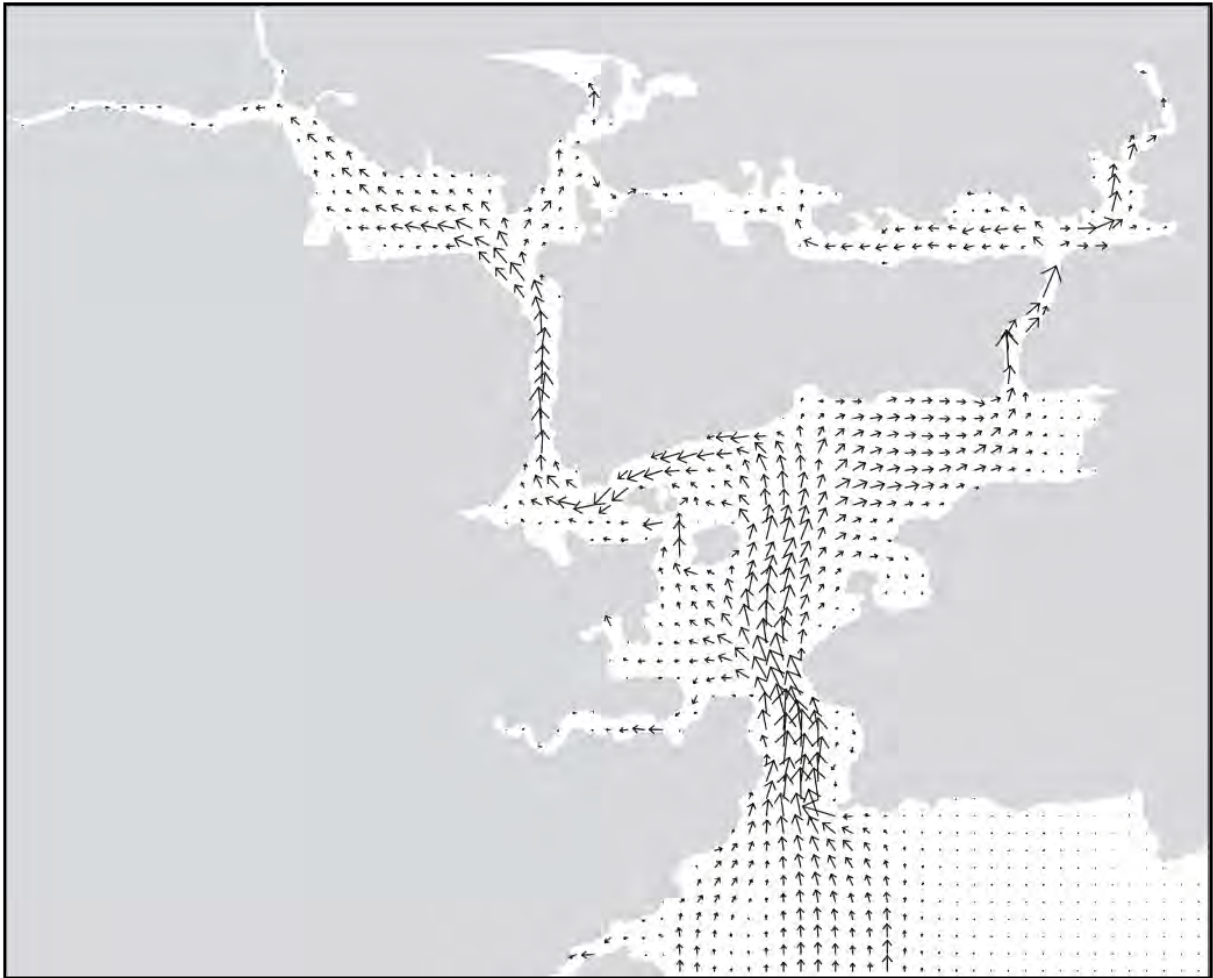
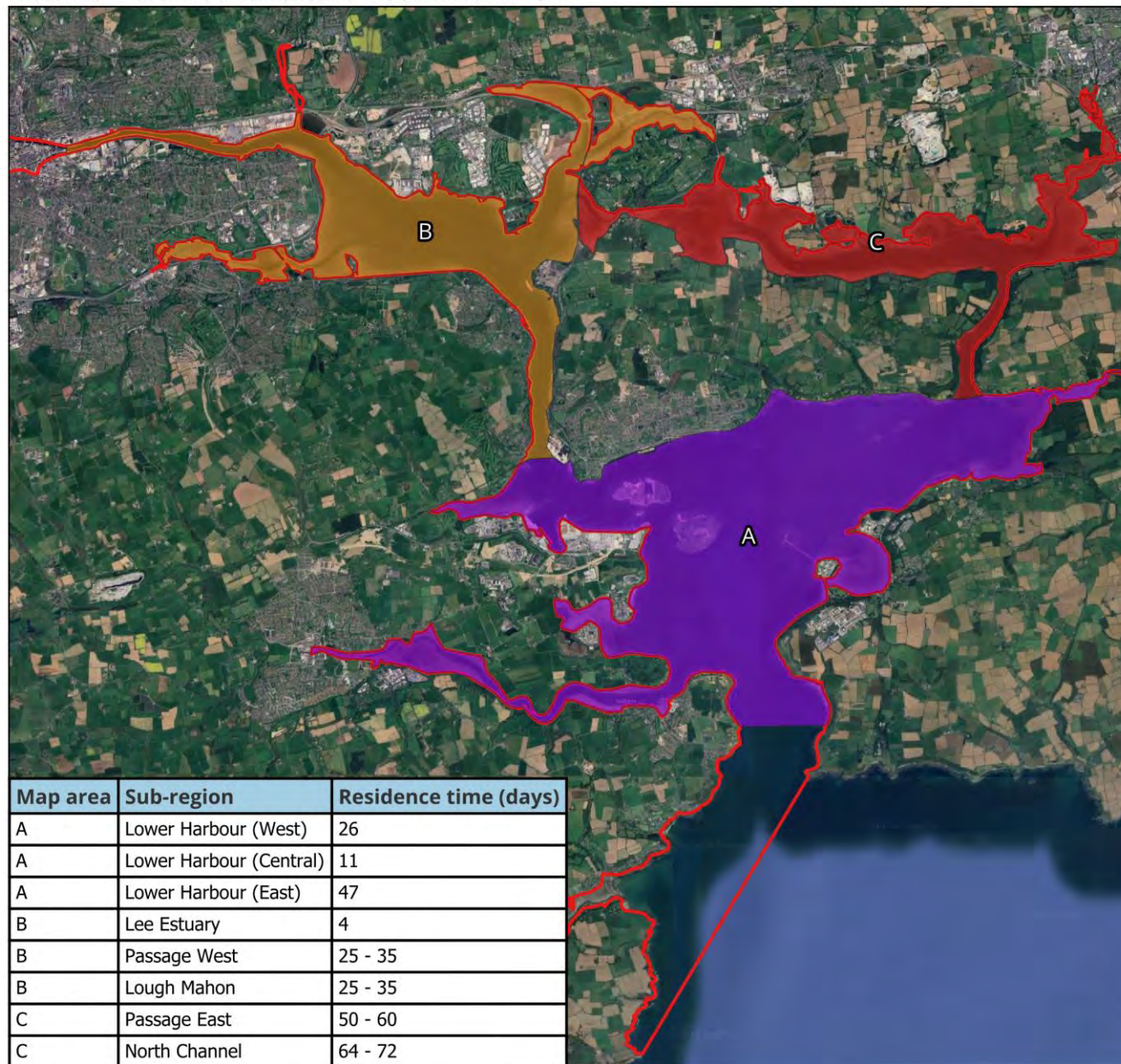


Figure 2-7: Modelled mid-flood current velocities during a typical spring tide (Nash, Hartnett, & Dabrowski, 2011).

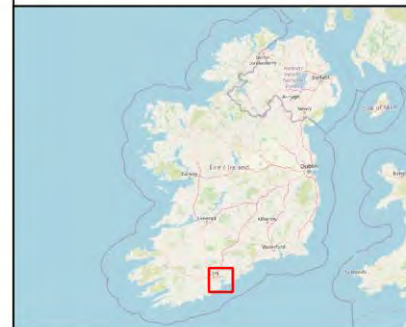
The average flushing time for Cork Harbour as a whole is 22.5 days; however, water residence times vary considerably within the harbour by area ranging from 3.8 to 72 days (Nash, Hartnett, & Dabrowski, 2011). Areas such as the semi-enclosed North Channel exhibit the longest residence times (64-72 days) posing an increased risk of contaminant cumulation and eutrophication risk. In contrast, areas closer to the open sea, particularly the central area of the lower harbour, experience shorter residence times (on average 11 days), indicative of effective tidal mixing (Figure 2-8) (Hartnett, Nash, & Olbert, 2012).

Residence times vary notably between the sub-regions: 4 days for the Lee Estuary; 25-35 days in Passage West and Lough Mahon; 47 days in the eastern harbour and approximately 26 days in the western lower harbour, 56-60 days in passage East, and 64-72 days within the North Channel (Nash, Hartnett, & Dabrowski, 2011; Hartnett, Nash, & Olbert, 2012) (Figure 2-8). The spatial and temporal variability underscores the complexity of the hydrodynamics and ecological risks within Cork Harbour.



Sanitary Survey and Sampling Plan for Cork Harbour, Co. Cork

Sub-regions within the BMPA based on
differences in hydrographic residence time



Legend

- Bivalve Mollusc Production Area
- Area A
- Area B
- Area C

Aqualicense Limited
Email: info@aqualicense.com
Nash, Hartnett & Dabrowski (2011), Hartnett, Nash & Olbert (2012)
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Scale at A3: 1:100,000

Coordinate System: IRENET95 / Irish Transverse Mercator

0 2 4 km



Revision No.	Date	Drawn By	Reviewed By
01	05/08/2025	EM	MG

Project Manager: Maeve Gullfoyle, Senior Ecologist



Figure 2-8: Sub-regions within the BMPA based on differences in hydrographic residence time

2.4.4 WEATHER

Weather patterns significantly influence the transport of organic pollutants. The nearest synoptic weather station to the BMPA is Roches Point, located at the mouth of Cork Harbour. Data from this station from July 2015 to June 2025 inclusive (Met Éireann, 2025a; Met Éireann, 2025b) have been used to infer weather patterns and seasonality influencing pollutant circulation within the BMPA.

2.4.4.1 WIND AND WAVES

Waves and currents play a crucial role in hydrographic conditions. Of particular relevance to sanitary surveys, wind-driven waves facilitate sediment resuspension and transport (Green & Coco, 2014). These waves are primarily generated by local prevailing winds and travel in the direction of those winds. Their characteristics are influenced by factors such as wind speed, duration, and fetch (Young, 1999).

The prevailing wind direction is southerly, accounting for 26.6% of all winds (Figure 2-9). Maximum wind speeds are also the highest for this direction at 17.8 m/s, followed by south-westerly winds at 16.2 m/s. North and south-westerly winds account for 20.5% and 14.9% of all winds respectively, with mean wind speeds of 6 m/s and 7 m/s.

Winds from the north-west are most common in summer, while winds from the southwest are most common in winter. Winds from the east are prevalent in spring and less common throughout the rest of the year. The strongest winds are observed during the winter. For further details refer to Figure 2-9 and Appendix - 1.

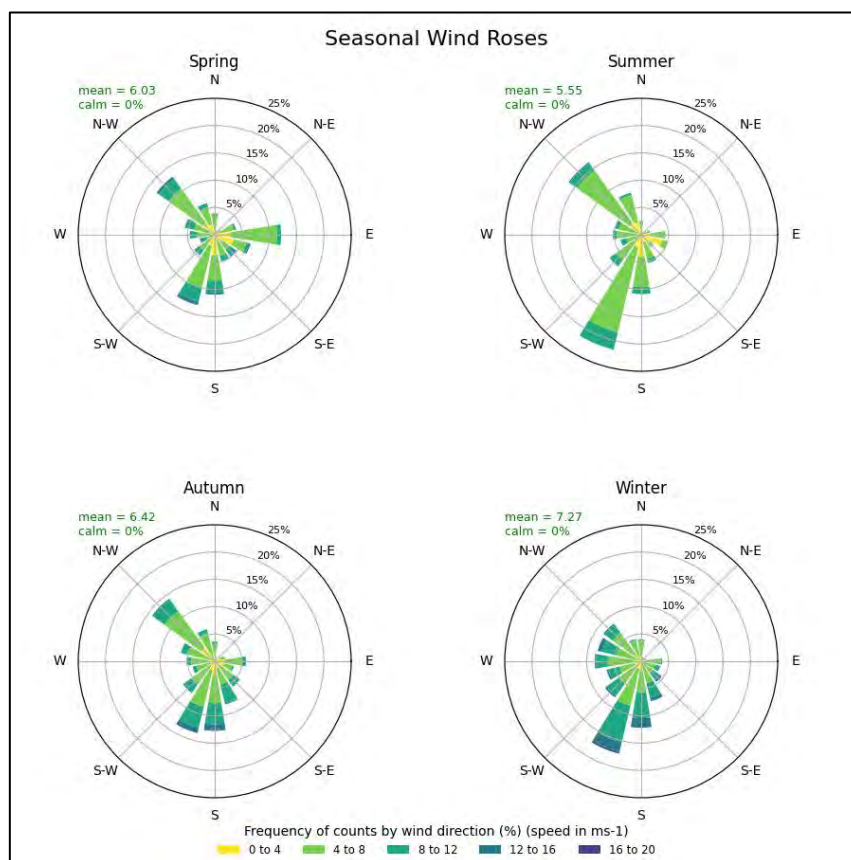


Figure 2-9: Seasonal wind roses for Roches Point (July 2015 to June 2025 inclusive)

The region is exposed to waves from the open sea, which enter Cork Harbour from the south (Arup, 2016). However, these waves must enter through the relatively narrow harbour entrance, and as a result locally wind generated waves have a greater influence at the site (Arup, 2016). Water is driven towards the eastern parts of the harbour by the strong prevailing winds from the south and south-west, which influences the currents in this area.

2.4.4.2 PRECIPITATION

Heavy rainfall can lead to surface runoff, transporting organic pollutants from land-based sources, such as farms and waste water overflows, into surface water bodies and potentially to the BMPA. The mean monthly rainfall is at its lowest levels in the summer period, followed by spring, with rainfall peaking in autumn and winter (Figure 2-10). The driest period takes place from April to July, with precipitation reaching a peak from October to January.

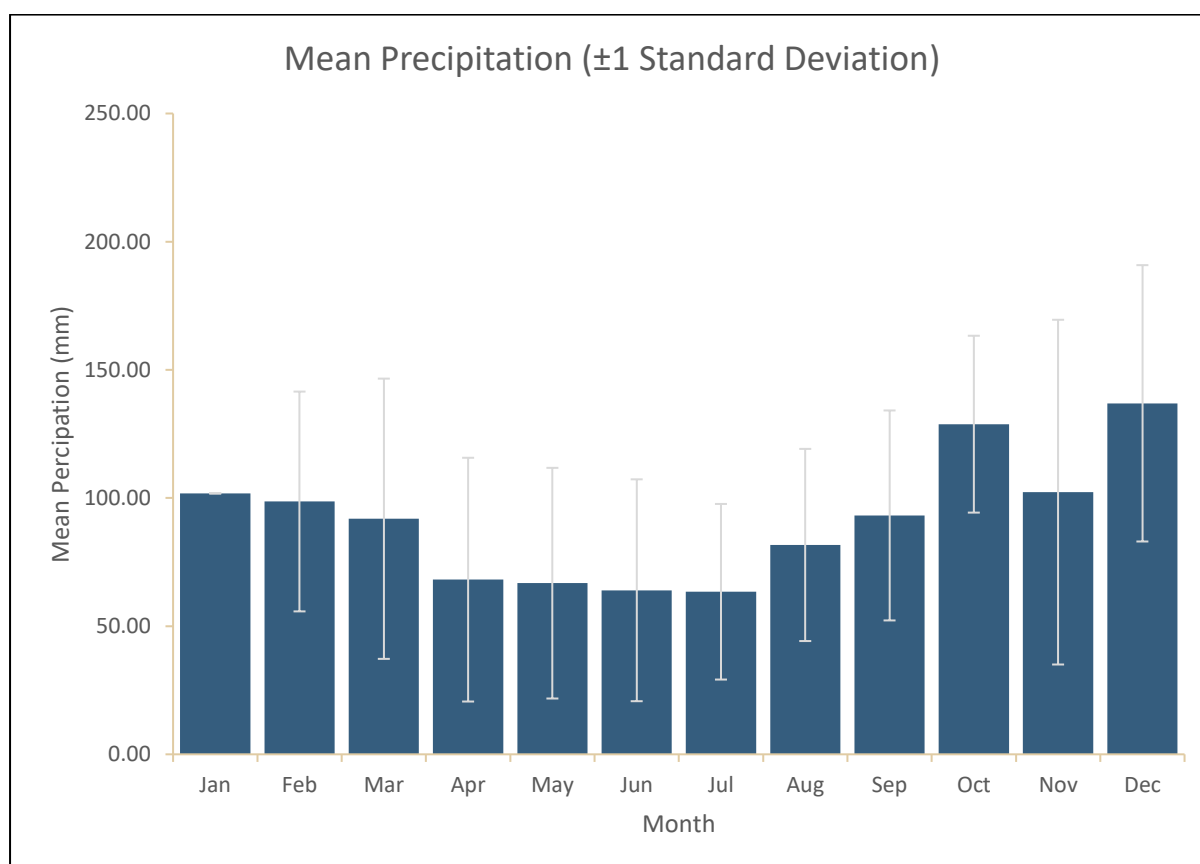


Figure 2-10: Mean monthly precipitation (± 1 standard deviation) at Roches Point (July 2015 to June 2025 inclusive)

Mean monthly rainfall levels are observed to be the highest in December (137 mm), though heavy rainfall events are observed occurring year-round, the exception being the summer months when the levels of precipitation drop to <70 mm per month.

Heavy rainfall during the spring and summer can result in increased faecal loadings, largely due to higher livestock stocking densities and the accumulation of faecal matter over the summer months. Therefore, the influence of precipitation on circulation of pollutants will be further discussed in Section 2.5 as relevant for each source of contamination.

2.4.5 SUMMARY OF THE CHARACTERISTICS OF CIRCULATION OF POLLUTANTS

For clarity at this stage of the sanitary survey, a brief overview of the findings of this section of the report will be provided. Key characteristics identified include:

- **Freshwater Inflows:** The river Lee discharges c.1250 km² of freshwater into the harbour. This is considered to be the primary inflow of freshwater to the harbour. The next largest flows originate from the Moneygurney_010, Owenboy and Owennacurra sub-basins. The water quality of these sub-basins ranges from poor to good quality.
- **Groundwater:** Groundwater vulnerability is elevated in all of the areas immediately surrounding the BMPA, with areas of “Rock at or near Surface or Karst” bordering the licensed sites. These are the areas at greatest risk in terms of groundwater infiltration.
- **Hydrodynamics:** Current and tidal patterns may lead to localised areas of pollutant concentration, particularly in the upper harbour where tidal exchange is reduced and residence times are increased. In the east of the upper harbour close to Passage East and the North Channel, residence times are particularly long (64+ days) which may lead to higher pollutant concentrations.
- **Weather:** Prevailing strong southerly and south-westerly winds drive water towards the eastern region of the harbour. Heavy rainfall may influence the seasonality of surface water run-off, particularly during the summer and winter seasons.

These factors collectively affect the entry, movement, and dispersion of pollutants in the BMPA, with further details on individual pollution sources to be discussed in subsequent sections.

2.5 INVENTORY OF POLLUTION SOURCES AND SEASONAL VARIATIONS OF POLLUTANTS

An inventory has been compiled detailing potential pollution sources of human and animal origin, focusing solely on those containing faecal matter. All identified sources within the contributing catchment (Figure 2-3) have been assessed, considering seasonal variations where relevant. This assessment complies with Part 1a and 1b of Article 56 of Commission Implementing Regulation (EU) 2019/627 (see Section 1 for details).

2.5.1 SEWAGE DISCHARGES

This section examines sewage discharges from human sources, primarily Urban Waste Water Treatment Plants (UWWTPs) and septic tanks. Contamination risk is influenced by factors such as location, size, treatment level, and discharge frequency. The following sections will provide a detailed analysis of all identified discharges within the contributing catchment.

2.5.1.1 URBAN WASTE WATER TREATMENT PLANTS (UWWTPs)

UWWTPs are linked to various discharges, primarily the continuous release of treated and untreated sewage. They also produce intermittent discharges, including rainfall-dependent releases via combined sewer overflows (CSOs) and stormwater overflows, as well as emergency discharges under exceptional circumstances.

Following examination of EPA data (EPA, 2025b), a total of 21 UWWTPs serving a PE (Population Equivalent) of >500 are present within the contributing catchment, with a further 22 agglomerations with a PE <500. These are further described in Appendix - 2.

Under both the Urban Waste Water Treatment Regulations (2001) and the Water Framework Directive, discharges from works of <500 PE are classed as “small agglomerations”. As such are subject to a different regulatory and reporting regime from larger plants and are less consistently represented in national monitoring datasets. However, EPA load figures indicate that in total these agglomerations together account for <5% of the total hydraulic and organic load generated within the contributing catchment, they may still have a contamination impact to the BMPA if not functioning as recommended.

A summary of each of these smaller UWWTPs (<500 PE) is provided in Appendix - 2A, considering data compliance records available on the LEAP portal (EPA, 2025c) and the inflows to which discharges may ultimately enter the BMPA (EPA, 2020c).

The majority of agglomerations (n = 14) with a PE <500 ultimately discharge to Inflow 19 (Lee [Cork] watercourse) to the northwest of the BMPA. Of these, three had compliance records available on the EPA Leap portal, including compliance investigations relating to water quality issues. Compliance records were also available for agglomerations discharging to Inflows 6, 13, 30 and 33. Notably, Saleen Village agglomeration (A0432-01) served a much greater PE of 490 than its design capacity of 40, indicating a potential capacity constraint and possible risk to the Rostellan area via Inflow 33.

Further detailed information on UWWTPs serving >500 PE was gleaned from the individual UWWTP reports generated from the annual environmental reports (Uisce Eireann, 2023).

Of the 21 UWWTPS serving >500 PE within the contributing catchment, 14 did not meet the standards outlined in the 2023 annual environmental compliance reports (AERs), four achieved compliance and the remaining three were deemed not applicable owing to the diversion of flows to larger treatment facilities. The majority of the stormwater overflows or discharge points ultimately discharge into Inflow 19 (Lee [Cork] watercourse) to the northwest of the BMPA (Figure 2-4).

Table 2-3 below provides additional information on the location of the primary treatment discharge points (relating UWWTPS serving >500 PE) to that discharge directly into the BMPA (of which there are eight). This is of relevance, as primary treatment involves the physical settlement of solids, where waste water is held in holding tanks to allow heavier solids to sink (sludge) and lighter materials (oil, grease, scum etc.) to float, which are then removed. Though this process not-involve biological treatment or advanced nutrient removal (EPA, 2025).

Table 2-3: UWWTP >500 PE primary effluent discharge points that discharge directly into the BMPA

Code	Pathway	Latitude (WGS 84)	Longitude (WGS 84)	Main class of Activity
TPEFF0400D0033SW001	Direct discharge into the BMPA	51.87978328	-8.339319936	Primary Effluent Emission Point
TPEFF0500A0432SW001		51.86141583	-8.166419133	
TPEFF0500D0044SW001		51.90558508	-8.292612255	
TPEFF0500D0056SW001		51.87812242	-8.201446751	
TPEFF0500D0057SW001		51.81520661	-8.271044953	
TPEFF0500D0140SW001		51.86099929	-8.326811708	
TPEFF0500D0298SW001		51.86307873	-8.130512789	
TPEFF3900D0423SW006		51.80674218	-8.254176724	

2.5.1.2 SEPTIC TANKS AND OTHER SEWERAGE TYPES

Ireland has nearly half a million Domestic Waste Water Treatment Systems (DWWTSs), primarily septic tanks (EPA, 2021). In 2023, 45% of these systems failed inspection, posing risks to household drinking water and the wider environment, including surface and groundwater. The EPA categorises DWWTS risk zones as follows:

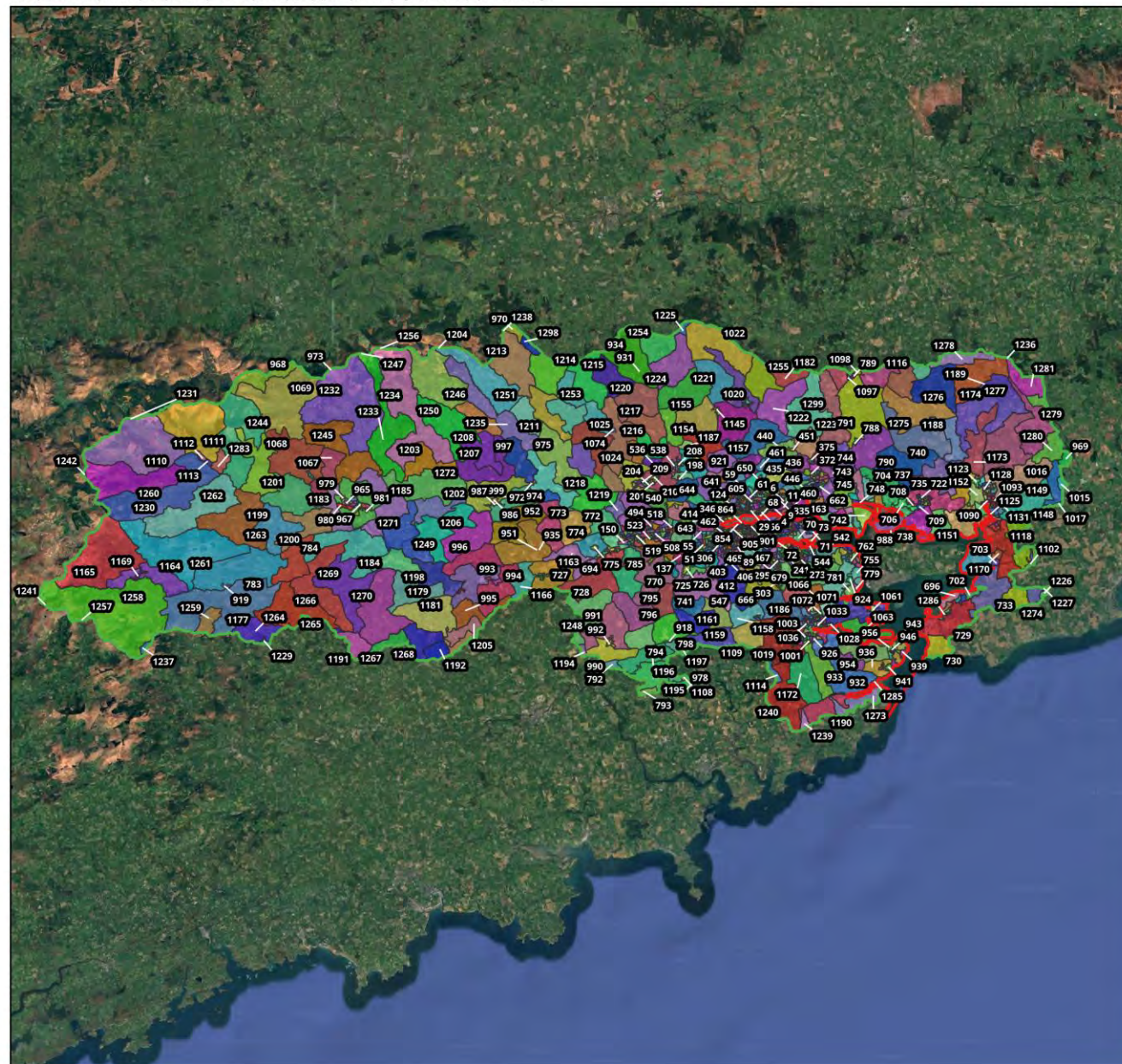
- Zone 1: Higher risk to surface waters.
- Zone 2: Higher risk to household wells.
- Zone 3: Lower risk areas.

Currently, no comprehensive database exists for DWWTS locations. Therefore, this section relies on Census 2022 small-area statistics (CSO, 2023c). Appendix - 5 and Figure 2-11 present the percentage of each small area overlapping the contributing catchment and its population density.

Population density within the catchment area ranges from 0 people per km² in 21 Small Areas to 46,687 people per km² in the A048030004/03 area (an area of apartment blocks) with a mean population density of 3,953 per km². The majority of the smaller areas drain into the Lee [Cork] watercourse which ultimately discharges into the Lee estuary at Inflow 19 and the Lough Mahon area (refer to Section 2.4.3.4). Additionally multiple areas of high population density particularly Cork City could be potentially influencing water quality in the region.

Sewerage type estimates were also obtained from Census 2022 data (CSO, 2023c). These figures are presented as percentages for entire small areas, as individual data for overlapping catchments would not be representative (small areas do not directly align with the contributing catchment, see Figure 2-11 and Appendix - 5).

Figure 2-12 highlights that the majority of the households in the contributing catchment (76.7%) rely on UWWTPS, while most of the remaining households (17.94%) rely on individual septic tanks. This distribution reflects the diverse nature of the large contributing catchment, which includes both urban and rural areas. Rural households, being more dispersed and located farther from UWWTP infrastructure, are more likely to rely on individual septic tanks for waste water treatment.



Sanitary Survey and Sampling Plan for Cork Harbour, Co. Cork

Small Areas overlapping the Contributing
Catchment



Legend

- Bivalve Mollusc Production Area
- Contributing Catchment

Aqualicense Limited
Email: info@aqualicense.com
CSO (2023)

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Scale at A3: 1:450,000

Coordinate System: IRENET95 / Irish Transverse Mercator



Revision No.	Date	Drawn By	Reviewed By
01	05/08/2025	EM	MG
02	01/09/2025	EM	MG

Project Manager: Maeve Gullfoyle, Senior Ecologist



Figure 2-11: Small areas overlapping the contributing catchment (Accessed 05/08/2025). See Appendix - 5.

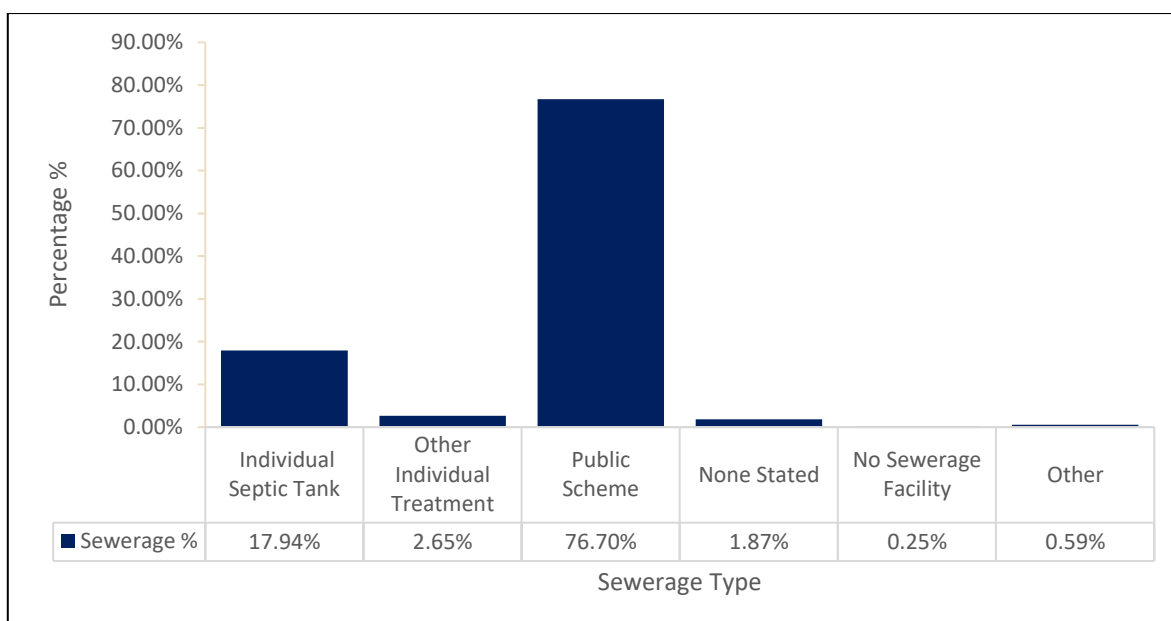


Figure 2-12: Percentage estimates of sewerage types for permanent private households according to the 2022 census

The majority of the contributing catchment falls within Zone 3 Low (EPA, 2021). There are small areas classified as Zone 2 Human Health, which poses a higher relative risk to household wells (Figure 2-13). These areas are predominantly located in the west of the contributing catchment and not in proximity to the BMPA. However, there are small Zone 2 areas to the north and west of the BMPA.

While these risk zones indicate potential contamination, other factors must be considered when assessing susceptibility to DWWTS failure or non-compliance. Given that approximately 18% of households in the catchment rely on individual septic tanks, almost exclusively in the more rural, lower-density fringes, whereas the remaining 77% connect to urban waste water treatment works, population density and the layout of surface-water drains provide valuable insights into potential loading vectors into the BMPA.

Across the contributing catchment, the extensive Zone 3 areas coincide with the lowest population densities and “Moderate” groundwater vulnerability (GSI, 2021), conditions under which effluent attenuation is generally effective. The more scattered Zone 2 pockets to the west and north of the BMPA occur where there are small villages with ribbon development along minor roads and where subsoils are thin or karstified, resulting in “high-extreme” vulnerability classifications.

Surface water hydrology also plays a crucial role in contamination risk. The bulk of the western riverine system, draining the Zone 2 high density corridors, converges into Inflows 18 and 19 (Lee [Cork] and Glasheen (Cork City) watercourses) offering minimal opportunity for natural in-stream attenuation.

Therefore, considering groundwater vulnerability, surface water flows, and population density, the north- western fringe of the catchment – where Zone 2 pockets overlap with “high-extreme” vulnerability and densest septic tank clusters is the most likely location for sewage-contaminated discharges from DWWTs.

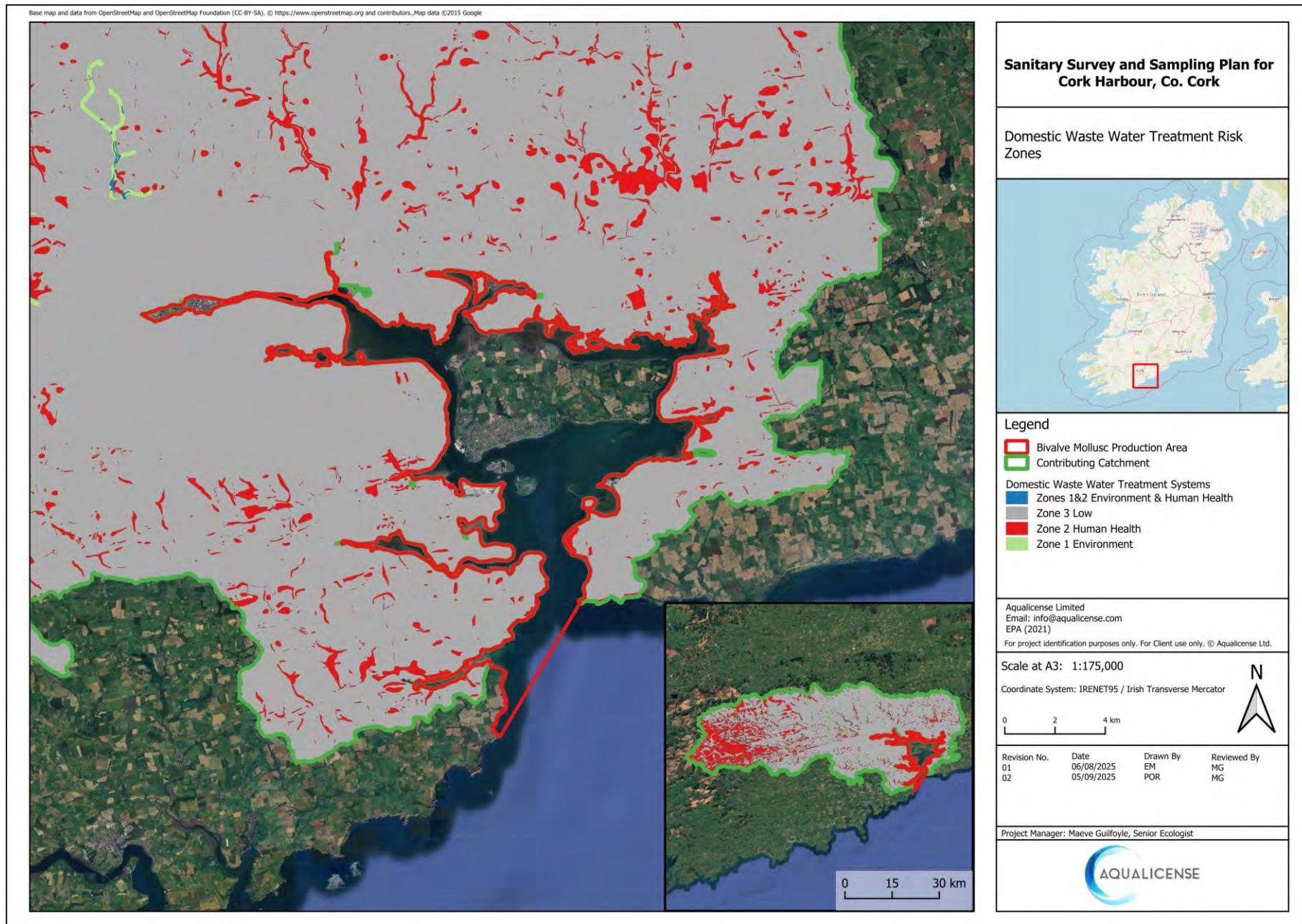


Figure 2-13: Domestic Waste Water Treatment System Risk Zones

2.5.2 INDUSTRIAL EMISSIONS

2.5.2.1 IE AND IPC LICENCES

The EPA regulates specific industrial and agricultural activities in Ireland through Industrial Emissions (IE) licences and Integrated Pollution Control (IPC) licences. While these cover a broad range of activities, only those relevant to potential faecal contamination from human or animal sources are considered in this desk-based study.

The key categories assessed include:

- Food and Drink
- Waste
- Intensive Agriculture (Poultry and Pigs)
- Other Activities (including waste water treatment)

A total of 45 licenses [IE: 37, IPC: 8, Waste: 0] have been granted within the contributing catchment (EPA, 2024a). Excluding any licences previously discussed in Section 3.4.1.1. Table 2-4 provides the relevant information including pathways for potential connectivity with the BMPA and where there may be areas of concern for contamination from the licenced facilities.

Table 2-4: Characterisation of the relevant IE and IPC licenses granted within the contributing catchment

LICENSE TYPE	LICENSE NUMBER	NAME	PATHWAYS	LATITUDE (WGS 84)	LONGITUDE (WGS 84)	MAIN CLASS OF ACTIVITY
IEL	P0316-01	Mr James O'Brien	Pathway to the BMPA at Inflow 26 via runoff entering the Tibbotstown_010 sub basin via direct runoff from the site.	51.88994344	-8.228416019	6.2 (b): Intensive Agriculture
IEL	P0662-01	Mr Jerry O'Brien	Pathway to the BMPA at Inflow 19 via runoff entering the river Bride (Lee)_020 sub basin which flows to the river Lee (Cork)_090.	51.82106855	-8.887618579	6.2 (b): Intensive Agriculture
IEL	P0864-01	BioMarin International Ltd	Direct runoff from the Ringaskiddy peninsula.	51.8343357	-8.345849439	5.16: Chemicals
IEL	P0004-06	Thermo Fisher Scientific Cork Limited	Direct runoff from the Ringaskiddy peninsula.	51.81687036	-8.315468654	5.16: Chemicals
IEL	P0561-05	Electricity Supply Board (Aghada)	Direct runoff from the Aghada/Whitegate area.	51.83557745	-8.233572365	2.1: Energy
IEL	P0578-03	Electricity Supply Board (Marina)	Direct runoff from the Cork city area.	51.90032659	-8.446173024	2.1: Energy
IEL	P0010-05	Hovione Limited	Direct runoff from the Ringaskiddy peninsula.	51.82126046	-8.306795555	5.16: Chemicals
IEL	P0016-02	Janssen Pharmaceutical Sciences UC	Direct runoff from the Little Island area.	51.89926633	-8.363236458	5.16: Chemicals
IEL	P0091-03	Wexport Limited	Direct runoff from the Little Island area.	51.89431247	-8.360604801	5.16: Chemicals
IEL	P0006-04	Sterling Pharma Ringaskiddy Limited	Direct runoff from the Ringaskiddy peninsula.	51.82495281	-8.342727975	5.16: Chemicals
IEL	P0013-06	Pfizer Ireland Pharmaceuticals (Ringaskiddy)	Direct runoff from the Ringaskiddy peninsula.	51.83540772	-8.338619158	5.16: Chemicals
IEL	P0778-02	JANSSEN SCIENCES IRELAND UC	Direct runoff from the Ringaskiddy peninsula.	51.82974313	-8.335782058	5.16: Chemicals

LICENSE TYPE	LICENSE NUMBER	NAME	PATHWAYS	LATITUDE (WGS 84)	LONGITUDE (WGS 84)	MAIN CLASS OF ACTIVITY
IEL	P0266-03	Irving Oil Whitegate Refinery Limited	Direct runoff from the Whitegate area.	51.82057106	-8.247953051	9.3.1: Fossil Fuels
IEL	P0830-02	Bord Gais Energy Ltd	Direct runoff from the Whitegate area.	51.81521514	-8.251074103	2.1: Energy
IEL	W0136-03	Starrus Eco Holdings Limited (Munster)	Pathway to the BMPA via the Glashaboy (Lough Mahon) _030 sub basin which flows to Lough Mahon.	51.96314748	-8.405957956	11.4 (b)(ii): Waste
IEL	W0145-02	Enva Ireland Limited (Cork)	Pathway to the BMPA at Inflow 14 via runoff in the Hilltown_010 sub basin.	51.83345395	-8.365028207	11.6: Waste
IEL	P0442-02	Irish Distillers Limited	Pathway to the BMPA at Inflow 30 via runoff entering the Dungorney_020 sub basin.	51.91699166	-8.161829492	7.3.2: Food and Drink
IEL	P0136-04	Upjohn Manufacturing Ireland Unlimited Company	Direct runoff from the Little Island area.	51.90167252	-8.37427327	5.16: Chemicals
IEL	P0338-01	GP Wood Lissarda Limited	Pathway to the BMPA at Inflow 19 via the Cummer_020 sub basin which flows to the river Lee.	51.85866744	-8.919712359	8.3: Wood, Paper, Textiles and Leather
IEL	P0792-02	Nutricia Infant Nutrition Limited	Pathway to the BMPA at Inflow 19 via runoff entering the River Lee.	51.87797541	-8.949161864	7.2.1: Food and Drink
IEL	P0017-02	Cara Partners	Direct runoff from the Little Island area.	51.90061221	-8.374543183	5.16: Chemicals
IEL	P0052-02	BASF Ireland Designated Activity Company	Direct runoff from the Little Island area.	51.89818536	-8.379934777	5.12 (b): Chemicals
IEL	P0070-01	Irish Oxygen Co. Limited	Pathway to the BMPA at Inflow 18 via the Two Pot (Cork City)_010 sub basin which flows to the river Glasheen (Cork City)_010.	51.87017803	-8.538675846	5.13 (a): Chemicals
IEL	P0391-01	Galco (Cork) Limited	Pathway to the BMPA at Inflow 17 via the Moneygurney_010 sub basin.	51.87620868	-8.480115467	3.2.1 (c): Metals

LICENSE TYPE	LICENSE NUMBER	NAME	PATHWAYS	LATITUDE (WGS 84)	LONGITUDE (WGS 84)	MAIN CLASS OF ACTIVITY
IEL	P0407-02	Irish Pioneer Works (Fabricators) Limited	Pathway to the BMPA at Inflow 17 via the Moneygurney_010 sub basin.	51.87610097	-8.467902236	3.2.1 (c): Metals
IEL	P0571-04	Merck Millipore Limited	Pathway to the BMPA via runoff entering Tibbotstown_010 sub basin.	51.90489959	-8.279100419	12.2.1: Surface Coatings
IEL	W0012-03	Kinsale Road Landfill	Pathway to the BMPA at Inflow 17 via the Moneygurney_010 sub basin.	51.87777167	-8.460196955	11.5: Waste
IEL	P0997-01	The Hammond Lane Metal Company Limited	Direct runoff from the Ringaskiddy peninsula.	51.83030519	-8.307689166	11.4 (b)(iv): Waste
IEL	P1018-01	Little Island BioEnergy Limited	Direct runoff from the Little Island area.	51.89932863	-8.381103337	11.4 (b)(i): Waste
IEL	P0348-01	Heiton Buckley Limited	Pathway to the BMPA at Inflow 18 via the Two Pot (Cork City) _010 sub basin which flows to the Glasheen (Cork City)_010 sub basin.	51.86747938	-8.531453102	Not provided
IEL	P0983-01	Socomore Ireland Limited	Pathway to the BMPA via runoff entering the Butlerstown_020 sub basin which flows to Lough Mahon.	52.00819338	-8.32837377	12.2.1: Surface Coatings
IEL	W0257-01	Country Clean Recycling Unlimited Company	Direct runoff from Cork City or via runoff entering the Bride (Cork City) _020 sub basin.	51.91391035	-8.493093182	11.4 (b)(ii): Waste
IEL	P0399-01	John A. Wood (Burnt Lime) Limited	Pathway to the BMPA at Inflow 26 via runoff entering the Tibbotstown_010 sub basin.	51.90537687	-8.228201156	Not provided
IEL	P0476-03	Recordati Ireland Limited	Direct runoff from the Ringaskiddy peninsula.	51.82250143	-8.337132037	5.16: Chemicals
IEL	W0291-02	Forge Hill Recycling Unlimited Company	Pathway to the BMPA at Inflow 17 via the Moneygurney_010 sub basin.	51.87010487	-8.481883582	11.4 (b)(ii): Waste
IEL	P1046-01	Fournier Laboratories Ireland Limited T/A AbbVie	Pathway to the BMPA at Inflow 25 via runoff entering the Tibbotstown_010 sub basin.	51.91193508	-8.283193313	12.2.1: Surface Coatings
IEL	P1117-01	Architectural & Metal Systems Limited	Direct runoff from the Little Island area.	51.89276514	-8.366498736	12.3: Surface Coatings

LICENSE TYPE	LICENSE NUMBER	NAME	PATHWAYS	LATITUDE (WGS 84)	LONGITUDE (WGS 84)	MAIN CLASS OF ACTIVITY
IPC	P0262-01	MMF Limited	Pathway to the BMPA at Inflow 12 via runoff entering the Martin_010 sub basin, which flows to the Lee (Cork)_090 via the river Shournagh.	52.01535407	-8.609217219	Not provided
IPC	P0334-01	Adhmaid Cill Na Martra Teoranta	Pathway to the BMPA at Inflow 19 via the River Lee.	51.90027998	-9.084172816	Not provided
IPC	P0059-02	Fronville Limited	Pathway to the BMPA at Inflow 17 via runoff entering the Moneygurney_010 sub basin.	51.88208265	-8.469348444	Not provided
IPC	P0246-01	Georgia Holdings Limited, T/A Youghal Carpet Yarns	Pathway to the BMPA at Inflow 24 via runoff entering the Tibbotstown_010 sub basin.	51.91871247	-8.30090914	Not provided
IPC	P0251-01	Rothbury Manufacturing Limited	Pathway to the BMPA at Inflow 20 via the Bride (Cork City)_020 sub basin.	51.91874038	-8.475840001	Not provided
IPC	P0343-01	Brooks Haughton Limited	Pathway to the BMPA at Inflow 17 via runoff entering the Moneygurney_010 sub basin.	51.87467358	-8.486601864	Not provided
IPC	P0218-01	Dulux Paints Ireland Limited	Pathway to the BMPA at Inflow 20 via the Bride (Cork City)_020 sub basin.	51.91913301	-8.47890169	5.7: Chemicals
IPC	P0445-01	Heineken Ireland Limited	Pathway to the BMPA at Inflow 20 via the Bride (Cork City)_020 sub basin.	51.90398489	-8.473642573	7.3.1: Food and Drink

2.5.2.2 SECTION 4 DISCHARGES

Section 4 Discharge licences, issued under Section 4 of the Local Government (Water Pollution) Act 1977 (as amended in 1990), regulate the discharge of trade and sewage effluent into surface water and groundwater. These licences set conditions to ensure effluent is treated and controlled to protect the receiving environment.

A total of 42 Section 4 discharges are present within the contributing catchment (EPA, 2024b), which will be characterised and discussed in Table 2-5. Data from the relevant local authorities regarding the specifics of Section 4 discharges, including whether they were directed to groundwater or surface water were not available online.

To characterise potential effluent types, Google Maps and satellite imagery were consulted on the 28/07/2025. However, due to the lack of detailed information, a precautionary approach was taken, assuming that each Section 4 discharge could be a potential source of faecal contamination to both surface and groundwater.

For areas of “elevated” ground water vulnerability (GWVul), the northwestern section of the BMPA (Lough Mahon) is noted as being exposed via Butlerstown 020 to Glashaboy [Lough Mahon] 030 sub basins, including an input via Tibbotstown 010 (Inflow 24). The north-eastern embayment’s which are adjacent to shellfish areas near Midelton-Cloyne-Dungourney receive inputs via the Owennacurra watercourse (Inflow 29) and Dungourney 19 watercourse (Inflow 30). The southwest of the harbour receives multiple inputs via Owenboy_020/040 sub basins.

Three licences have confirmed direct pathways into the BMPA: WP (W) 74/80 (from Cork City into the BMPA), WP(W) 20/06 and WP(W)14/09 (both into the northern section of the BMPA). These outfalls bypass the freshwater inputs and discharge directly into the coastal waters.

The Lee [Cork] watercourse (Inflow 19) represents the largest aggregate of Section 4 linkages (25 via Lee/Bride (Lee)/Shournagh sub basins), indicating the highest cumulative loading potential within the harbour. However, the hydrodynamic sensitivity is greatest in the northern and north-eastern BMPA, where there is significantly reduced circulation which elevates the potential for exposure. Accordingly, local risk is driven by Inflows 24, 29 and 30, together with the two direct BMPA discharges (WP(W)20/06 and WP(W)12/09) notwithstanding smaller absolute loads.

Key contributors in this hydrodynamically constrained area are WP(W)2/87 and WP(W)2/04 to Owennacurra (Inflow 29), WP(W)14/13 to Dungourney (Inflow 30) and WP(W)12/08 via Tibbotstown 010 (Inflow 24). These sources are proximate to shellfish aquaculture and discharge to poorly flushed waters, further amplifying potential impacts on sensitive receptors.

Table 2-5: Characterisation of the Section 4 Discharges within the contributing catchment.

REFERENCE	NAME	FACILITY ADDRESS	LATITUDE (WGS 84)	LONGITUDE (WGS 84)	POTENTIAL PATHWAY TO THE BMPA	DISCHARGE TYPE
WP (W) 74/80	Minteq	Tivoli, Cork	51.90147806	-8.4203046	Direct outflow to the BMPA from Cork City.	Not provided
W.P.(W)3/9 1	Salamara Fisheries Limited/ ESB Fisheries	Carrigdrohid, Co Cork	51.89728983	-8.86131092	Pathway to the BMPA at Inflow 19 via the River Lee.	Closed, Primary
WP (W)06/14	O' Leary & O' Sullivan Developments Ltd	Housing Estate, Knockraha, Gogganstown, Co Cork	51.957123	-8.3437866	Pathway via the Butlerstown_020 sub basin which enters the Glashaboy (Lough Mahon)_030 and flows to the northern BMPA.	Continuous, Tertiary
WP(W) 10/05Â®	John A Wood Ltd. (Classis Pit)	Barnagore, Ovens	51.886560	-8.6363065	Pathway to the BMPA at Inflow 19 via the Lee (Cork)_090.	Pulse, Primary
WP(W) 11/05	Irish Amateur Rowing Union Ltd. (Rowing Ireland)	National Rowing Centre, Farran Wood	51.893308	-8.7593783	Pathway to the BMPA at Inflow 19 via the Lee [Cork] watercourse.	Continuous, Tertiary
WP(W) 12/06	Ballyburden Meat Processors Ltd	Ballyburden, Ballincollig	51.86667713	-8.599326387	Pathway to the BMPA at Inflow 18 via runoff to the Curragheen (Cork City)_010 sub basin.	Continuous, Tertiary
WP(W) 13/13	Norwood Grange Nursing Home	Ballynora, Waterfall	51.86414198	-8.579724525	Pathway to the BMPA at Inflow 18 via runoff to the Curragheen (Cork City)_010 sub basin.	Continuous, Primary
WP(W) 15/07	Maxol Service Station Ireland Ltd.	Cork Road, Shean Lower	51.93353043	-8.559812629	Pathway to the BMPA at Inflow 19 via runoff to the Martin_040 sub basin and flowing to the Lee (Cork)_090 by way of the Shournagh_040.	Intermittent, Primary
WP(W) 2/87	East Cork Oil	Broomfield West, Midleton	51.92999965	-8.183012285	Pathway to the BMPA at Inflow 29 via runoff to the Owennacurra_040 subbasin.	Intermittent, Primary

REFERENCE	NAME	FACILITY ADDRESS	LATITUDE (WGS 84)	LONGITUDE (WGS 84)	POTENTIAL PATHWAY TO THE BMPA	DISCHARGE TYPE
WP(W) 20/06	Irish Asphalt Ltd.	Rossmore, Carrigtwohill	51.89009534	-8.256040308	Direct outflow to the north of the BMPA.	Continuous, Primary
WP(W) 22/07	John Twomey	The Paddocks, Broomfield	51.86667713	-8.599326387	Pathway to the BMPA at Inflow 14 via runoff to the Curragheen (Cork City)_010 sub basin.	Continuous, Tertiary
WP(W) 23/03	Maxol Ltd (Ballinrea Service Station)	Unit 3, Custom House Plaza	51.83664331	-8.394429145	Pathway to the BMPA at Inflow 29 via the Hilltown_010 sub basin.	Intermittent, Secondary
WP(W) 24/05	Blarney Golf Resort	The Old Presbytery, Main St, Blarney	51.93714746	-8.628486496	Pathway to the BMPA at Inflow 19 via runoff river Shournagh_030 or Shournagh_040 sub basins which flow to the Lee (Cork)_090.	Continuous, Tertiary
WP(W) 3/07	Ovens National School	Ovens National School, Knockanemore	51.87624743	-8.666436093	Pathway to the BMPA at Inflow 19 via runoff to the Bride (Lee)_050 which flows to the Lee (Cork)_090.	Intermittent, Secondary via soil polishing
WP(W) 4/00	William & Mona Kirby (kirbys Ballinhassig)	Tulligmore, Ballinhassig	51.81206293	-8.531511995	Pathway to the BMPA via the Owenboy (Cork)_020 sub basin which flows to the Owenboy (Cork)_040 and enters the lower harbour from the southwest.	Intermittent, Secondary
WP(W) 4/05	Eamonn Grainger	Ballyheady, Ballinhassig	51.80282163	-8.57957606	Pathway to the BMPA via the Owenboy (Cork)_020 sub basin which flows to the Owenboy (Cork)_040 and enters the lower harbour from the southwest.	N/A, not developed
WP(W) 5/03	Trustees of Muskerry Golf Club	c/o Hugo Gallagher, Muskerry Golf Club	51.91809826	-8.608934182	Pathway to the BMPA at Inflow 19 via the Shournagh_040 sub basin which flows to the Lee (Cork)_090.	Intermittent, Secondary
WP(W) 5/04	Castlelands Construction Ltd	St Joseph's Road, Mallow	51.97787859	-8.50493184	Pathway to the BMPA at Inflow 20 via the Glennamought Trib Bride_010 sub basin.	Ceased, Secondary

REFERENCE	NAME	FACILITY ADDRESS	LATITUDE (WGS 84)	LONGITUDE (WGS 84)	POTENTIAL PATHWAY TO THE BMPA	DISCHARGE TYPE
WP(W) 5/08Â®	James Barber	Barber Properties, Deanrock Business Park	52.00541706	-8.322546143	Pathway via the Butlerstown_020 sub basin which enters the Glashaboy (Lough Mahon)_030 and flows to the northern BMPA.	Intermittent, Secondary
WP(W) 6/95	Guy & Co. Ltd	I.D.A. Industrial Estate, Ovens	51.87669284	-8.646186509	Pathway to the BMPA at Inflow 19 via runoff entering the Bride (Lee)_050 sub basin which flows to the Lee (Cork)_090.	Intermittent, Secondary
WP(W) 8/00	Roadstone Provinces Ltd	Curragbeg, Ovens	51.88174659	-8.634089347	Pathway to the BMPA at Inflow 19 via runoff entering the Lee (Cork)_090 sub basin	Intermittent, Primary
WP(W) 8/05Â®	John A Wood Ltd. (Garryhesta Pit)	Barnagore, Ovens	51.88019502	-8.678649081	Pathway to the BMPA at Inflow 19 via runoff to the Bride (Lee)_050 sub basin which flows to the Lee (Cork)_090.	Pulse, Primary
WP(W)02/1 1Â®	Ruden Homes Ltd	Carrig House, Old Waterpark	51.87272488	-8.653519975	Pathway to the BMPA at Inflow 19 via runoff to the Bride (Lee)_050 sub basin which flows to the Lee (Cork)_090.	Continuous, Secondary
WP(W)03/1 4	Leonard Fitzgerald, Aidan Logan, Dan Byrne	The Viaduct Inn, Chetwynd	51.85960543	-8.527688105	Pathway to the BMPA at Inflow 18 via the Two Pot (Cork City)_010 sub basin which flows to the Curragheen (Cork City)_010.	Continuous, Primary
WP(W)1/07	O'Leary & O'Sullivan Developments Ltd.	Foxes Bridge, Vicarstown	51.96590701	-8.64832637	Pathway to the BMPA at Inflow 19 via the Shournagh_020 sub basin and flowing to the Lee (Cork)_090 by way of the Shournagh_040.	Intermittent, Secondary
WP(W)10/0 8	Dromleigh National School	Kilmichael, Co Cork	51.83456377	-9.038611259	Pathway to the BMPA at Inflow 19 via runoff entering the Lee Cork)_040 sub basin which flows to the Lee (Cork)_090.	Continuous, Secondary
WP(W)10/0 9	ESB Carrigadrohid Dam	Carrigadrohid Dam, Carrigadrohid, Co Cork	51.8970137	-8.863426623	Pathway to the BMPA at Inflow 19 via the Lee (Cork)_090.	Intermittent, Secondary

REFERENCE	NAME	FACILITY ADDRESS	LATITUDE (WGS 84)	LONGITUDE (WGS 84)	POTENTIAL PATHWAY TO THE BMPA	DISCHARGE TYPE
WP(W)10/13Â°	Roadstone Wood Ltd.	Castlemore Quarry , Crookstown	51.8462615	-8.803773582	Pathway to the BMPA at Inflow 19 via runoff entering the Bride (Lee)_030 which flows to the Lee (Cork)_090.	Pulse, Primary
WP(W)11/09	ESB Inniscarra Dam	Inniscarra Dam	51.90195582	-8.660844936	Pathway to the BMPA at Inflow 19 via the Lee (Cork)_090.	Continuous, Secondary
WP(W)11/12Â°	ESB Energy International	Carrigadrohid Hatchery, Carrigadrohid, Co Cork	51.89747567	-8.861706712	Pathway to the BMPA at Inflow 19 via the Lee (Cork)_090.	N/A, Operations ceased
WP(W)12/08	Derek Walshe	The Elm Tree Bar, Killahora	51.91249459	-8.303919335	Pathway to the BMPA at Inflow 24 via runoff entering Tibbotstown_010 sub basin in the north.	Continuous, Primary
WP(W)12/09	Con Kelleher	Gortnapeasta, Clondrohid	51.93521624	-9.049685879	Pathway to the BMPA at Inflow 19 via the Foherish_040 sub basin which flows to the river Lee via the river Sullane_050.	Intermittent, Primary
WP(W)12/13Â°	John Blair	Blairs Inn, Cloghroe	51.92269302	-8.650538398	Pathway to the BMPA at Inflow 19 via the Shournagh_040 sub basin which flows to the Lee (Cork)_090.	Continuous, Primary
WP(W)13/08	O'Regan's Quarry Products Ltd.	The Mills Commercial Park, Crookstown	51.94242362	-8.759567189	Pathway to the BMPA at Inflow 19 via runoff entering the Dripsey_020 sub basin which flows to the Lee (Cork)_090.	Pulse, Primary
WP(W)14/09	Fota Wildlife Park	Fota Wildlife Park	51.89102726	-8.309613741	Direct outflow to the north of the BMPA.	Intermittent, Tertiary
WP(W)14/13	Irish Distillers Ltd.	Ballynona North, Dungourney	51.99255339	-8.155548626	Pathway to the BMPA at Inflow 30 via runoff entering Dungourney_010 sub basin.	Intermittent, Primary

REFERENCE	NAME	FACILITY ADDRESS	LATITUDE (WGS 84)	LONGITUDE (WGS 84)	POTENTIAL PATHWAY TO THE BMPA	DISCHARGE TYPE
WP(W)16/12Â®	Watergrasshill Business Park & Managemenet Co. Ltd.	Watergrasshill Business Park, Meenane,	52.00492521	-8.321654339	Pathway via the Butlerstown_020 sub basin which enters the Glashaboy (Lough Mahon)_030 and flows to the northern BMPA.	Continuous, Tertiary
WP(W)17/05	JMT & Associates	Unit 6 Ard Alainn Commercial park, Churchfield Industrial Estate	51.84176671	-9.120481023	Pathway to the BMPA at Inflow 19 via the Lee (Cork)_030 sub basin which flows to the Lee (Cork)_090.	Intermittent, Secondary
WP(W)18/12	Ard Abhainn Treatment Plant Ltd	C/o Michael O'Sullivan Greene, 2 Station Road,	51.96142254	-8.336356534	Pathway via the Butlerstown_020 sub basin which enters the Glashaboy (Lough Mahon)_030 and flows to the northern BMPA.	Continuous, Tertiary
WP(W)19/06	Bishopscourt Residential Care Ltd.	Liskillea, Waterfall	51.83222772	-8.549765834	Pathway to the BMPA via the river Owenboy (Cork)_020 sub basin which flows to the Owenboy (Cork)_040 and enters the lower harbour from the southwest.	Continuous, Secondary
WP(W)2/04	Dave O'Brien & John Wiggins	No 1 Church Street, Cloyne	51.97285726	-8.21608719	Pathway to the BMPA at Inflow 29 via runoff entering Owennacurra_030 sub basin.	N/A, N/A
WP(W)2/99	Corlon Trading Ltd	Crookstown, Co Cork	51.84391206	-8.834014385	Pathway to the BMPA at Inflow 19 via runoff entering the Bride (Lee)_020 sub basin which flows to the Lee (Cork)_090.	Intermittent, Secondary
WP(W)21/81	EMC Information Systems International	IDA Industrial Estate, Ovens, Co Cork	51.87748896	-8.641943321	Pathway to the BMPA at Inflow 19 via runoff entering the Bride (Lee)_050 sub basin which flows to the Lee (Cork)_090.	Continuous, Secondary
WP(W)23/13	John J Fleming Construction (In Receivership)	c/o George Maloney	51.85381818	-8.558722065	Pathway to the BMPA at Inflow 18 via the Curragheen (Cork City)_010 sub basin.	Intermittent, Secondary

REFERENCE	NAME	FACILITY ADDRESS	LATITUDE (WGS 84)	LONGITUDE (WGS 84)	POTENTIAL PATHWAY TO THE BMPA	DISCHARGE TYPE
WP(W)3/02	Board of Management Ovens NS	Ovens, Co. Cork	51.87577105	-8.666443575	Pathway to the BMPA at Inflow 19 via runoff entering the Bride (Lee)_050 sub basin which flows to the Lee (Cork)_090.	Intermittent, Secondary
WP(W)4/13	Con Quill	Stoneview, Curraghnalaght	51.94888888	-8.542682055	Pathway to the BMPA at Inflow 19 via runoff entering the Blarney_010 or Martin_040 sub basin and flowing to the Lee (Cork)_090 by way of the Shournagh_040.	Pulse, Primary
WP(W)8/06	OBRI Construction Ltd	33 Bellevue Rise, Frankfield	51.96187516	-8.344564929	Pathway via the Butlerstown_020 sub basin which enters the Glashaboy (Lough Mahon)_030 and flows to the northern BMPA.	Intermittent, Tertiary
WP(W)9/05 Â®	John A Wood Ltd (Killeady)	Barnagore, Ovens	51.806259	-8.626129281	Pathway to the BMPA via the Owenboy (Cork)_020 sub basin which flows to the Owenboy (Cork)_040 and enters the lower harbour from the southwest.	Pulse, Primary

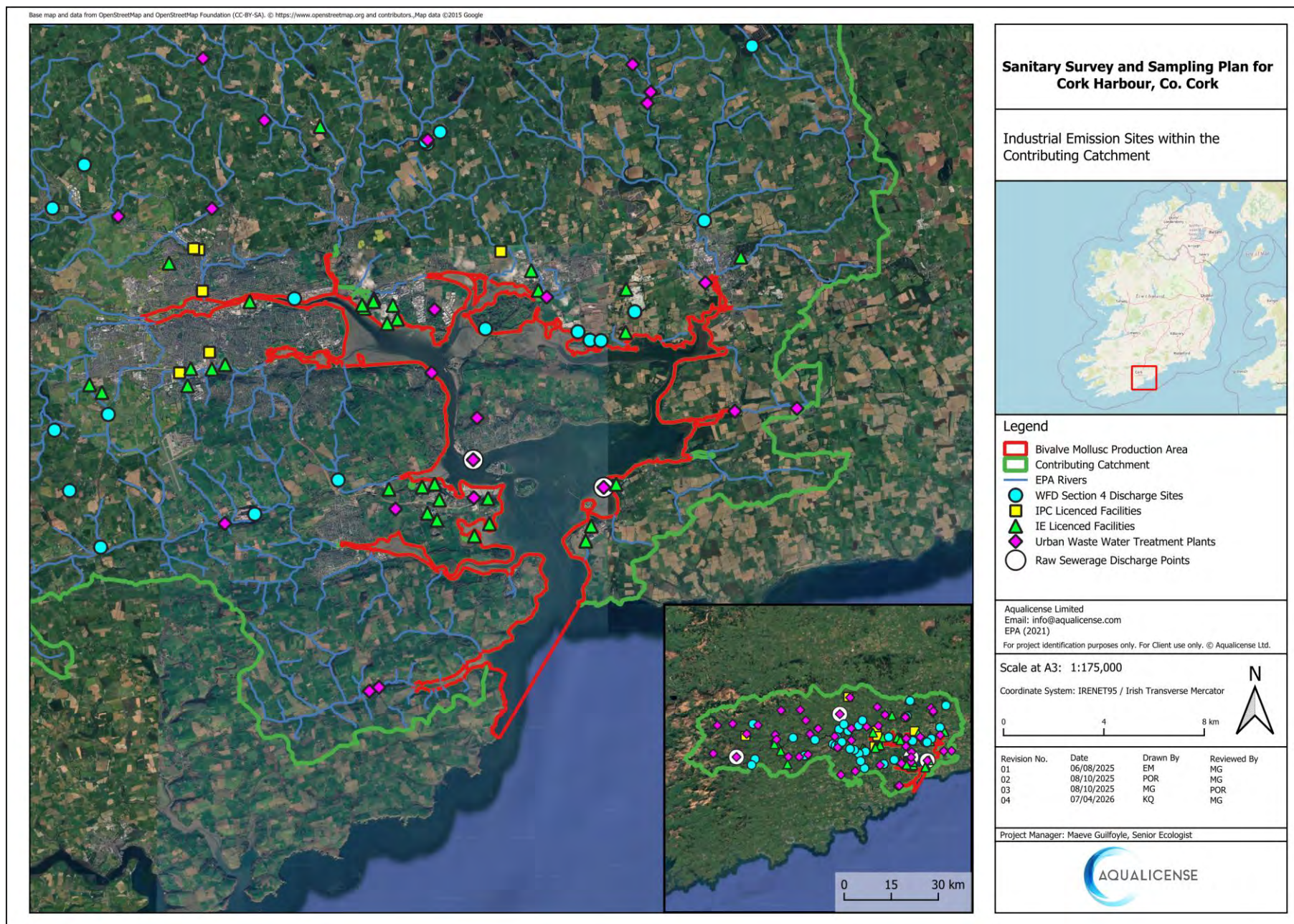


Figure 2-14: Industrial Emission Sites within the Contributing Catchment (Accessed 08/10/2025)

2.5.3 LAND USE

According to Corine (2018), land cover within the contributing catchment is dominated by Pastures (1203.3 km², 62.4%). Land principally occupied by agriculture, with significant areas of natural vegetation is the next most dominant land cover type (151.1 km², 7.8%).

Other land use types within the contributing catchment are: Non-irrigated arable land (109.7 km², 5.7%); Peat bogs (99.3 km², 5.2%); Coniferous forest (81.8 km², 4.2%); Discontinuous urban fabric (76.3 km², 4.0%); Transitional woodland-shrub (59.4 km², 3.1%) and Complex cultivation patterns (49.3 km², 2.6%).

Several land cover types of each account for less than 1% of the total area, namely: Mixed forest; Broad-leaved forest; Industrial or commercial units; Water courses; Sport and leisure facilities; Mineral extraction sites; Water bodies; Road and rail networks and associated land; Airports; Natural grasslands; Port areas; Green urban areas; Continuous urban fabric; Intertidal flats; Salt marshes; Estuaries and Sea and Ocean.

Of the above land cover types, pasture and agricultural land are the most likely to give rise to faecal contamination in the contributing catchment.

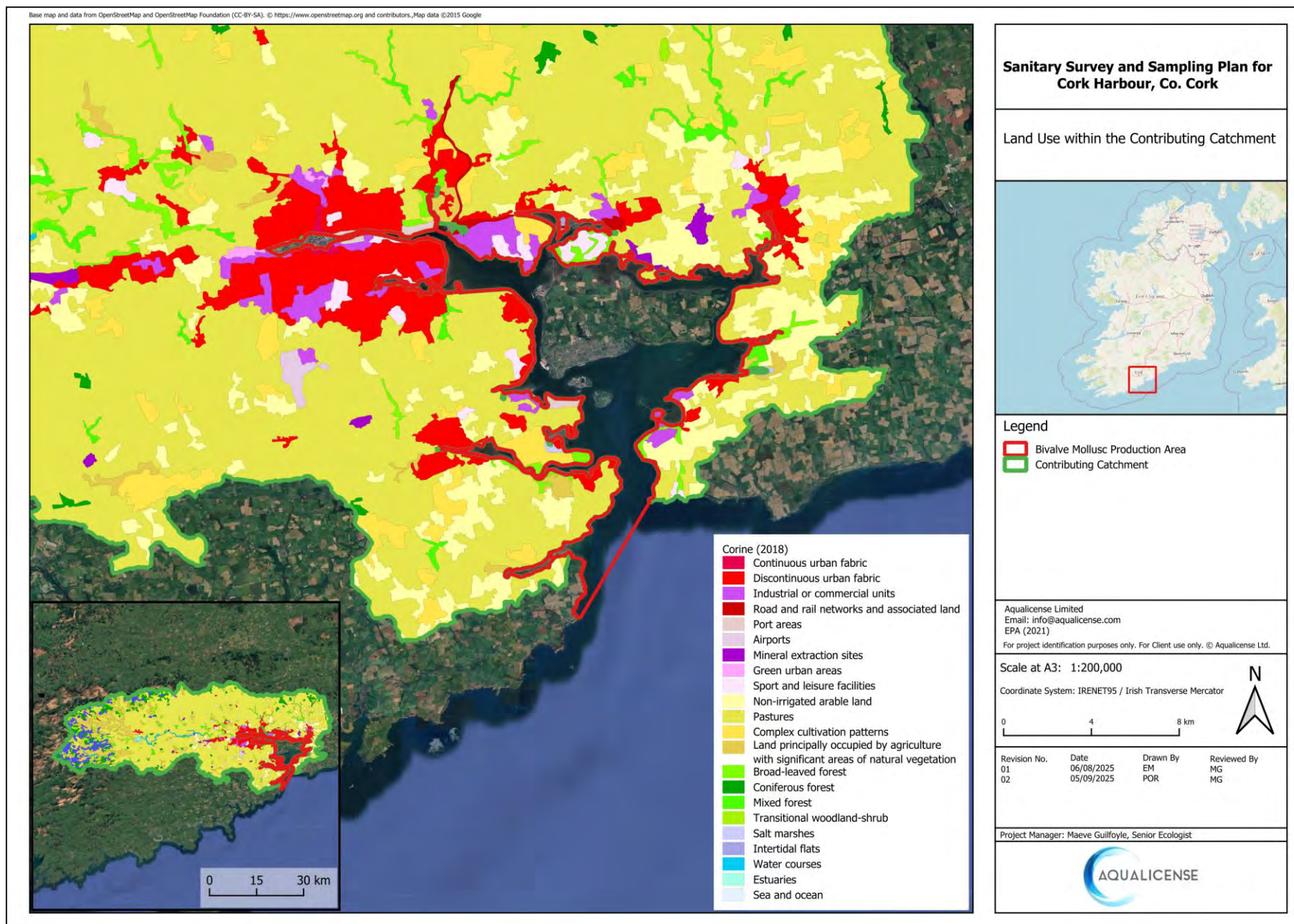


Figure 2-15: Land Use within the Contributing Catchment (Accessed 05/09/2025)

2.5.3.1 AGRICULTURE

Animals

Faecal production and *E. coli* loads from domestic animals are often comparable to or greater than those from humans (Table 2-6). Sheep have the highest daily *E. coli* load, followed by pigs, cows, humans, and chickens. Contamination can occur through direct deposition into watercourses or run-off following rainfall, with seasonal patterns influencing agricultural contamination (see Section 2.4.4.2). Stocking densities also play a role, with higher faecal contamination typically observed during summer months (Hunter, Perkins, Tranter, & Gunn, 1999).

Table 2-6: Estimated faecal production and *E. coli* loadings of selected domestic animals in comparison with humans (Jones and White, 1982 as read in Taylor (2003))

SOURCE	FAECAL PRODUCTION (G/DAY)	AVERAGE NUMBER (<i>E. COLI</i> /G)	DAILY LOAD (<i>E. COLI</i>)
Man	150	13×10^6	1.9×10^9
Cow	23600	0.23×10^6	5.4×10^9
Sheep	1130	16×10^6	18.1×10^9
Chicken	182	1.3×10^6	0.24×10^9
Pig	2700	3.3×10^6	8.9×10^9

The most comprehensive agricultural data available is derived from 2020 Census of Agriculture (CSO, 2020) with the smallest reporting unit being the Electoral Division (ED). While data are not provided on chickens or pigs, intensive poultry farms (>40,000 places²) and pig farms requiring licences (>750 sows or >3,000 production pigs) that fall under EPA licensing control are discussed in Section 2.5.2.1.

A total of 182 Electoral Divisions (EDs) overlap with the contributing catchment (Figure 2-16). However, these EDs do not directly correspond to the contributing catchment boundary, requiring an estimation of the percentage overlap (Table 2-6). Table 2-6 also presents grazing animal census data for each ED, including both total livestock numbers and corrected estimates based on an assumed even distribution of animals across the ED.

²Refers to places for birds e.g. broilers, layers, etc.

Under Ireland's Water Framework Directive (WFD) monitoring programme, waterbodies classified as "At Risk" of failing to meet their water quality objectives undergo assessment for significant pressures that must be addressed. Of particular relevance to this section are pressures from agriculture³.

As part of the third WFD cycle, the Groundwater bodies (GB) that underly the contributing catchment are classified as "At Risk", "Not at Risk", or "Under Review" (Table 2-7). Only two groundwater bodies (Waste Facility (W0012-03) and Lee Valley Gravels) are considered "At Risk" they have therefore been classified for agricultural pressures.

Table 2-7: Risk Status of Groundwater Bodies underlying the Contributing Catchment

GROUNDWATER BODY	BORDERS THE BMPA (Y/N)	RISK STATUS
Whitegate	Y	Not At Risk
Cloyne	Y	Not At Risk
Knockadoon East	Y	Not At Risk
Midleton	Y	Under Review
Ballinhassig East	Y	Not At Risk
Little Island	Y	Not At Risk
Industrial Facility (P0016-02)	Y	Not At Risk
Lee Valley Gravels	Y	At Risk
Ballincollig	Y	Not At Risk
Waste Facility (W0023-01)	Y	Not At Risk
Ringaskiddy	Y	Not At Risk
Bandon	Y	Not At Risk
Industrial Facility (P0028-01)	Y	Not At Risk
Knockadoon West	Y	Not At Risk
Haulbowline Island	Y	Not At Risk
Waste Facility (W0012-03)	N	At Risk
Brinny Gravels East	N	Not At Risk
Brinny Gravels West	N	Under Review
Ballinhassig East	N	Not At Risk
Glenville	N	Not At Risk
Cahersiveen	N	Not At Risk
Beara Sneem	N	Not At Risk

Surface waters represent a significant pathway for faecal contamination to reach the BMPA, particularly where rivers and streams draining high livestock density EDs discharge directly to coastal waters. Given the combination of grazing pressures and high GWVul, these inflows present an elevated risk of microbial pollution during heavy rainfall events.

³ Not all parameters from WFD apply, please refer to Section 3.

Analysis of the 182 EDs overlapping with the contributing catchment (Figure 2-15) shows a strong spatial variation in grazing livestock numbers. Several EDs with near-complete overlap have substantial (corrected) cattle populations are key contributors; including Dripsey (6,868 cattle), Rathcooney (5,437 cattle), Carrignavar (7,159 cattle) and Warrenscourt (7,620 cattle). In addition, Kilberrihert (7,034 cattle and 3,510 sheep) and Clondrohid (5,398 cattle, 3,472 sheep) represent mixed pressure areas where both cattle and sheep are present in high numbers, increasing the risk of microbial loading. By contrast, EDs with high overlaps, such as Ballinlough or Bishopstown, contain no recorded livestock and therefore pose negligible agricultural pressure.

Sheep dominated EDs also contribute significantly to potential *E. coli* loading due to the higher per animal output (Table 2-6). Areas that fully overlap with the and therefore have the potential to directly contribute to the faecal pressures from sheep on surface waters include: Bealanagerary (8,416), Gortnatubbrid (6,729), Inchigeelagh (2,517), and Rahalisk (3,810).

Agricultural pressures are evident across both groundwater and surface water systems. GWVul mapping shows that much of the contributing catchment is classified as “High” or “Extreme” with Karst and shallow rock areas providing rapid pathways for pollutant transfer. Figure 2-3 indicates that several waterbodies draining agricultural land are under pressure from diffuse nutrient and microbial sources. Seasonality further influences contamination risk with summer months characterised by higher livestock densities on pasture, lower dilution in surface waters and greater recreational use of the marine environment.

Therefore, considering grazing animal densities, groundwater vulnerability, and surface water inflows, are the most likely location for pollution discharges from farm animals. The potential for contamination is likely to be greatest during the summer months and following periods of high precipitation.

Land

In addition to the direct source of organic pollution from animals, agricultural land use contributes to organic pollution through the spreading of slurry and soiled water. To provide a clearer understanding of agricultural land use, the 2020 Census of Agriculture (CSO, 2020) can again be consulted, with a correction to account for the percentage overlap of each ED in the contributing catchment (Figure 2-16).

The largest assumed area of farmed land is in the Kilberrihert (c. 3,833.7 ha entirely grassland-based, with no cereals recorded), followed by Carrigtohill (c. 3,460.2 ha with a significant arable component including c. 891.8ha of cereals, but predominantly grasslands at 2,310.0 ha). Overall, cereal cultivation is concentrated in a limited number of EDs, particularly Cloyne, Carrigtohill, Middleton Rural and Watergrasshill, while the majority of farmed land in the contributing catchment is under grassland and therefore primarily used for grazing.

In accordance with the 5th Nitrates Action Programme (Government of Ireland, 2022), the contributing catchment lies in Zone B, where a closed period for slurry spreading runs from 1st October to 15th January. The spreading of soiled water is also prohibited in December. Therefore, the greatest risk to the BMPA primarily exists outside this period, assuming the regulations are adhered to.

In areas designated as "Extreme Vulnerability Areas on Karst Limestone Aquifers" under S.I. No. 113/2022, there are further restrictions on the spreading of soiled water. However, the contributing catchment does not overlie a karst limestone aquifer (GSI, 2023). A portion of the contributing catchment does overlie areas of extreme groundwater vulnerability or areas with rock at or near the surface (Figure 2-15), suggesting karst vulnerability, which will be discussed further below.

Considering the 2020 Agriculture Census, c. 70.85% of the contributing catchment is farmed. As there are no refined spatial data available for the Census, Corine mapping has been used to calculate areas of higher groundwater vulnerability overlapping agricultural land. Approximately c. 50.37% (c. 76,228.83 ha) of agricultural land overlaps areas classified as having "extreme" or "rock-at-surface" groundwater vulnerability (GSI, 2021). Several of these vulnerable areas extend to the coastline, particularly in the vicinity of Cloyne, Rostellan and Carrigtwohill where farmed land directly borders coastal waters. Additionally, 18 EPA-mapped rivers (Figure 2-3) in the contributing catchment flow through agricultural land before entering the BMPA.

Therefore, considering the agricultural land use and groundwater vulnerability, in addition to all riverine inputs, the lower-lying river valleys draining from areas such as Carrigtwohill, Cloyne and Rostellan, together with riverine inputs from Watergrasshill and Midleton rural areas, are the most likely locations for pollution discharges from spreading of slurry and soiled water. Considering the regulatory restrictions in place, this risk is likely to be greatest from mid-January to September inclusive.

2.5.3.2 URBAN AREAS AND HUMAN POPULATIONS

Human populations contribute to contamination from sewerage, as previously discussed in Section 2.5.1. However, examining urban areas and population dynamics (CSO, 2023a and 2023b) can provide further insight into pollution sources and the seasonality of contamination. A total of 1301 urban areas are present within the contributing catchment⁴.

The highest population density (Appendix - 2) is recorded in Small Area A048030004/03, an area of apartment blocks located in the southwestern suburbs of Cork City (Figure 2-11, Appendix - 5). This density is 46,687 persons/km², which is above the national average of 73 people per km² (CSO, 2023b). During the most recent census (3rd April 2022), 77.28% of houses within the contributing catchment were identified as unoccupied holiday homes (CSO, 2023c). This is significantly higher than the national average of 11%, and as a result there is considerable risk of seasonal increases in organic pollution during the summer months (CSO, 2023a). For further information refer to Section 2.5.1.2 relating to septic tanks.

In addition to domestic and urban waste water treatment, facilities such as nursing homes, schools, hospitals, and other large developments can be sources of pollution. A search of the Environmental Impact Assessment (EIA) database identified 91 developments requiring EIA in the

⁴The CSO classifies urban areas based on the following "Buildings in Urban Areas are within a group of at least 100 buildings and buildings need to be within 65 meters of another building. Building groups of 100 buildings or more must be within 500 meters of each other." (Táilte Éireann, 2023).

contributing catchment since 2017 (Department of Housing, Local Government and Heritage, 2024) (Appendix - 6).

Considering the large contributing catchment, a search of Google Maps for relevant facilities (e.g. schools, universities, nursing homes, hospitals, barracks, and prisons) was not conducted for the entire area. However, a search of Google Maps (08/07/2025) was conducted within the BMPA and within 250m of the BMPA boundary to identify any relevant facilities in close proximity of the BMPA. The facilities of note obtained from this search are in Table 2-8.

Table 2-8: Relevant facilities within the contributing catchment (Google Maps 08/07/2025)

FACILITY	LOCATION	LATITUDE	LONGITUDE
Mercy University Hospital	Cork City within the extreme northwest of the BMPA	51.8987753	-8.4828370
St Luke's Home (Nursing home)	Blackrock where the River Lee enters Lough Mahon	51.8969092	-8.3982821
Aperee Limited (Nursing home)	Cork City at Union Quay in the northwest of the BMPA	51.8986710	-8.4640200
East Ferry House Retirement Home	Garranekinnefeake at Passage East in the northeast of the BMPA	51.8583674	-8.2036402
Cork College of FET – Morrison's Island Campus (Adult Education Facility)	Cork City at Lapp's Island in the northwest	51.8954769	-8.4694324
University College Cork - Main Campus	In the northwest of the BMPA in Cork City	51.8934049	-8.4917279
University College Cork - School of Biological, Earth and Environmental Sciences	In the northwest of the BMPA in Cork City	51.8998219	-8.4866069
University College Cork University School of Music	In the northwest of the BMPA in Cork City	51.89937867	-8.4907308
Cork University Business School	Extreme northwest of the BMPA in Cork City	51.8928815	-8.4900203
Scoil Cholmáin Whitegate National School	Whitegate in the west of the lower harbour	51.8234671	-8.2353241
Walterstown National School	East of Great Island in Walterstown	51.8667606	-8.2360557
St Joseph's National School	Kilgarvan, Cobh in the west of Great Island	51.8542792	-8.2921105
Midleton C.B.S Secondary school	Midleton in the extreme east of the upper harbour	51.9070050	-8.1704958

Tourist facilities can contribute to organic pollution, particularly in peak seasons. The contributing catchment lies within high density, medium density and low-density areas of accommodation providers, including hotels, B&Bs, and campsites (Fáilte Ireland , 2018). The high-density area is focused on Cork City and the region to the south of the city, extending towards

the coastline and encompassing the most westerly parts of the BMPA. The medium density area is focused around the majority of the BMPA, while the low-density area encompasses the areas of the BMPA that are furthest east.

While hotels and B&Bs typically use domestic or urban waste water treatment, campsites and caravan parks may pose additional pollution risks. A Google Maps search found seven camping/caravan sites within the contributing catchment (Figure 2-17).

The majority of these facilities are located to the north of the BMPA, outside Cork City, with two additional sites to the north, one in Cobh and another to the south in Ringabella Bay. In the northwest, two of these facilities, Kilcully Scout Campsite and Kenneally's Caravans and Mobile Homes, have the potential to introduce contaminants into the upper harbour via Inflows 18 and 20, respectively.

Fountainstown Beach Resort near Ringabella Bay is adjacent to the open sea and is therefore unlikely to contribute to pollution. Additionally, Jasmine Villa Caravan and Camping Park to the north of the BMPA and Blarney Caravan and Camping Park in the northwest are >1 km from the nearest riverine pathway to the BMPA and as such, there is reduced risk of contamination from these sites.

In summary, human populations and tourism are likely to further contribute to pollution entering the BMPA from the north and northwest. Additional sources, including local facilities such as nursing homes and schools, and camping sites on the islands of the upper harbour, may also introduce contaminants. Holiday homes are ubiquitous in the area and seasonal population increases could lead to higher pollution levels during the summer months.

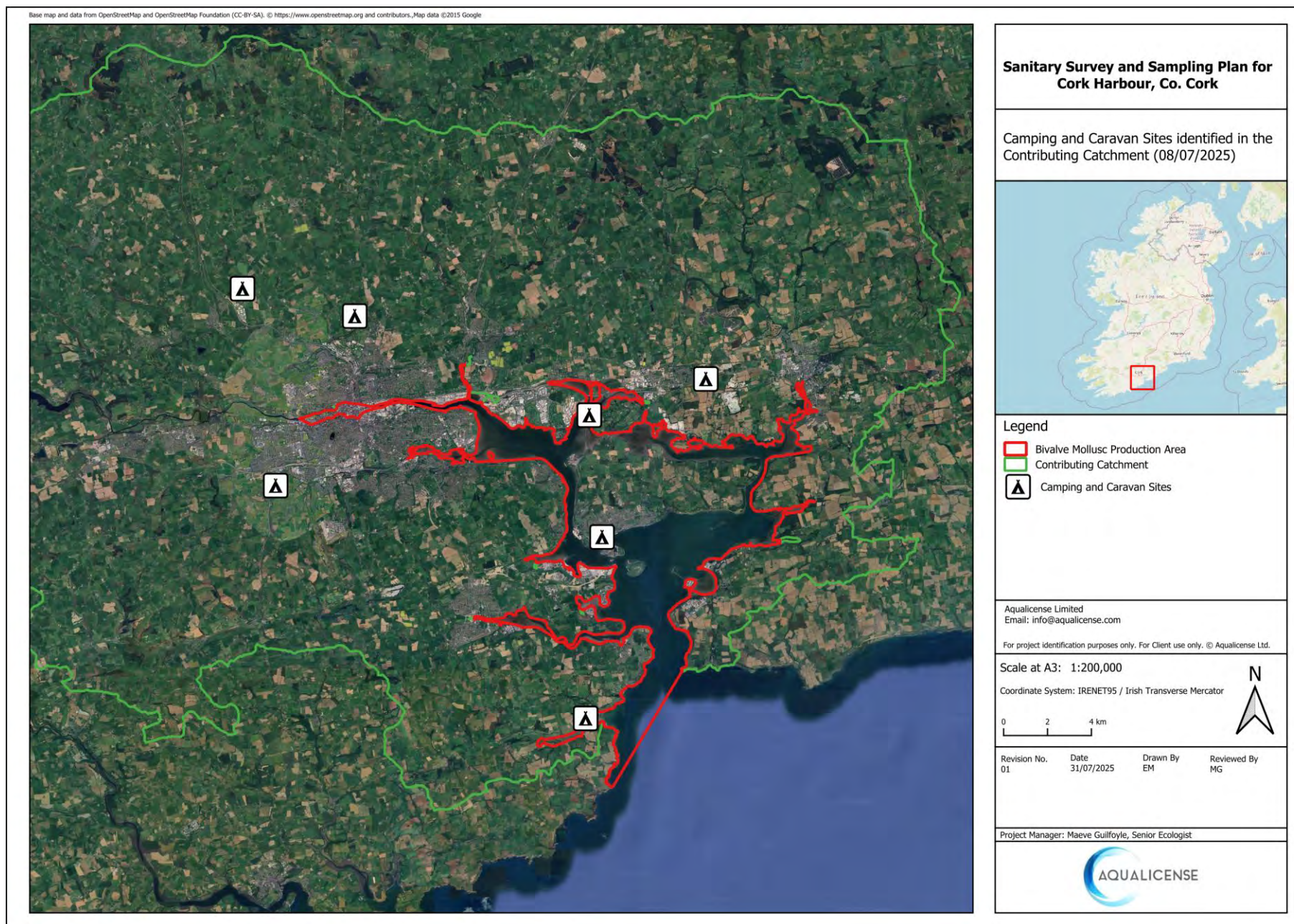


Figure 2-17: Caravan and camping sites identified in the contributing catchment using Google Maps (Accessed 08/07/25)

2.5.4 OTHER POLLUTION SOURCES

2.5.4.1 MARINE ACTIVITY AND INFRASTRUCTURE

Marine vessels, including ferries, cargo ships, fishing boats, and recreational craft, may contribute to faecal contamination, depending on passenger volume, waste management practices, onboard treatment, and regulatory compliance. Under S.I. No. 492/2012 (which transposes Annex IV of the MARPOL Annex IV), treated sewage can be discharged at a minimum of 3 nautical miles (nm) from shore, while untreated sewage must be released no closer than 12 nm. Since sewage is typically discharged at sea or stored onboard for disposal, vessels are unlikely to be a major source of organic contamination. However, for this desk-based study, the greatest risk is in areas where vessels converge, given the potential for accidental spillages and compliance variations.

The BMPA contains one commercial port – the port of Cork – located principally in the northwest of the upper harbour and including the port of Cobh in the southwest of Great Island (Marine Institute, 2010). The port accommodates both leisure vessels and commercial ships, including container vessels, cruise boats, cargo carriers, and oil tankers (Port of Cork Company, 2025). It is classified as one of the three Irish ports of national significance.

There are three ferry ports located within the BMPA, Ringaskiddy Ferry Terminal, which is near the entrance to Passage West in the lower harbour, along with Glenbrook Ferry Port and Carrigaloe Ferry Port, which are in Passage West (MaREI, 2016). Ringaskiddy Ferry Terminal operates a service to Roscoff, France. The Carrigaloe and Glenbrook Ferry Ports are part of the Cross River Ferry service which connects Carrigaloe in Cobh to Glenbrook in Passage West.

Additionally, four marinas are present within the BMPA, East Ferry Marina in Passage East, and Royal Cork Yacht Club, Salve Marine Ltd and Crosshaven Boatyard, which are found on the Owenboy river as it enters the lower harbour from the east.

A review of Google satellite imagery was conducted on 01 July 2025 to identify additional slips, piers, or jetties within the contributing catchment. Inclusive of the aforementioned ports, 64 areas with slips/piers/quays and jetties were identified. The majority of these are centred around the lower harbour and areas like Crosshaven and Cobh in particular.

Figure 2-18 shows the location of vessel facilities within the BMPA, as well as ship density between the years 2015-2020 at 500 m resolution. Areas shown in red indicate extremely high ship density, with density levels decreasing progressively as the colours become cooler. Given the expected compliance with S.I. No. 492/2012, the risk of contamination from vessels is relatively low. Instead, discharges from land are more likely to pose a more significant source of contamination.

2.5.4.2 SWIMMING, BATHING AND RECREATION

The recreational use of beaches and shorelines acts as a source of faecal contamination. Bathers are a non-point source of faecal bacteria, including *E. coli*, due to the shedding of microbes from skin (Elmir, et al., 2006). Dog walking is also a contamination source in recreational waters (An, et al., 2020) and may contribute up to 20% of faecal indicator bacteria in urban Irish areas (Martin, et al., 2024). Such contamination is expected to peak during the summer months in association with warmer weather.

No Blue Flag-listed beaches or designated bathing waters have been designated by the EPA or are present; therefore, no data are available regarding swimmer numbers or bacteriological quality. Google satellite imagery (Search Date: 07 July 2025) was used to identify beaches and coastal walks within the BMPA. Several named beaches are present around the BMPA, particularly along the western shores of the Outer Harbour across from Roches Point, and the southern shore of Great Island.

Considering the relatively large populations in the area, swimming numbers may increase during the summertime, giving rise to contamination along western shores at the mouth of the harbour, and in proximity of licensed sites T05-002OFO and T05-522B located to the south of Great Island.

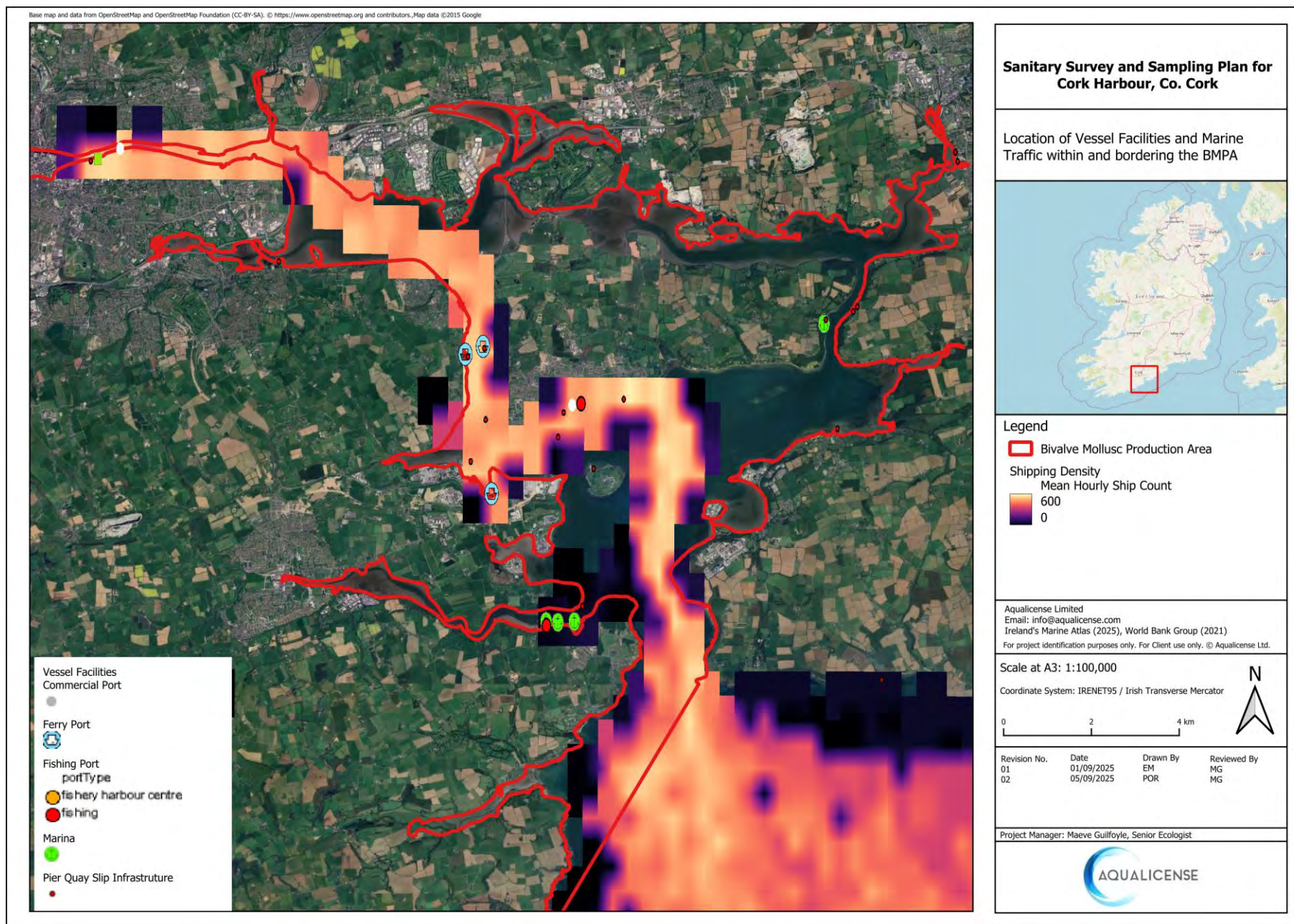


Figure 2-18: Location of vessel facilities and marine traffic within and bordering the BMPA (Accessed 05/09/2025)

2.5.4.3 WILDLIFE

Wildlife, including birds and aquatic animals, has been shown to act as a source of faecal contamination in the marine environment (Alderisio & Deluca, 1999; Godino Sanchez, et al., 2024). To identify key areas of wildlife-related faecal contamination, a search was conducted for locations with potentially high densities of animals in proximity to the BMPA (Figure 2-19 and Table 2-9). This search included Special Protection Areas (SPAs), Special Areas of Conservation (SACs), and Irish Wetland Bird Survey (I-WeBS) sites (Birdwatch Ireland, 2025; NPWS, 2025).

Great Island Channel SAC is designated for Mudflats and sandflats not covered by seawater at low tide [1140] and Atlantic salt meadows [1330]. There are no Annex II fauna listed as a qualifying interest at this site which could be potential sources, as a result, Great Island Channel SAC was excluded from further examination. However, intertidal mudflats will be considered further within this report as they may act as a temporary storage medium for *E. coli*, potentially influencing microbial water quality in adjacent marine areas during tidal resuspension or runoff events (Wyness, et al., 2019). Intertidal mudflats represent 16.81% (15.75 km²) coverage within the entire BMPA, with 8.03% of the total area(s) of the aquaculture sites overlapping with this feature.

The Cork Harbour SPA and I-WeBS site overlap the BMPA and have large seabird populations which forage across wide areas, including the Common Tern, Oystercatcher, Dunlin and Black-headed Gull. Considering the high quantities of wildlife, in particular wintering birds, there is potential for faecal contamination BMPA, especially during the winter months.

Table 2-9: Wildlife areas within the BMPA

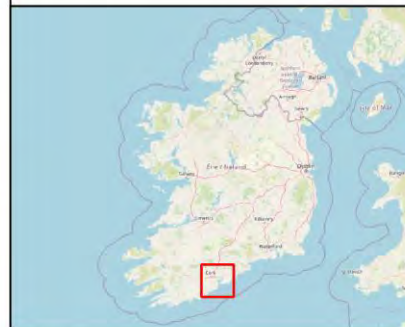
TYPE	NAME (CODE)	SPECIES/HABITATS	LOCATION
SPA	Cork Harbour SPA (004030)	Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Shelduck, Teal, Pintail, Red-breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Black-headed Gull, Common Gull, Lesser Black-backed Gull, Common Tern, Wigeon, Shoveler	Overlapping the entire BMPA
SAC	Great Island Channel SAC (001058)	Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) [1330]	North Channel of the BMPA
I-WeBS	Cork Harbour (0L403)	Mute Swan, Whooper Swan, Barnacle Goose, Light-bellied Brent Goose, Shelduck, Wigeon, Gadwall, Teal, Mallard,	Overlapping the entire BMPA

TYPE	NAME (CODE)	SPECIES/HABITATS	LOCATION
		Pintail, Shoveler, Pochard, Tufted Duck, Scaup, Long-tailed Duck, Eider, Common Scoter, Goldeneye, Red-breasted Merganser, Red-throated Diver	
	Ringabella Creek (OL423)	Mute Swan, Barnacle Goose, Light-bellied Brent Goose, Shelduck, Wigeon, Teal, Mallard, Pintail, Shoveler, Goldeneye, Little Grebe, Cormorant, Little Egret, Grey Heron, Oystercatcher, Ringed Plover, Lapwing, Dunlin, Black-tailed Godwit, Curlew, Redshank, Greenshank, Turnstone	Southwest of the BMPA at Ringabella



Sanitary Survey and Sampling Plan for Cork Harbour, Co. Cork

Key areas for wildlife within and bordering
the BMPA (Accessed 02/12/2025)



Legend

- Bivalve Mollusc Production Area
- Special Area of Conservation
- Special Protection Areas

IWeBS Sites

- Cork Harbour
- Ringabella Creek

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NPWS (2024), IWeBS (2025)

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Scale at A3: 1:100,000

Coordinate System: IRENET95 / Irish Transverse Mercator

0 2 4 km



Revision No.	Date	Drawn By	Reviewed By
01	05/08/2025	EM	MG
02	02/12/2025	KQ	MG

Project Manager: Maeve Gullfoyle, Senior Ecologist



Figure 2-19: Key areas for wildlife within and bordering the BMPA (Accessed 02/12/2025)

2.5.5 SOURCE-PATHWAY-RECEPTOR MODEL OF POLLUTION SOURCES AND SEASONAL VARIATIONS OF POLLUTANTS

Considering the details in the above section, the Source-Pathway-Receptor (SPR) model was used to assess the relative risk of faecal contamination in Cork Harbour by identifying potential contamination sources and transport pathways to the receiving environment (Table 2-10). Each source was assessed qualitatively based on potential loading, the existence and strength of transport pathways (surface water, groundwater, or direct discharge), and known seasonal variability associated with agricultural pressure, human activity and wildlife presence.

The SPR model integrates the desk-based assessment and contributing catchment characterisation. Seasonal factors were included to reflect the higher agricultural runoff and DWWTS loading during wetter winter months, and increased human and wildlife inputs during summer and migratory periods.

The resulting impacts identified represent the likelihood of each source contributing contamination to the BMPA and the licenced sites under typical conditions.

Table 2-10: Source-Pathway-Receptor Model and Relative Risk to the Production Area and Licensed Sites

SOURCE	SOURCE DESCRIPTION	PATHWAY TO BMPA	PATHWAY TO LICENSED SITES*	DETAILS	QUALITATIVE SPR SCREENING CONCLUSION
UWWTPs	A total of 43 Urban Waste Water Treatment Plant agglomerations are present within the contributing catchment, 22 of which are serving a Population Equivalent (PE) of <500, with 21 UWWTPs serving a population equivalent of >500, these are further elaborated on in Appendix - 2. Of the 21 UWWTPs serving >500 PE within the catchment, 14 did not meet the standards outlined in the 2023 AERs. Four achieved compliance and the remaining three were deemed not applicable owing to the diversion of flows to larger treatment facilities.	The majority of the UWWTP discharge points either indirectly or directly discharge into the Lee sub basin (“Moderate” status) in the north-western section of the BMPA. Another discharge river of note is from Dungourney_020 sub basin to the western section where the river quality is listed as “Moderate” discharging into area “C” (Figure 2-8) of the BMPA.	c. 5.82 km to the nearest site in the Great North Channel from Dungourney_020 riverine input. Inputs from the Lee sub basin and western section of the BMPA have larger intervening distances c. 13.76 km.	- Highest contamination risk is most likely in the northeastern section of the BMPA where there is a high rate of failure for the UWWTP discharge points in conjunction with poor to moderate water quality. - Residence times in the Great North Channel area (“C”, Figure 2-8) are elevated. The highest contamination risk may come from the River Lee area which has the largest intervening distance to the nearest licenced sites, though the ebb tide and residual currents have the potential to carry contaminants to site T05-002OFO. - Significant year-round loading though peaks expected during	Yes: there is potential for direct, proximal outfall with short hydrodynamic travel time to the licensed sites. The complex extended flushing times and loading during the peak tourist summer period increases the risk.

SOURCE	SOURCE DESCRIPTION	PATHWAY TO BMPA	PATHWAY TO LICENSED SITES*	DETAILS	QUALITATIVE SPR SCREENING CONCLUSION
				hotel/holiday occupancy raises summer BOD.	
Septic Tanks and Other Sewerage Types	The contributing catchment is predominantly on the UWWTP system with only small areas located in the west of the contributing catchment (not in proximity to the BMPA) denoted as having septic and or other sewerage types.	There are small pockets in the north-western portion of the contributing catchment where septic tank clusters overlap with areas of “high-extreme” groundwater vulnerability, representing the greatest risk from this source. Additional concern arises where ribbon developments are present along minor roads (present in Zone 2 areas)	Outflows from the Lee sub basin at Inflow 19 are the primary conduit potentially providing a source for transport towards licenced sites in the outer harbour area. Circulation patterns within the estuary may allow for redistribution of contaminants, particularly under low-flow summer conditions.	• In areas of high GWVul, the limited scope for attenuation increases the potential for effluent to percolate to the groundwater and migrate towards springs or surface water receptors with subsequent discharge to inflows. • Elevated risk is anticipated during winter months when higher rainfall increases the hydraulic loading on septic tanks and has the potential to accelerate pollutant transport via both surface and subsurface pathways. • Summer may result in increased loading in the summer vacation homes and increase localised contamination impacts.	Yes , while the majority of households are connected to UWWTPs, the north-western fringe of the contributing catchment contains clusters of septic tanks within areas of “high-extreme” groundwater vulnerability zones. These coincide with surface-water pathways draining directly to the estuary (Inflow 18 & 19) offering limited attenuation.

SOURCE	SOURCE DESCRIPTION	PATHWAY TO BMPA	PATHWAY TO LICENSED SITES*	DETAILS	QUALITATIVE SPR SCREENING CONCLUSION
IE and IPC Licenses	A total of 45 licenses [IE: 37 and IPC: 8] have been granted within the contributing catchment, full details of which are provided in Table 2-4 above.	Pathways to the BMPA are a combination of direct discharges into the BMPA, via a variety of Inflow points (rivers, streams or direct runoff into Cork Harbour) to the north-west and north east of the BMPA, intensive agriculture licences (e.g. P0316-01, P0662-01, P0338-01, P0262-01 and P0334-1)) and waste management sites- potential to pose a risk in the event of poor management.	Inflow 26 is c. 680 m from licenced site T05-017OFO which is in proximity to P0316-01 an intensive agriculture site. Around Cork City/Little island/Ringaskiddy/Whitegate peninsula there are multiple licensed industrial and waste facilities with run off entering short river systems draining into Cork Harbour, where cumulative load may be significant despite low faecal relevance.	- The highest contamination risk arises from the intensive agriculture licences in the northern sections of the catchment. - Additional concern exists at Cork City, Little Island and waste facilities discharging into the various inflows where short poorly attenuated pathways increase the likelihood of contaminant transport to the BMPA. - During periods of higher rainfall, the increased risk of runoff accelerating transport to surface waters is noted in particular for areas of intensive agricultural activities.	Yes , licenced facilities within the catchment present a credible risk of contamination to the BMPA. The greatest concern is from the areas of intensive agriculture licences discharging via the Lee sub basin (Inflow 19) and the Tibbotstown_010 sub basin (Inflow 26) where both direct faecal relevance and elevated groundwater vulnerability increase risk. While the remainder of the licences are of low faecal relevance their cumulative direct runoff into Cork Harbour may elevate the overall risk, particularly under seasonal conditions of high rainfall or low estuarine dilution.
Section 4 Discharges	A total of 42 Section 4 discharges are present within the contributing catchment (EPA, 2024b), which are characterised and discussed	Elevated groundwater vulnerability is noted in the western (Lough Mahon) and north eastern embayment's	Key contributors in this hydrodynamically constrained area are WP(W)2/87 and WP(W)2/04 to the sub basin (Inflow 29), WP(W)14/13 to	Areas of greatest contamination risk include the northern and north-eastern BMPA, due to the poor flushing and	Yes: there is the potential for contamination pathways to licensed shellfish BMPA with the highest risk in the norther and north-eastern BMPA.

SOURCE	SOURCE DESCRIPTION	PATHWAY TO BMPA	PATHWAY TO LICENSED SITES*	DETAILS	QUALITATIVE SPR SCREENING CONCLUSION
	in Table 2-5. These licences regulate trade and sewerage effluent into surface and groundwater areas. Detailed data on discharge type and pathways are limited as such a precautionary approach assumes potential faecal contamination risk to both surface and groundwater pathways.	(Midelton- Cloyne-Dungourney). Three licences have confirmed direct pathways into the BMPA: WP (W) 74/80 (from Cork City into the BMPA), WP(W) 20/06 and WP(W)14/09 (both into the northern section of the BMPA). These outfalls bypass the freshwater inputs and discharge directly into the coastal waters. The Lee sub basin (Inflow 19) represents the largest aggregate of Section 4 linkages (25 via Lee/Bride(Lee)/Shournagh), indicating the highest cumulative loading potential within the harbour. However, the hydrodynamic sensitivity is greatest in the northern and north-eastern BMPA, where there is significantly reduced circulation which	Dungourney sub basin (Inflow 30) and WP(W)12/08 via the Tibbotstown_010 sub basin (Inflow 24). These sources are proximate to shellfish aquaculture and discharge to poorly flushed waters, further amplifying potential impacts on sensitive receptors.	close proximity to shellfish aquaculture. - Hydrodynamic modelling indicates discharges into areas with reduced circulation in the norther/north-eastern BMPA pose higher persistence/exposure risk. By contrast, the Lee sub basin although significant, discharges are delivered to a more dynamic water system and a greater intervening distance to the current licenced areas. - Seasonal periods of low flows may reduce the dilution factor and exacerbate exposure in poorly flushed areas, while winter storms may increase the overland/runoff transport.	

SOURCE	SOURCE DESCRIPTION	PATHWAY TO BMPA	PATHWAY TO LICENSED SITES*	DETAILS	QUALITATIVE SPR SCREENING CONCLUSION
		elevates the potential for exposure.			
Agriculture	Electoral Divisions (EDs) that fully overlap with the contributing catchment and therefore have the potential to directly contribute to the faecal load from sheep on surface waters include: Bealanagerary (8,416), Gortnatubbrid (6,729), Inchigeelagh (2,517), and Rahalisk (3,810). The largest assumed area of farmed land is in the Kilberrihert (c. 3,833.7ha entirely grassland-based, with no cereals recorded), followed by Carrigtohill (c. 3,460.2 ha with a significant arable component including c. 891.8 ha of cereals, but predominantly grasslands at 2,310.0ha). Overall, cereal cultivation is concentrated in a limited number of EDs, particularly Cloyne, Carrigtohill, Middleton Rural	Run-off to the various river inputs into the BMPA with possible infiltration in “Extreme” GW areas.	River mouths within 0.7–2 km of all licensed sites.	• Highest loading during slurry-spreading season (Jan–Sep) and heavy rain. • Spring tides flush fields but also deliver pulses; neap tides allow persistence. • Risk: High for brief post-storm spikes, otherwise moderate.	Yes: this represents the largest possible source for faecal loading and broad spatial extent. While the tides do flush the area, they have the potential to deliver pulses from further down (to the south) the harbour

SOURCE	SOURCE DESCRIPTION	PATHWAY TO BMPA	PATHWAY TO LICENSED SITES*	DETAILS	QUALITATIVE SPR SCREENING CONCLUSION
	and Watergrasshill, while the majority of farmed land in the catchment is under grassland and therefore primarily used for grazing.				
Urban Areas and Human Populations	A total of 1301 urban areas are present within the contributing catchment. Area of the highest density is within the southwestern suburb of Cork City at 46,687 persons/km ² , which is above the national average of 73 people per km ² .	Surface water via the primary river sources with a minor groundwater link.	River mouths within c. 0.7–2 km of all licensed sites.	• Tourist occupancy from May to September may double PE loads. • Flood tide inflow then ebb export past trestles. • Risk moderate; largely controlled by UWWTP performance.	Yes: Medium loads largely treated but seasonal surges.
Marine Vessels	Within the BMPA there is one commercial port – the Port of Cork, 3 ferry ports, four marinas and 64 areas identified with slips/piers/quays and jetties. The majority of these are centred around the lower harbour and areas like Crosshaven and Cobh in particular.	Direct discharge within Cork Harbour being dispersed by tides	<0.5 km to aquaculture sites	• Considering current direction and the location of the piers, contaminants are unlikely to flow in the direction of the sites. • Given the scale of operations and regulatory controls and MARPOL which all dictates that no blackwater or greywater discharges may be allowed within 3 nm of the shore.	No: Potential impact from this source would be negligible This is in combination with the hydrodynamics of the bay and the strict enforcement of MARPOL rules and regulations.

SOURCE	SOURCE DESCRIPTION	PATHWAY TO BMPA	PATHWAY TO LICENSED SITES*	DETAILS	QUALITATIVE SPR SCREENING CONCLUSION
Swimming, Bathing and Recreation	No Blue Flag-listed beaches or designated bathing waters have been designated by the EPA or are present within the BMPA. Informal bathing may occur along the western shores of the Outer harbour and the southern shore of Great Island.	Localised shedding at shoreline.	Battery Strand and Cuskinny beach on the southern shore of Great Island which is in close proximity to one of the larger licenced sites TO5-002OFO.	- The proximity of the beaches to facilities contamination from recreational activities is assumed to be minimal. - Risk increases during summer, though the semi-diurnal nature of the tides and rapid flushing would mean fast dilution on spring tides.	No: Potential impact from this source would be negligible This is in combination with the hydrodynamics of the bay and availability of public sanitation
Wildlife	Cork Harbour SPA (004030); Cork Harbour I-WeBS (0L403); and Ringabella Creek I-WeBS (0L423)	Direct deposition in the intertidal and nearshore waters	The Cork Harbour SPA and I-WeBS site overlap the entire BMPA and have large seabird populations which forage across wide areas, including the Common Tern, Oystercatcher, Dunlin and Black-headed Gull.	- Winter wader flocks concentrate at low-flow neap periods. - Wildlife-borne risk low-moderate, episodic.	Yes: However, these levels are likely to be very low , due to the intervening distances, natural, sporadic in density and time and partially mitigated by tidal mixing (see section 2.4.3.2)
Habitats	Mudflats and sandflats not covered by seawater at low tide [1140] Great Channel Island SAC and smaller pockets in the surrounding harbour are host to areas of mudflats not	Any riverine input (and possibly sewerage outflows or other faecal contamination sources) in the local area and or when covered by seawater at high tide may deliver <i>E. coli</i> and other faecal indicator bacteria into the BMPA.	The areas of mudflats in the upper section of Great Channel Island are in close proximity and or overlapping with aquaculture sites in the vicinity.	Wyness et.al., 2019 study shows that <i>E. coli</i> and other faecal bacteria can survive for weeks in sediment and become attached to fine-grained, cohesive substrates (e.g. mud).	Yes: These habitats can function as temporary reservoirs for <i>E. coli</i> , with resuspension during tidal or runoff events potentially affecting microbial water quality in adjacent marine areas, particularly given their overlap with aquaculture sites.

SOURCE	SOURCE DESCRIPTION	PATHWAY TO BMPA	PATHWAY TO LICENSED SITES*	DETAILS	QUALITATIVE SPR SCREENING CONCLUSION
	covered by seawater at low tide.	These bacteria may settle out of the water column and become associated with the mudflat sediments during low-flow or slack water periods.		Risk of <i>E. coli</i> becoming trapped and concentrated in the moist sediment pore spaces or biofilm matrices. When mudflats are then covered by incoming tide (or strong flush effect post a heavy rainfall period) or disturbed by currents and or aquaculture activities bacteria trapped in the sediment can then become resuspended in the water column.	

2.6 CONCLUSIONS OF THE DESK-BASED SURVEY

This desk-based component of the sanitary survey employed the SPR model to assess the principal potential impacts from the possible sources of faecal contamination identified during the desktop study (Sections: 2.4.2 – 2.5.4.3), the mechanisms by which these contaminants are transported, and their circulation dynamics within the BMPA.

The analysis identified that the largest inflow to the BMPA is expected via the Lee sub basin (Inflow 19) which drains a large portion of the catchment including Cork City and the surrounding urbanised areas. Additional contributions arise from the northern inflows, notably from inflows associated with the Owennacurra and Tibbotstown sub basins, as well as from a number of Section 4 licenced discharges and smaller streams with reduced flushing capacity.

The predominant sources of faecal pollution were attributed to failing UWWTPs, diffuse agricultural pressures, and septic tanks in areas of high to extreme groundwater vulnerability. Industrial and IPC licenced facilities and urban runoff represent secondary contributors, while wildlife and recreational use are considered to be minor, seasonal inputs.

Seasonal dynamics are expected to significantly influence contaminant loading, with elevated faecal inputs during summer months driven by increased animal stocking densities. Agricultural pressures are expected to peak during the slurry spreading and periods of high livestock densities. Furthermore, extended dry periods followed by rainfall events may exacerbate pollutant runoff through the "first flush" effect. Increased rainfall levels during the winter season have the potential to accelerate the mobilisation of contaminants via surface and groundwater pathways, while summer months are associated with the potential for increased loading from tourism, holiday homes and recreational use.

Hydrodynamic characteristics of the BMPA, as identified through the desk-based review, indicated complex flushing patterns and extended resident times within different areas of Cork Harbour. These tidal dynamics suggest a potential for temporary accumulation of pollutants particularly during neap tides when flushing rates are reduced, enhancing the risk of contamination persistence within the shallow, sheltered areas of the BMPA.

Further validation and refinement of these findings will be undertaken upon completion of the shoreline survey, which will provide ground-truthed data on the presence and severity of faecal pollution sources, thereby enhancing the resolution and accuracy of the overall risk assessment and BMPA delineation.

3 SHORELINE SURVEY

This section of the sanitary survey relates to the shoreline survey, which has been undertaken by the SFPA following receipt of the desk-based study conducted by Aqualicense. The purpose of this shoreline survey is to confirm the findings of the desk-based study and identify any sources of contamination previously unidentified.

3.1 SHORELINE SURVEY METHODOLOGY

The SFPA Code of Practice for the Classification and Microbiological Monitoring of Bivalve Mollusc Production Areas identifies the methodology for carrying out shoreline surveys under Appendix 9.1 of the SFPA Code of Practice (SFPA, 2025). Any identified pollution risks were clearly documented, including GPS coordinates, photographs, and detailed descriptions. Photographs were also obtained for all identified risk locations.

Evidence of faecal contamination, such as odours, discolouration, or algae growth, were documented. Surveyors recorded observations even in situations where there was uncertainty regarding potential contamination. Where faecal contamination of an inflow, waterbody, or discharge location was suspected, bacteriological samples were obtained in accordance with the CoP.

3.1.1 SURVEYOR RESULTS

A comprehensive shoreline survey extending around the entirety of the Cork Harbour BMA was surveyed by SFPA personnel over a multi-day/month period between May and October 2025 (Table 3-1). Due to the logistics and accessibility concerns for differing sections of the harbour a combination approach of walkover and survey vessel was used to ensure full visual coverage of the area.

Surveys were undertaken on both the rising and falling tides to maximise the visibility of the intertidal pipes and drains, while in some instances allowing for close access with the SFPA Rigid Inflatable boat (RIB). Weather conditions were predominantly dry and settled throughout the survey periods, with only light drizzle recorded on a small number of days and very limited antecedent rainfall over several weeks in late June; this should be considered when interpreting the visibility of intermittent and storm driven discharges.

Table 3-1: Summary of survey period, weather conditions, specific sections covered and general notes for Cork Harbour.

DATE	TIDAL PERIOD	WEATHER CONDITIONS	AREA COVERED	GENERAL SURVEY NOTES
29/05/2025	Falling Tide	Minimal rainfall 1 mm observed over the previous 24 hrs. The previous month has seen very little rainfall.	Cork North Channel (Cobh North Shoreline)	The main activities to note during this survey related to agricultural activity. Sporadic and not intense. A number of cattle were observed, along with 1 no. field for arable farming. This land which runs parallel to the North Channel slopes towards the channel and therefore any potential source of agricultural contamination could

DATE	TIDAL PERIOD	WEATHER CONDITIONS	AREA COVERED	GENERAL SURVEY NOTES
				potentially find its way into the channel. There were 2 no. marina/boatyards observed along this area. There were also a number of privately moored vessels located in this area.
30/05/2025	Falling tide	Rainfall for the past 24 hours approx. 1.0 mm.	Cork North Channel to North Shore	Topography on the North Side of the North Channel relatively flat. Points Some visible signs of farming (pastoral) by nature. SFPA ID 4-6 involved quarrying/stone activity. Due to very little rainfall in the past 5 weeks, any streams were hard to identify as being active.
04/06/2025	Rising Tide	Minimal rainfall noted for the previous 24hrs, no rain recorded during the survey period.	Cork North Channel and North Shore	Survey undertaken on a rising tide, starting from the South Shore of the River Ballynacorra, traversing in a northerly direction into Ballinacurra, travelling under the N25, into the Owenacurra estuary, past Bailick Park, access was limited due to no water. Following the shore along the L3621 passing Woodquay Apartments, Charleston Wharf taking a southerly route towards Rathcoursey East and then on to Rathcoursey West, finishing up at East Ferry Pier.
06/06/2025	Rising Tide	Patchy light drizzle 1.0 mm.	East Ferry towards Aghada-Whitegate Across to Cobh and back to East Ferry	Undertook survey starting at East Ferry, traversing in a southerly direction tacking along the coast towards Jamesbrook, Rostellan and along the R630 towards Whitegate. At Corkbeg Island, traversed across the Cork Harbour Channel to Cobh (Sirius Wharf) and continued along a South Easterly direction of Cobh and finishing at Marlogue during the shoreline survey it was not possible to ground truth survey at Passage West. Identified from desktop survey as a sewage emission point.
23/09/2025	Falling tide	No rainfall on the day or in the previous 48 hrs.	Carrigrennan Area	Starting at Carrigrennan Parque Little Island and following the shoreline on foot around Carrigrennan.
24/09/2025	Rising tide	No rainfall on the day or in the	Ringmahon West from	Started at Blackrock Village Point traversing along the Mahon Estuary

DATE	TIDAL PERIOD	WEATHER CONDITIONS	AREA COVERED	GENERAL SURVEY NOTES
		previous 48 hrs.	Blackrock Village to Harty's Quay	towards Harty's Quay, finishing on the Douglas River.
25/09/2025	Falling tide	No rainfall on the day or in the previous 48 hrs.	Rochestown Passage and Monkstown	This observational survey took place from the Rochestown area to Passage West and onto Monkstown.
29/09/2025 and 09/10/2025	Falling tide	No rainfall on the day or in the previous 48 hrs.	Ringaskiddy	The area surveyed started from Raffeen village covering Pfizer Pharmaceuticals and Ringaskiddy towards Rocky Island, covering Loughbeg. This sampling area was difficult to cover due to the large commercial/Pharma sites and the Port of Cork facilities which are privately operated.
09/10/2025	Rising Tide	No rainfall on the day or in the previous 24 hrs. Brief showers (drizzle) in the 48hrs prior.		On the 09/10/2025 the SFPA RIB was tasked with providing an at sea survey from Raffeen to Rocky Island, crewed by colleagues from the Clonakilty Port Office, Sea Fisheries Protection Officers (SFPOs) Nolan, Valls, Hannon and Corish.
30/09/2025	Falling tide	Light drizzle on the day, though no rain in the previous 48 hrs.	Crosshaven/Curabinny/Camden	This area encompassed the Owenabue river from Carrigaline, to Fort Camden along with the southern section of Currabinny.
24/09/2025	Falling tide	No rainfall on the day or in the previous 48 hrs.	Little Island	This observational survey took place in the Little Island area. A number of other points beyond those identified in the desktop survey were recorded along this route.
29/09/2025	Falling tide	No rainfall on the day or in the previous 48 hrs.		
09/10/2025	Rising tide	No rainfall on the day or in the previous 24 hrs. Brief showers (drizzle) in the 48hrs prior.		The RIB was deployed to conduct a survey near Little Island as accessibility of these areas was difficult.
01/10/2025	Rising tide	2.5 mm of rain in the previous 24hrs. No rain	Fountainstown	Fountainstown Area

DATE	TIDAL PERIOD	WEATHER CONDITIONS	AREA COVERED	GENERAL SURVEY NOTES
		recorded on the day.		
07/10/2025	Falling tide	Brief period of rain in the afternoon – light drizzle.	Cobh	Area from Carrignafof to north of Belvelly covered.

Table 3-2 and Figure 3-1 present all observations recorded during the shoreline survey. Photographs for each observation have been provided in Appendix - 3.

Table 3-2: Locations and Details of Observations made during the Shoreline Survey for Cork Harbour BMPA in 2025

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (M)	TIME	HEIGHT (M)						
29/05/2025	01:49 14:13	0.6 0.9	07:40 19:59	4.2 4.4	1	181	51.866072	-8.213225	Runoff	East Ferry Pier (Marlogue) Starting Point. Active Marina with over 30 assorted vessels moored. Potential oil and grease contamination.
					2	180	51.867388	-8.213450	Runoff	Working Slip adjacent to Marlogue (Ingress/Egress of pleasure vessels. Active slip with vessel launch facilities.
					3	179	51.869791	-8.208947	Runoff	Road leading to the foreshore. Potential source of run off from land directly into the channel.
					4	178	51.871877	-8.205027	Discharge pipe	Jetty/Bay View Beach. Private Jetty, with 1 no. cruiser alongside. Outflow pipe active at time of survey. Observed pipe with water emanating from it directly onto the foreshore. Potential nutrient or microbiological pollution source.
					5	177	51.878530	-8.228090	Discharge pipe	Outfall pipe (very small). Very small pipe. No sign of discharge. Potential nutrient/microbiological pollution source.
					6	79	51.888393	-8.254949	Discharge pipe	A total of 3 no. outfall pipes associated with a new section of wall. These pipes are recent additions as the wall along the foreshore is new, run off may originate from a nearby road or agricultural land running parallel to the North Channel (some arable, mostly pastoral). In terms of topography, there is moderate decline in the direction of the North Channel, which could lead to possible nutrient/microbiological pollution.
					7	174	51.878670	-8.237130	Runoff	At this location, the point of the outfall is directly in line with the opening to a field across the road. There is potential for direct flow of agricultural run-off into the channel via an outfall at this location.
					8	175	51.879129	-8.232690	Runoff	Old slipway which appears inactive. This slip is open to the road and across from this point is agricultural land.
					9	173	51.877950	-8.239640	Discharge pipe	Outflow pipe. Potential agricultural run-off.
					10	172	51.878770	-8.245980	Runoff	Open wall providing potential direct run off from adjacent fields into the channel. There was evidence of green algae on the foreshore at this point, which could indicate agricultural run-off directly into the channel. Farming activity in the background.
					11	171	51.878960	-8.251860	Runoff	Active farm with buildings. A total of 23 cows observed in adjacent field 50 m from the farm boundary.

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (M)	TIME	HEIGHT (M)						
29/05/2025	01:49 14:13	0.6 0.9	07:40 19:59	4.2 4.4	12	76	51.892960	-8.266830	Runoff	Active boatyard with approx. 20 no. assorted vessels stored on land. A work shed on site. Slipway leading into the channel. Possible oil and grease pollution source.
					13	170	51.883961	-8.269052	Runoff	Dormant/Inactive Oyster Farm (Utterly Oysters) with slip.
30/05/2025	02:40 15:04	0.6 1.1	08:36 20:51	4.1 4.4	1	72	51.888590	-8.302073	Discharge pipe	Bridge located at Cois Fota. Evidence of 2 no. semi submerged pipes. Evidence of 2 no. outflow channels, emitting discharge. Potential sources of microbiological/nutrient pollution.
					2	73	51.897759	-8.280126	Stream/river	Creek located 200 m from Carrigtwohill Waste Water Treatment Plant. This creek joins North Channel approx. 2 km away.
					3	69	51.902308	-8.275134	Runoff	Carrigtwohill Waste Water Treatment Plant.
					4	74	51.888350	-8.272240	Runoff	This appears to be a Commercial Bus Storage/Maintenance facility located on Weir Island. There were a large number of buses on site.
					5	75	51.896083	-8.267560	Runoff	Quarry, Concrete Production Company. Concrete products and aggregate, paving, road surfacing company located in close proximity to the foreshore
					6a	176	51.878905	-8.230610	Runoff	Breedon Ireland (Rossmore Quarry). Active Quarry in operation during the survey, located along foreshore.
					6b	78	51.888925	-8.253581	Runoff	Road entrance location to Rossmore Quarry Road.
					7	77	51.889269	-8.253025	Discharge pipe	Disused flooded quarry located across the road from the entrance to Rossmore Quarry. Suction and discharge pipes visible. Immediately adjacent to mudflats bordering Atlantic Shellfish site (T05-017OFO).
					8	85	51.885971	-8.250513	Runoff	Brick Island Mudflats bordering Atlantic Shellfish site (T05-017OFO). Immediately adjacent to flooded disused quarry
					9	80	51.883705	-8.261316	Runoff	East Cork Civic Amenity. Formerly East Cork Landfill, has been closed since 2007. Capping of the landfill was completed in 2009. Approx 120,000 tonnes of non-hazardous waste is recorded as being on site. It is noted that not all the of this site is lined. Though it is also noted as being supervised by the EPA and there have been no recorded issues of leachate.

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (M)	TIME	HEIGHT (M)						
30/05/2025	02:40 15:04	0.6 1.1	08:36 20:51	4.1 4.4	10	81	51.882720	-8.251110	Discharge pipe	Atlantic Shellfish Jetty. Jetty alongside the Atlantic Shellfish Premises (T05-017OFO). An outfall pipe is also located in front of the building, no evidence of discharge at the time.
					11	82	51.882871	-8.243515	Runoff	Active jetty located in front of the Ponds, used exclusively by Atlantic Shellfish. Oysters are landed at this location under license (T05-017OFO).
					12	83	51.883855	-8.242296	Discharge pipe	Outflow pipe located next to the ponds. Ponds are located beyond the outbuilding. Signs of discharge.
					13	84	51.884842	-8.241836	Runoff	Tidal entrance lagoon to the pond. Significant flow as the tide was falling during the survey. Approx 50. oystercatchers observed at this location.
					14	86	51.883862	-8.228746	Discharge pipe	Equestrian Centre with observed horses and 2 no. slurry tanks. Photo focuses on 1 no. outflow pipe, no signs of discharge
					15	87	51.885653	-8.228935	Stream/river	Stream with no water discharge observed. Around this area, noted some farming activity
					16	89	51.887529	-8.208402	Runoff	Dilapidated old pier with no sign of activity. Old fishing vessel alongside, poor condition.
					17	88	51.887812	-8.213426	Runoff	Active farm.
					18	90	51.886776	-8.207026	Stream/river	Run-off, stream.
04/06/2025	07:42 20:10	1.0 1.4	03:39 13:43	4.0 3.5	1	91	51.890296	-8.190808	Stream/river	Tributary which runs through agricultural land. Unable to see the point of entry due to tide but could see current flow which indicated water movement.
					2	92	51.895645	-8.192724	Stream/river	Stream coming from this point.
					3	93	51.896677	-8.183770	Runoff	Observed approx. 28 cows in a field adjacent to the shoreline. Also, evidence of slurry spreading.
					4	94	51.898732	-8.174762	Runoff	Old and disused slip.
					5	95	51.909210	-8.179760	Stream/river	This stream is located within very close proximity (100 m) of the Midleton Waste Water Treatment Plant.
					6	96	51.910801	-8.175460	Discharge pipe	Outflow pipe associated with the SW011 Bailick No. 2 Pumping Station. A significant sewage slick was observed during the shoreline survey on the RIB on the 04/06/2025.

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (M)	TIME	HEIGHT (M)						
04/06/2025	07:42 20:10	1.0 1.4	03:39 13:43	4.0 3.5	7	112	51.884359	-8.169330	Stream/river	A shallow mudflat and reedbed complex. Further upstream is the town of Midleton.
					8	97	51.904389	-8.174415	Discharge pipe	This outflow pipe is located under apartment blocks located alongside Cois Na hAbhann apartment complex. No sign of activity.
					9	98	51.903788	-8.173560	Discharge pipe	Observed was a large outflow pipe under an apartment block at the Moorings.
					10	99	51.903624	-8.173387	Discharge pipe	Dilapidated pontoon, no sign of recent activity. 2 outflow pipes, 1 directly under the pontoon, the other 2 m from the end of the pontoon. No sign of activity.
					11	100	51.903197	-8.173158	Runoff	Metal stormwater gate structure. Appeared closed at the time of survey.
					12	101	51.902379	-8.171457	Discharge pipe	Slipway opening directly onto the Bailick Road, with an overflow pipe adjacent to the slip
					13	105	51.899535	-8.170309	Discharge pipe	Located between Charleston Wharf and Charleston Maltings is a small slip, adjacent to which is an overflow pipe.
					14a	102	51.901171	-8.171120	Discharge pipe	Multiple outflow pipes (approx. 14 no.) running the length and breadth of the Woodquay Apartments
					14b	103	51.900261	-8.170885	Discharge pipe	Multiple outflow pipes (approx. 14 no.) running the length and breadth of the Woodquay Apartments
					14c	104	51.899620	-8.170210	Discharge pipe	Multiple outflow pipes (approx. 14 no.) running the length and breadth of the Woodquay Apartments
					14d	106	51.899420	-8.170240	Discharge pipe	Multiple outflow pipes (approx. 14 no.) running the length and breadth of the Woodquay Apartments
					15	107	51.899100	-8.167830	Discharge pipe	1 large outflow pipe observed at this location
					16	108	51.898660	-8.169842	Discharge pipe	Outflow pipe as identified as SW022 This is the site of Ballinacurra No.1 Pumping Station.
					17	109	51.890760	-8.180550	Runoff	Remnants of a wrecked vessel.
					18	110	51.889110	-8.178370	Stream/river	Evidence of a stream entering at this point.
					19	111	51.884350	-8.169780	Stream/river	Stream entering channel, behind can be seen agricultural land with cattle.
					20	113	51.882550	-8.170620	Discharge pipe	Large concrete block with overflow pipe emanating from it.

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (M)	TIME	HEIGHT (M)						
04/06/2025	07:42 20:10	1.0 1.4	03:39 13:43	4.0 3.5	21	114	51.882410	-8.173770	Runoff	Observed what looks like a private jetty, with 2 yachts along with assorted small craft in the vicinity.
					22	115	51.881810	-8.174900	Runoff	Private pier with 1 sunken vessel alongside.
					23	116	51.881180	-8.181850	Runoff	Private slipway with 2 yachts.
					24	117	51.881380	-8.184770	Runoff	Rathcoursey Pier. Active Boatyard, storage area, with 25 assorted pleasure craft on site.
					25	118	51.880950	-8.185540	Discharge pipe	Located close to the Rathcoursey Pier, there was a stream observed across the road from this location and an outflow pipe on the shore side. The opposite side to this location and Mapped ID 56-60 inclusive is engaged in agricultural activity. There is a slope all along the Rathcoursey road L3629.
					26	119	51.880600	-8.194950	Discharge pipe	Pump House of Midleton Primary Discharge Rathcoursey West Pump Station.
					27	120	51.879700	-8.196980	Runoff	Makeshift pontoon on the shore that serves to store tenders (inflatable dinghy's) for approx. 20 assorted sized and type of pleasure craft.
					28	121	51.878430	-8.199590	Runoff	Private pier.
					29	122	51.869180	-8.204060	Discharge pipe	East Ferry. Pier and a slip, with a protected inlet. Located inside the inlet were 2 outflow pipes, 1 was discharging (slow flow) at the time of the survey. East Ferry serves as a commercial pier and for recreational activity.
06/06/2025	09:32 22:01	1.1 1.3	02:39 15:27	3.9 3.7	1	123	51.868512	-8.205125	Runoff	Private jetty leading onto the shore. Evidence of fresh water run-off.
					2	124	51.868100	-8.205813	Runoff	Dilapidated old jetty with evidence of fresh water run-off.
					3	125	51.860896	-8.209675	Discharge pipe	Overflow Pipe with no sign of any flow.
					4	126	51.857455	-8.195662	Runoff	Current and Active Oyster Trestle beds in operation (Licence number required)
					5	127	51.858028	-8.189765	Stream/river	Point at which Saleen Creek flows into Cork Harbour immediately adjacent to Rostellan (North) Oyster site.
					6	128	51.858860	-8.190809	Runoff	Jamesbrook tidal pool. Close by Rostellan North active oyster site.
					7	129	51.858147	-8.182571	Runoff	Remnants of a wreck located on Saleen Creek mudflats.

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (M)	TIME	HEIGHT (M)						
06/06/2025	09:32 22:01	1.1 1.3	02:39 15:27	3.9 3.7	8	130	51.859449	-8.181716	Runoff	Saleen Creek mudflats with birdlife. Evidence of waders and wildfowl active on a single tide.
					9	131	51.859985	-8.177718	Discharge pipe	Jamesbrook Stream. Discoloured water noted at time of survey. Water sample taken 11 June 2025.
					10	132	51.860270	-8.175229	Runoff	Saleen Creek disused mine bridge.
					11	134	51.861950	-8.171774	Runoff	Saleen Estuary Old Pier. Disused pier located upstream from old Mine bridge possibly associated with Silica Clay mined until c.1950 from the Saleen mud flats for Wedgewood Pottery and later for sand casting at the Ford Factory in Cork City. Water sample taken 11 June 2025.
					12	135	51.849283	-8.195181	Runoff	This is an old oyster trestle production area, located adjacent to Aghada GAA Club. No signs of any sources of pollution. High tide unable to see trestles as submerged.
					13	133	51.862016	-8.172143	Stream/river	This stream located at Rostellan Picnic area, possibly sourced from the Rostellan Lake on the opposite side of the L7660 road. Potential source of sewage emission. There is also a Pumping Station located in this area.
					14	136	51.844200	-8.201070	Discharge pipe	Approx 10 pipes located over several hundred meters along the roadside. Possible run off points from the road R630. Close up view of one of the pipes.
					15	137	51.844200	-8.207350	Discharge pipe	Outflow pipe.
					16	138	51.845690	-8.209706	Runoff	Aghada Pier with approx. 19 moored recreational vessels, with a further 30 moorings available. Active pier used for fishing, sports clubs.
					17	139	51.843860	-8.215870	Runoff	Active slip located in front of Tennis and Sailing Club.
					18	140	51.843151	-8.218043	Runoff	Pier located at Tusker Marine. Accessible only at high tide.
					19	141	51.842150	-8.220460	Runoff	Old jetty.
					20	142	51.841378	-8.223918	Runoff	Approx 50 drains at differing heights along a 300 m walled embankment running parallel to a field and the L3652 Hadwell road.
					21	143	51.838440	-8.229180	Discharge pipe	Outflow pipe located along shore. The land type behind this area is forested. Discharge observed.

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (M)	TIME	HEIGHT (M)						
06/06/2025	09:32 22:01	1.1 1.3	02:39 15:27	3.9 3.7	22	144	51.837937	-8.231688	Pier and Storm Water Outfall	Pier and what appears to be a stormwater outfall pipe located on the site of the Power Plant. No evidence of discharge. No evidence that this pier is in any use. Only accessible at high tide
					23	145	51.837867	-8.239105	Runoff	Main Jetty for the Power Plant.
					24	147	51.837169	-8.239993	Discharge pipe	Power Station Outflow Station. Outflow station clearly identified on the shore.
					25	146	51.840280	-8.243100	Discharge pipe	Outflow positioned several hundred meters offshore in Cork Harbour, directly in front of the outflow station. At the time of this survey, there was clear discharge taking place. Point to note, this discharge occurred during an incoming tide, slick observed moving northwards towards Aghada/Cobh.
					26	148	51.833450	-8.238220	Discharge pipe	Large pipe emanating from rock revetments in front of the Power Plant. No sign of discharge.
					27	149	51.831810	-8.234350	Discharge pipe	3 no. outflow pipes located within 100 metres of each other, adjacent to the R630, on the road just before entering the village of Whitegate. No signs of activity from two, while the third had visible signs of discharge. The land on the other side of the R630 at this point was identified as forestry.
					28	150	51.828783	-8.235809	Runoff	Disused Whitegate Pier.
					29	152	51.823924	-8.235270	Stream/river	Located at the corner of Corkbeg Terrace, a stream was observable at this location.
					30	151	51.824510	-8.235270	Runoff	Jetty used by Whitegate Rowing Club.
					31	153	51.833624	-8.261155	Runoff	Jetty Irving Oil, a major oil refinery, located at Corkbeg Island. Capacity to produce 75,000 barrels per day. Jetty used to berth up to 2 tankers at a time.
					32	156	51.851125	-8.280081	Runoff	Upper Camber in Cobh, a small fishing jetty, with approx. 4 fishing vessels. Cork Pilot's berthage.
					33	155	51.851643	-8.278556	Runoff	Private slip.
					34	183	51.858506	-8.264750	Stream/river	Cuskinny stream, evidence of freshwater discharge and possible source of pollution.

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (m)	TIME	HEIGHT (m)						
06/06/2025	09:32 22:01	1.1 1.3	02:39 15:27	3.9 3.7	35	182	51.857940	-8.237497	Stream/river	Stream, possible source of pollution. No flow observed at Glenmore Beach.
23/09/2025	01:15 13:32	0.8 1.0	07:03 19:13	4.0 4.4	1	64	51.888550	-8.340633	Outflow pipe	Possibly linked to the waste water treatment plant. Significant concrete construction.
					2	65	51.885370	-8.335532	Old Jetty	Old jetty.
					3	66	51.886359	-8.333327	Old Dormant Mussel Bed	Old Dormant Mussel Bed.
					4	67	51.890796	-8.330790	Outflow pipe	Outflow pipe coming from a lagoon parallel to the waste water treatment plant.
					5	68	51.891180	-8.331698	Outflow pipe	Outflow pipe.
					6	70	51.898043	-8.318134	Not surveyed	No access, only accessible via RIB
					7	71	51.891788	-8.319901	Not surveyed	No access, only accessible via RIB
24/09/2025	01:46 14:06	0.8 1.0	07:32 19:47	4.0 4.3	1	56	51.902955	-8.396235	Stream/river	Glashaboy River.
					2	57	51.901762	-8.388156	Stream/river	Large outflow near the Tunnel Management building flowing into the harbour.
					3	58	51.897748	-8.383141	Outflow pipe	Closed off outflow near BASF Ireland factory.
					4	59	51.897460	-8.382464	Outflow pipe	Outflow pipe with a number of leaks.
					5	60	51.896802	-8.379461	2 Outflow pipes	2 outflow pipes in close proximity to each other.
					6	61	51.896188	-8.378049	Outflow pipe	Large outflow pipe.
					7	62	51.892689	-8.370879	Outfall	Large outfall running well out to sea.
					1	55	51.898639	-8.412040	Pier	Blackrock Pier/Slip, Active container terminal in the background.
					2	54	51.898131	-8.394787	Outflow Pipe	Active outflow pipe.
					3	53	51.894291	-8.391288	Storm Water Drain	Active storm water drain, possibly connected to South Link Road drainage system, located 200 m from this site.
					4	52	51.891866	-8.390259	Storm Water Drain	Active storm water drain. Possibly connected to South Link Road drainage system, located 200 m from this site.
					5	51	51.886190	-8.390935	Outflow Pipe	Outflow pipe.
					6	50	51.880476	-8.393634	Active outflow pipe	Active outflow pipe.

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (M)	TIME	HEIGHT (M)						
24/09/2025	01:46 14:06	0.8 1.0	07:32 19:47	4.0 4.3	7	49	51.879790	-8.391005	Stream/river	Douglas River/Estuary.
					1	48	51.879790	-8.391005	Stream/river	Douglas River/Estuary.
					2	47	51.877853	-8.375311	2 outflow pipes	Potential agricultural runoff drains local stagnant waterbody.
					3	46	51.877925	-8.373542	Outflow pipe	Potential agricultural runoff, drains local stagnant waterbody
					4	45	51.878956	-8.355114	Outflow pipe	Agricultural runoff location.
					5	44	51.879173	-8.351101	Outflow pipe	Outflow runoff from local waterbody.
					6	43	51.877327	-8.344178	Lagoon/Outfall	Lagoon/Outfall.
					7	42	51.875424	-8.341040	Outflow	Appears to be an outflow.
					8	41	51.874295	-8.339460	Small harbour	Small harbour, overflow out to sea.
					9	40	51.871591	-8.334410	Pontoon	Local pontoon in Passage area.
					10	39	51.870702	-8.333814	Slipway	Slipway.
					11	38	51.861922	-8.332938	4 outflow pipes	4 outflow pipes close together, mix of new and older pipes, sewage odour in the area.
					12	37	51.861498	-8.332791	Slipway – Glenbrook pier	Slipway – Glenbrook pier.
					13	36	51.859920	-8.331953	Cross River Ferry	Cross river ferry between Passage West and Cobh.
					14	35	51.855441	-8.331795	Group of Outflow pipes.	Group of at least 7 outflow pipes over a 1 km stretch.
					15	34	51.849898	-8.331149	Jetty	Jetty.
					16	33	51.847295	-8.333225	Slipway x2 and Pier	Two slipways with pier in between, pier used for dry storage of boats.
					17	31	51.844614	-8.333075	Marina	Cork Harbour Marina in Monkstown.
					18	30	51.843361	-8.337446	Group small outflows	Group of 10 small outflows, 50 m apart.
					19	32	51.846936	-8.333197	Outfall	Outfall.
					20	29	51.838573	-8.349198	Stream/river.	Stream/river.
29/09/2025	04:45 17:27	1.4 1.4	10:37 23:15	3.9 3.6	1	24	51.834960	-8.317152	N/a	No access at this site.
					2	23	51.835370	-8.304350	Coastline	Paddy's Point.

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (M)	TIME	HEIGHT (M)						
29/09/2025	04:45 17:27	1.4 1.4	10:37 23:15	3.9 3.6	3	21	51.822655	-8.324938	Stream/river	2 channels of water/stream. Very active flow.
					4	22	51.820048	-8.309769	Outfall/run off.	Outfall/run off.
					5	20	51.817301	-8.320594	Outfall/run off.	Outflow running under a causeway.
					6	18	51.818331	-8.313326	Outfall	Man made structure with water egressing from underneath.
					7	19	51.819262	-8.314899	Outfall	Outfall.
30/09/2025	05:43 18:47	1.6 1.5	11:39	3.7	1	15	51.805568	-8.309479	Marina	Royal Cork Yacht Club. Sampling point located on the marina. No access available.
					2	11	51.806886	-8.286436	Outfall	Outfall pipe.
					3	14	51.804635	-8.298905	Hugh Coveney Pier	Very active fisheries and commercial pier.
					4	13	51.802727	-8.295105	Stream/river	Stream/river in the middle of Crosshaven village.
					5	12	51.805124	-8.294028	Crosshaven Boatyard	Very active boatyard.
					6	17	51.808928	-8.293141	Outfall	Outfall.
					7	10	51.810527	-8.284673	Outfall	Outfall. (No access, only with RIB)
					8	9	51.810615	-8.278563	Pier	Pier Jetty at Fort Camden. (No access).
					9	8	51.809691	-8.275852	Pier	Pier Jetty at Fort Camden. (No access).
					10	16	51.813839	-8.388890	Owenabue River	Owenabue river flowing through Carrigaline into Crosshaven.
01/10/2025	07:08 20:22	1.7 1.5	00:36 13:02	3.5 3.6	1	7	51.776209	-8.302717	Slip	Slip. Private Property with no access.
					2	6	51.775574	-8.310463	Unnamed River	River running parallel to Fountainstown Slip.
					3	5	51.775284	-8.310653	Slip	Fountainstown Slip.
					4	3	51.771329	-8.320893	Stream/river	Stream.
					5	2	51.765213	-8.334754	Stream/river	Stream. Could not get access, private land.
					6	1	51.762580	-8.333786	Stream/river	This is the entry point of a river into the Minane Estuary. Agricultural land surrounding this area, with cattle present along the hillsides.
					7	4	51.772647	-8.313529	Slip	Slip.
07/10/2025	00:15 12:25	0.6 0.9	05:54 18:06	4.4 4.7	1	169	51.880541	-8.322680	Large outfall source	Active outfall adjacent to large pond on the Marino point location.

DATE	LOW TIDE		HIGH TIDE		SFPA ID	MAPPED ID	LATITUDE (WGS84)*	LONGITUDE (WGS84)*	FEATURE	COMMENT
	TIME	HEIGHT (M)	TIME	HEIGHT (M)						
07/10/2025	00:15 12:25	0.6 0.9	05:54 18:06	4.4 4.7	2	168	51.873963	-8.327411	Jetty	Marino Point Jetty.
					3	167	51.861733	-8.326481	Slip	Cobh Ferry Cross (Slipway).
					4	166	51.859880	-8.326425	Slip	Looks potentially like a privately used slip.
					5	165	51.859322	-8.326275	Outfall	Active outfall.
					6	164	51.842328	-8.316310	Outfall	Outfall.
					7	163	51.843734	-8.311873	Pier	Old disused "American Pier"
					8	162	51.845188	-8.311495	Slip	Slip.
					9	161	51.845427	-8.308396	Marina	Marina.
					10	160	51.848655	-8.299543	Port of Cobh	Very large and extensive Port of Cobh servicing commercial and cruise liners all year round.
					11	159	51.848920	-8.298599	Outflow	Active outflow.
					12	158	51.849671	-8.293830	Kennedy Pier	Active jetty/pier fishing port serving Spike Island Tours and other tourism activities and also serving local inshore fishing activities.
					13	157	51.850210	-8.291405	Slips	2 old slips located at Old Town Hall.
09/10/2025	01:18 13:32	0.3 0.4	07:07 19:25	4.2 4.3	1	26	51.831620	-8.322286	Ringaskiddy Car Ferry Terminal	Large Ferry Terminal, roll on roll off activity utilised several times weekly.
					2	25	51.835780	-8.323210	Ringaskiddy Car Ferry Terminal	Ringaskiddy deep water berth, very active terminal. Continued works on extension of facility.
					3	27	51.839430	-8.327230	Pfizer Jetty	Pfizer private jetty.
					4	28	51.837219	-8.340544	Stream	Small stream running off from area adjacent to Pfizer and Raffeen Creek Golf Course.
					8	63	51.890864	-8.360314	Outfall/stream.	Outfall.
					1	154	51.808689	-8.251436	Outfall/stream	Outfall/stream at White Bay beach.

*Further comparative table for latitude and longitude is provided in Appendix - 7

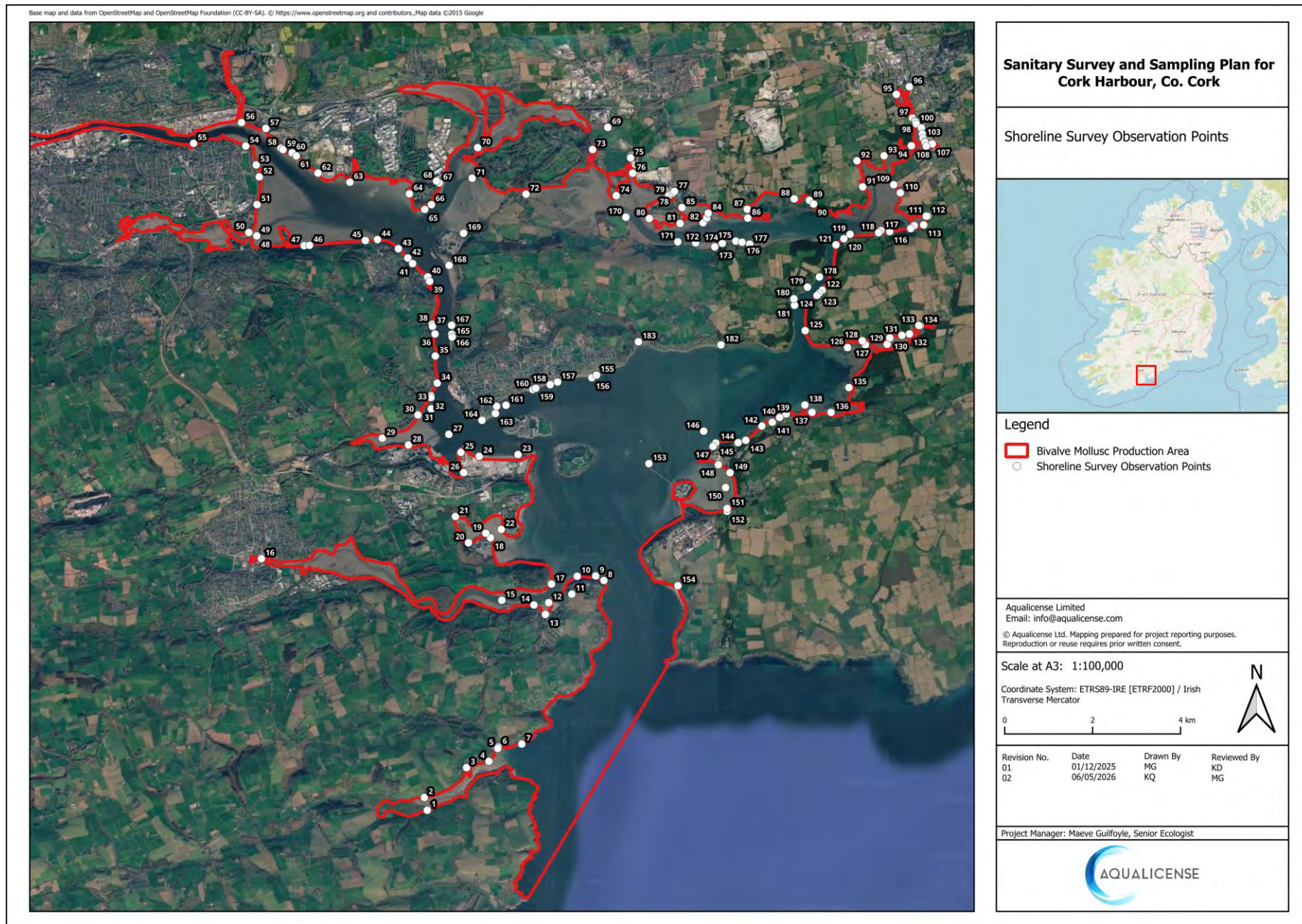


Figure 3-1: Location of Observations made during the Shoreline Survey for Cork Harbour in 2025

In total, 183 observations were recorded during the shoreline survey. These comprised a wide range of potential contamination sources and relevant features including municipal waste water treatment discharges and pumping station outfalls, stormwater and road drainage outfalls, agricultural streams and field drains, discharges and drainage associated with industrial port and quarry operations, marinas, boatyards and private jetties. Other areas of note included legacy features such as disused piers, dormant aquaculture sites and an historic landfill site. Of the observation sites, eight were sampled for bacteriological analysis, the results for which are further detailed in Section 5.

Several key clusters of municipal and sewerage related risks were confirmed. In the Midleton/Ballinacurra area, multiple outfall pipes associated with urban development and pumping station infrastructure were identified: including SWO11 (Bailick No. 2 Pumping Station), where a significant sewerage slick was observed on 04/06/2025, and the Midleton WWTP operational discharge point at Rathcoursey Point (SW001).

Additional stormwater and overflow structures were recorded along the Woodquay and Charleston shoreline. Around Carrigrennan (Little Island), large outfall structures associated with the waste water treatment plant serving approximately a population equivalent (PE) of 324,000 were confirmed, together with ancillary outflow structures and lagoons.

Along the Ringmahon-Blackrock-Douglas Estuary shoreline, multiple active outflow pipes and storm drains were mapped, which discharges towards the estuary and harbour. This included a large outfall near the tunnel management building and several active stormwater drains consistent with major road drainage infrastructure. In the Rochestown-Passage-Monkstown area, numerous outfalls and groups of small pipes were recorded, including locations where sewerage odour was noted.

Diffuse and point source agricultural inputs were identified in several parts of the harbour. Along the North Channel and the East Ferry-Rathcoursey shoreline, multiple streams and field drains were observed entering the channel from predominantly pastoral catchments, often where fields slope directly towards the intertidal zone. Cattle were frequently present in proximity to watercourses and evidence of slurry spreading was noted at several locations. In the Saleen Creek/Saleen Estuary area, a series of mudflat and stream observations highlighted agricultural usage and legacy mining structures. Additional agricultural runoff and lagoon outfalls were recorded along the Douglas and Monkstown shoreline and in the Minane Estuary catchment.

Industrial and port related activities represent another pressure around Cork Harbour. Major installations include the Aghada Power Station (with several shoreline outfalls and a main offshore discharge where active discharge was observed during an incoming tide, with the slick moving towards Aghada/Cobh). The following were also observed: the Irving Oil facility at Corkbeg Island, large pharmaceutical and port facilities in the Ringaskiddy/Raffeen area and significant port infrastructure at Cobh. Facilities along the shoreline include (but are not limited to): commercial and cruise berths, Kennedy Pier, fisheries and tourism piers, private industrial jetties such as Marino Point and Pfizer's jetty.

Numerous outfalls and runoff pathways associated with quarries (e.g. Rossmore/Breedon), concrete production and other industrial premises were also identified along the North Channel and at Wier Island. While many of these are not direct sewage discharges, they represent potential sources of nutrients, hydrocarbons, suspended solids and other pollutants which may indirectly impact shellfish waters.

Recreational and small-craft activities are widespread throughout the BMPA and include active marinas (e.g. East Ferry, Cork Harbour Marina, Royal Cork Yacht Club), several busy boatyards (Crosshaven, Rathcoursey, Cobh), and many small piers, slips and private moorings. These features pose a potential risk of hydrocarbon contamination and localised microbiological loading from vessel sanitation systems, particularly where moorings are dense and flushing is limited. A number of vessels in poor condition were noted during the walkovers, with wrecks and derelict slips also being recorded. While these do not represent major microbiological sources, they may influence local sediment quality and result in localised small-scale pollution.

It should be noted that during the majority of the survey period weather conditions were calm and dry, which may have limited observable contamination signals at the time of sampling.

4 BACTERIOLOGICAL SURVEY

Where possible, the CoP (SFPA, 2025) recommends that water samples for *E. coli* should be taken from inflows or watercourses discharging near the shellfish harvesting areas. Shellfish sampling may also be conducted if uncertainty regarding RMPs remains following the desk-based survey and shoreline survey.

For the purposes of this sanitary survey, bacteriological surveys and analysis are the responsibility of the SFPA, with Aqualicense relaying the relevant results within the report.

4.1 BACTERIOLOGICAL SURVEY METHODOLOGY

To complement shoreline observations and better understand contamination risks under current conditions, a bacteriological survey was carried out by SFPA at 8 targeted locations where faecal contamination was suspected.

The CoP recommends collecting samples under worst-case conditions, such as after heavy rainfall, to provide a more representative assessment of contamination levels. Each sample is assigned a clear identification code, with location codes following the format SS1, SS2, etc., to designate them as sanitary survey shellfish samples.

Samples are gathered in sterile plastic bottles. All samples are transferred to the testing laboratory within 48 hours of collection and are maintained at a temperature below 15°C during transport to ensure sample integrity.

4.2 BACTERIOLOGICAL SURVEY RESULTS

A total of 8 water samples were obtained at areas where faecal contamination was suspected. Samples were obtained in dry conditions. While it is recommended within the CoP to obtain samples under worst-case environmental conditions, samples were obtained during a single day of sampling. Sampling results are presented in Table 4-1.

Table 4-1: Results of water sampling for *E. coli* in Cork Harbour BMPA.

WATER SAMPLE	OBSERVATION POINT	MPN/ 100ML*	DATE	LATITUDE (WGS84)	LONGITUDE (WGS84)
1	Brick Island Pond Sea Pond outflow	<10	11/06/2025	51.884448	-8.241109
2	Ballinacurra Creek Charleston Wharf	20	11/06/2025	51.900276	-8.171514
3	Rossmore Civic Amenity Waste plant	20	11/06/2025	51.884583	-8.264770
4	Rathcoursey Pumpstation	20	11/06/2025	51.878348	-8.200835
5	Saleen Creek	24,196	11/06/2025	51.861943	-8.171773
6	Jamesbrook Stream	52	11/06/2025	51.860000	-8.177805
7	ESB Aghada Outfall leak Midway along outfall	10	11/06/2025	51.838967	-8.244254
8	ESB Aghada Outfall End point discharge	<10	11/06/2025	51.839950	-8.242666

The results demonstrated a broad range of *E. coli* concentrations across the sampled sites, with values ranging from <10 MPN/100 mL to 24,196 MPN/100 mL.

The very low concentrations recorded at Brick Island Pond outflow (Sample 1), ESB Aghada Outfall Midpoint (Sample 7) and the ESB Aghada Outfall Endpoint (Sample 8) (all <10 MPN/100 mL) indicate minimal faecal contamination at the time of sampling at these sites. These results are consistent with areas receiving limited surface water runoff, minimal upstream influence, or effective dispersion under dry-weather conditions.

Moderate *E. coli* concentrations (20-52 MPN/100 mL) were observed at Ballinacurra Creek (Sample 2), Rossmore Civic Amenity Area (Sample 3), Rathcoursey Pumpstation (Sample 4), and Jamesbrook Stream (Sample 6). These levels suggest the presence of localised diffuse discharges, all of which are typical of mixed rural – semi urban catchments in dry conditions.

The highest concentrations were recorded at Saleen Creek (Sample 5), where an extremely elevated level of 24,196 MPN/100 mL was detected. This result indicates a significant faecal contamination source, likely associated with direct or persistent input, potentially due to the upstream discharges from Saleen Village and Cloyne WWTPs. Other sources may include as yet unmapped drains, leaking septic systems, agricultural runoff, or an intermittent but high-volume discharge. This site represents the most critical contamination hotspot identified during the survey.

These bacteriological results indicate that the primary sources of faecal contamination within the BMPA are associated with known point discharge, outfalls and localised land-based sources such as land drainage. The absence or low levels of *E. coli* detected at other locations particularly within the streams and rivers, suggests limited contamination at the time of sampling.

However, it is noted that seasonal factors, including variations in rainfall, river flow and agricultural activity may influence contamination patterns over time. Such seasonal variations in such sources should be considered when devising a suitable sampling plan.

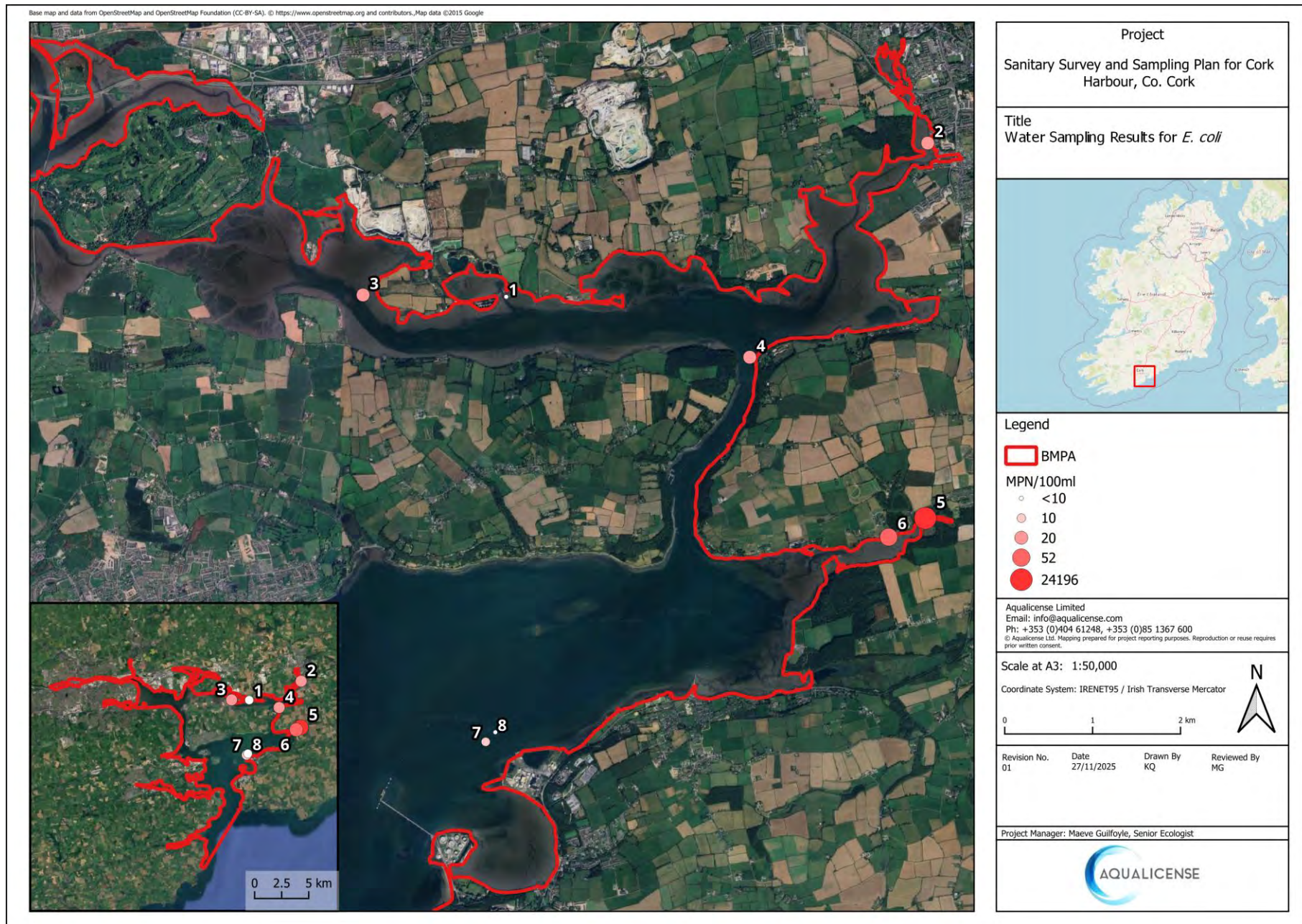


Figure 4-1: Water sampling Results for *E. coli*

5 SANITARY SURVEY CONCLUSIONS

The sanitary survey findings were synthesised through the integration of the three primary data sources: a desk-based study which utilised the SPR model, the shoreline survey, and limited bacteriological analysis. Each component contributed distinct and complementary information toward the overall assessment of contamination pathways to the Cork Harbour BMPA.

The desk-based study identified that the River Lee is the largest inflow to the BMPA, draining a large portion of the contributing catchment including Cork City and the surrounding urbanised areas. Additional contributions arise from the other northern inflows, notably the Owennacurra and Tibbotstown rivers, as well as from a number of Section 4 licenced discharges and smaller streams with reduced flushing capacity (refer to Section 2.4.3).

The SPR model assessment identified the predominant sources of faecal pollution as failing UWWTPs, diffuse agricultural pressures, and septic tanks in areas of high to extreme groundwater vulnerability. Industrial and IPC licenced facilities, as well as and urban runoff, represent secondary contributors, while wildlife and recreational use are considered to be minor, seasonal inputs.

The shoreline survey confirmed the majority of pollution risks identified in the desk-based assessment and established that the principal pressures on the Cork Harbour BMPA arise from:

- Treated and intermittent discharges from large and small waste water treatment schemes and pumping stations;
- Diffuse and point source agricultural runoff from multiple small catchments draining to the harbour;
- Industrial and port related discharges and runoff; and
- Numerous stormwater and road-drainage outfalls along heavily developed shorelines.

The survey also documented additional unmapped field drains and concrete outfalls not captured in existing EPA river mapping and identified several locations with clear visual or bacteriological evidence of faecal contamination. It should be noted that the predominantly dry and calm weather conditions during the survey periods is likely to have reduced the visibility of storm driven and intermittent discharges. The risks associated with such sources may be underestimated on the basis of shoreline surveys alone.

When the bacteriological results are interpreted in the context of Cork Harbour's size, complex circulation patterns and highly variable flushing times (approximately 3.8 to 72 days, refer to Section 2.4.3.4), they should be viewed as indicative only of conditions at the specific points sampled rather than representative of broader harbour wide water quality.

Cork Harbour exhibits a highly heterogeneous hydrodynamic regime, with strong tidal inflow and rapid mixing occurring in the lower and portions of the central harbour, whereas the peripheral basins such as the North Channel, East Ferry and the upper Owennacurra experience weak currents, limited tidal exchange and prolonged residence times. This uneven circulation means that contamination introduced into slower-flushing side channels may persist locally and behave differently from inputs entering the better mixed lower harbour.

The limited dataset of eight samples across the 93.71 km² BMPA does not allow firm conclusions to be drawn about the spatial extent of the contamination, particularly given the numerous potential faecal inputs present throughout the harbour (including but not limited to agricultural runoff, urban drainage, industrial sources, overloaded or underserviced waste water infrastructure, raw sewerage discharge points).

The Saleen Creek result of 24,196 MPN/100 mL represents the highest *E. coli* concentration recorded during the bacteriological survey and indicates a significant localised contamination pressure. Given the proximity of Saleen Creek to aquaculture activity in Rostellan, this result is considered to be relevant for RMP placement. The source of the contamination has not been confirmed from the available dataset. However, upstream wastewater pressures, including Saleen Village WWTP, are considered plausible contributing factors. Appendix - 2 identifies Saleen Village WWTP as serving a PE of 490 against a design capacity of 40, indicating significant capacity exceedance. Follow-up source identification at Saleen Creek is recommended prior to or alongside classification.

While elevated *E. coli* at locations such as Saleen Creek clearly identify significant localised contamination pressures, the degree to which such inputs influence adjacent shellfish production areas or propagate through slower flushing zones (e.g. North Channel) cannot be inferred from these samples alone. Conversely, low concentrations observed at several sites likely reflect short-term conditions under dry weather rather than an absence of risk. Overall, the results highlight localised hotspots but are insufficient to characterise the full bacteriological status of Cork Harbour or the cumulative impacts of its multiple diffuse and point sources.

Although bacteriological data are limited, these results have been integrated with the desktop assessment to identify areas where contamination is most likely, based on inflow magnitude and circulation characteristics. Consequently, while bacteriological sampling provides an essential line of evidence, it cannot alone determine the placement of RMPs; broader hydrodynamic and catchment context as detailed in the desk-based assessment (refer to Section 2.4 to 2.6) has also been considered.

As a result, confidence in the bacteriological survey findings is limited under wet-weather and high-runoff conditions, particularly in slower flushing areas such as the North Channel and in areas influenced by localised contamination pressures such as Saleen Creek.

The desk-based study effectively identified the key risk sources and zones of concern; the shoreline survey confirmed the presence of unrecorded discharges, and bacteriological analysis demonstrated generally low contamination levels with isolated elevated detections. These results are interpreted with caution however, given the limited sample number, dry-weather conditions and the scale and hydrodynamic complexity of Cork Harbour.

6 AMENDED BIVALVE MOLLUSC PRODUCTION AREA (BMPA)

The Cork Harbour BMPA currently encompasses the entirety of the harbour area to the harbour mouth. This boundary corresponds directly with the Marine Institutes monitored Harmful Algal Blooms (HABs) Inshore Shellfish Production Area (accessed 08/05/2025).

It is proposed that the spatial extent of the BMPA be reduced (Figure 6-1). The amendment to the BMPA boundary is proposed to supersede the previous classification list designations under Article 56 of Regulation (EU) 2019/627. Existing classification status for currently classified species and areas remains subject to SFPA confirmation and the standard classification review process. The primary justification for this reduction is the presence of significant navigation and infrastructural constraints in the western section of the harbour. This includes the main commercial shipping route, naval and pharmaceutical port operations and essential river access to the regions principal urban centre. Additionally, access restrictions in the vicinity of the River Lee and Lough Mahon locations further limit the areas suitable for continued designation at its current scale.

The shoreline survey results contributed to defining this boundary by identifying previously undocumented contamination sources, thereby refining the spatial coverage of the BMPA and confirming the locations of the Representative Monitoring Points (RMPs). In collaboration with the SFPA, a boundary has been defined ensuring coverage of the existing bivalve production licences/fishery orders and any future bivalve production sites (Table 6-1 and Figure 6-2).

Following consultation with the SFPA and relevant stakeholders (Appendix 9), the amended BMPA is presented as two distinct zoned production areas: the North Channel Zoned Production Area and the Rostellan Zoned Production Area.

The Amended BMPA was delineated to encompass the North Channel and Rostellan Zoned Production Areas within a single coherent assessment boundary. The intervening Barrynacorra River section was retained as it forms the connecting waterbody between these areas and maintains the spatial and hydrological continuity of the wider system. Its inclusion does not indicate that this section is considered suitable or likely to be licensed for future aquaculture development; rather, it ensures that the two Zoned Production Areas are assessed within a contiguous and functionally connected BMPA.

The amended configuration removes substantial portions of the original BMPA, particularly from the western and central harbour areas, while retaining the two Zoned Production Areas and the intervening section of the Barrynacorra River that connects them.

The proposed North Channel zoned production area extends from Ballyvodock East in the northwest to Barryscourt in the northeast, southwards to Rosslague in the southwest, across to Belgrove in the southeast (Table 6-1 and Figure 6-2).

The proposed Rostellan zoned production area extends from the northwest at Carrignafoey to the Rostellan coastline in the northeast, southwards to Longpoint, Aghada in the southwest, across to Farsid Rostellan in the southeast (Table 6-1 and Figure 6-2).

Table 6-1: The coordinates of the amended Cork Harbour BMPA, and the proposed North Channel and Rostellan zoned production areas within.

Vertices	Latitude WGS 84 Decimal	Longitude WGS 84 Decimal	Latitude WGS 84 DMS*	Longitude WGS 84 DMS*
Amended Cork Harbour BMPA				
NE	51.88402284	-8.19902371	51°53'2.482"N	8°11'56.485"W
NW	51.89271858	-8.27553039	51°53'33.787"N	8°16'31.909"W
SW	51.83483	-8.24345	51°50'5.388"N	8°14'36.420"W
SE	51.84464	-8.19057	51°50'40.704"N	8°11'26.052"W
North Channel Zoned Production Area				
NE	51.88402284	-8.19902371	51°53'2.482"N	8°11'56.485"W
NW	51.89271858	-8.27553039	51°53'33.787"N	8°16'31.909"W
SW	51.8845193	-8.27585012	51°53'4.269"N	8°16'33.060"W
SE	51.87874623	-8.21881379	51°52'43.486"N	8°13'7.730"W
Rostellan Zoned Production Area				
NE	51.86175	-8.16731	51°51'42.300"N	8°10'2.316"W
NW	51.8539485	-8.26917213	51°51'14.215"N	8°16'9.020"W
SW	51.83483	-8.24345	51°50'5.388"N	8°14'36.420"W
SE	51.84464	-8.19057	51°50'40.704"N	8°11'26.052"W

*Degree, Minutes, Seconds.

Summary

Considering the combined findings of the desk-based study, SPR assessment and shoreline survey, the amended BMPA and proposed Cork Harbour zoned production areas provide a coherent representation of contamination dynamics and shellfish production within the harbour. The two zoned production areas- North Channel and Rostellan- encompass current and potential future bivalve cultivation sites whilst avoiding key navigational corridors and areas with significant operational constraints.

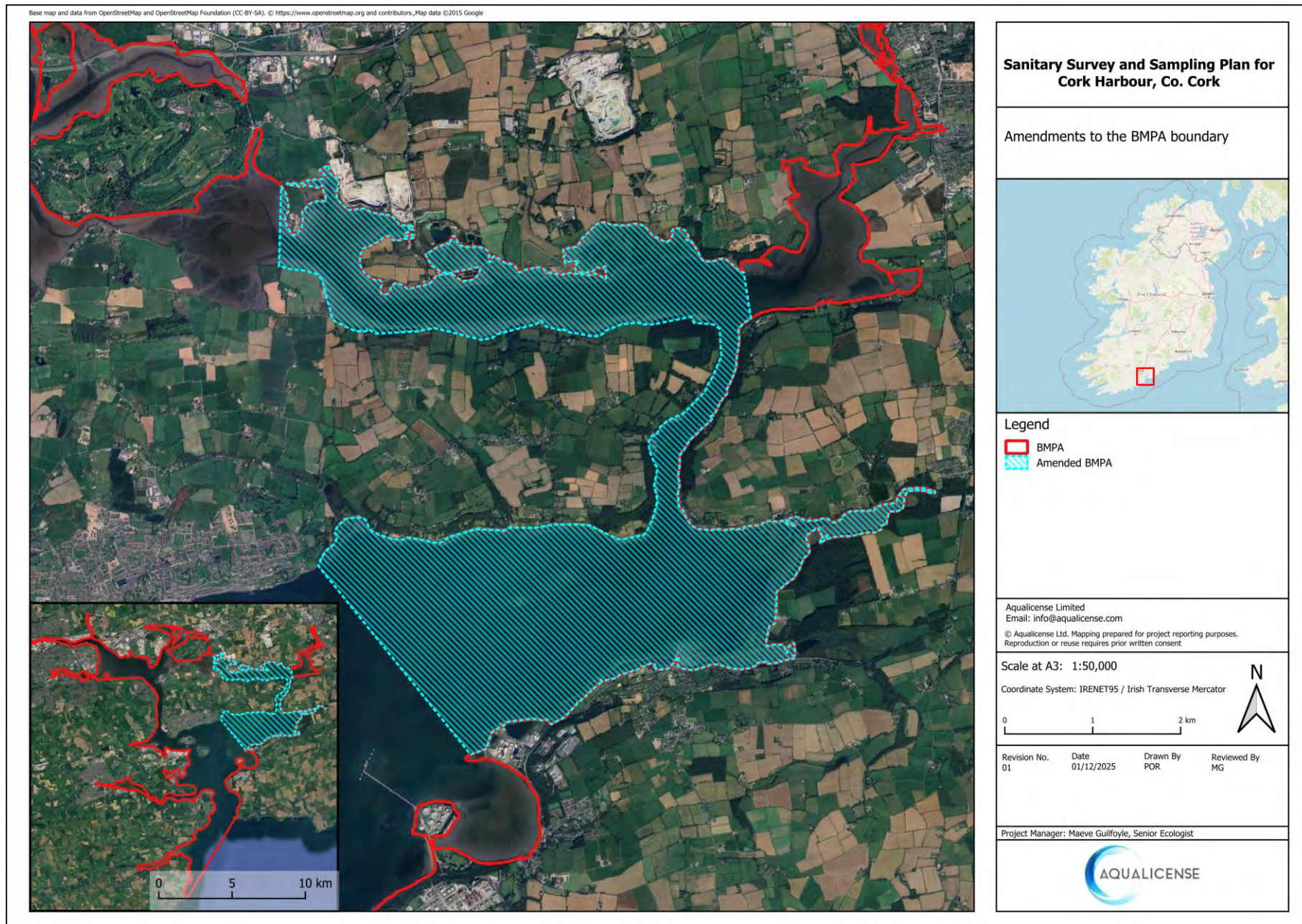


Figure 6-1: Amendments to the BMPA boundary



Sanitary Survey and Sampling Plan for Cork Harbour, Co. Cork

Zoned Production Areas within the
Amended BMPA for Cork Harbour



Legend

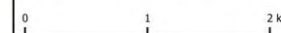
-  Amended BMPA
-  Zoned Production Areas

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Project Manager: Maeve Gullfoyle, Senior Ecologist



Figure 6-2: Zoned Production Areas within the Amended BMPA for Cork Harbour

7 RECOMMENDATIONS FOR RMPs FOR CURRENTLY LICENCED SPECIES

The selection of the Representative Monitoring Points (RMPs) are critical components of this report, as they provide the basis for protecting public health by ensuring that shellfish harvested for human consumption are effectively monitored for contamination risks, including *E. coli*.

The RMP represents the location within the BMPA most likely to reflect the highest contamination risk to shellfish production, thereby providing a conservative and protective basis for classification. In determining the RMP and BMPA boundaries, multiple factors were considered in line with established regulatory guidance, including hydrographic conditions, contaminant sources and pathways, historical and current bacteriological data, historic aquaculture activity and granted licences, and practical accessibility for sampling.

The selection of the RMPs within the amended BMPA was informed by the best available evidence, including existing environmental datasets and hydrodynamic modelling outputs. In consideration of the absence of site-specific hydrodynamic survey data and limited bacteriological data, a precautionary approach was adopted to ensure that the RMPs appropriately reflect areas of potential variability in water quality and environmental conditions across the amended BMPA.

A spatial tolerance is applied around the RMP to ensure that the monitoring point remains representative of the wider zoned production area while maintaining sufficient proximity to potential shellfish production sites. These determinations are therefore central to ensuring that the classification accurately reflects the sanitary quality of shellfish production waters and supports the safe commercial harvesting of bivalve molluscs, in accordance with Regulation (EU) 2019/627 and relevant SFPA sanitary survey protocols.

In accordance with Article 61 of Regulation (EU) 2019/627, the following recommendations are made for incorporation into future species-specific sampling plans. It should be noted that these recommendations, based on the completed sanitary survey (desktop review, shoreline survey and bacteriological sampling), relate specifically to the positioning of RMPs and should not be misconstrued as a full sampling plan.

7.1 REPRESENTATIVE MONITORING POINT- PACIFIC OYSTER

For Pacific oyster, two RMPs are recommended within the North Channel zoned production area. Although site T05-294A would represent the worst-case scenario for classification, it is not currently producing (pers. comms. Cork Port Authority). An inactive RMP has been selected for this site at the following coordinates:⁵ 51.884138N, -8.268764W (51°53'02.90"N, 8°16'07.55"W).

As no production is happening at site T05-294A, an RMP has been placed in the nearby North Channel zoned production area. This RMP is within the T05-017OFO site at the following coordinates: 51.882894N, -8.243817W (51°52'58.42"N, 8°14'37.74"W). If production begins at T05-294A in the future, the RMP at site T05-017OFO will be deactivated and the T05-294A RMP will be brought into use (Figure 7-1).

⁵ These coordinates are presented in the WGS84 coordinate reference system in two formats as follows: decimal degree (degree, minute, seconds).

The trigger for activating the T05-294A RMP will require a written notification from the licence holder, local industry representative, or SFPa sample coordinator to the shellfish monitoring manager, that Pacific oyster stock is present at T05-294A and is available for official sampling within 100 m of the identified RMP. Following this notification, the SFPa sample coordinator will confirm the change in sampling location. The T05-294A RMP will be brought into use at the next scheduled official control sampling event. Once the T05-294A RMP is activated, the interim RMP at T05-017OFO will be deactivated unless otherwise agreed by the SFPa sample coordinator due to stock availability or operational constraints. The operational arrangements for the activation and deactivation of the Pacific oyster RMPs in the North Channel zoned production area are summarised in Table 7-1.

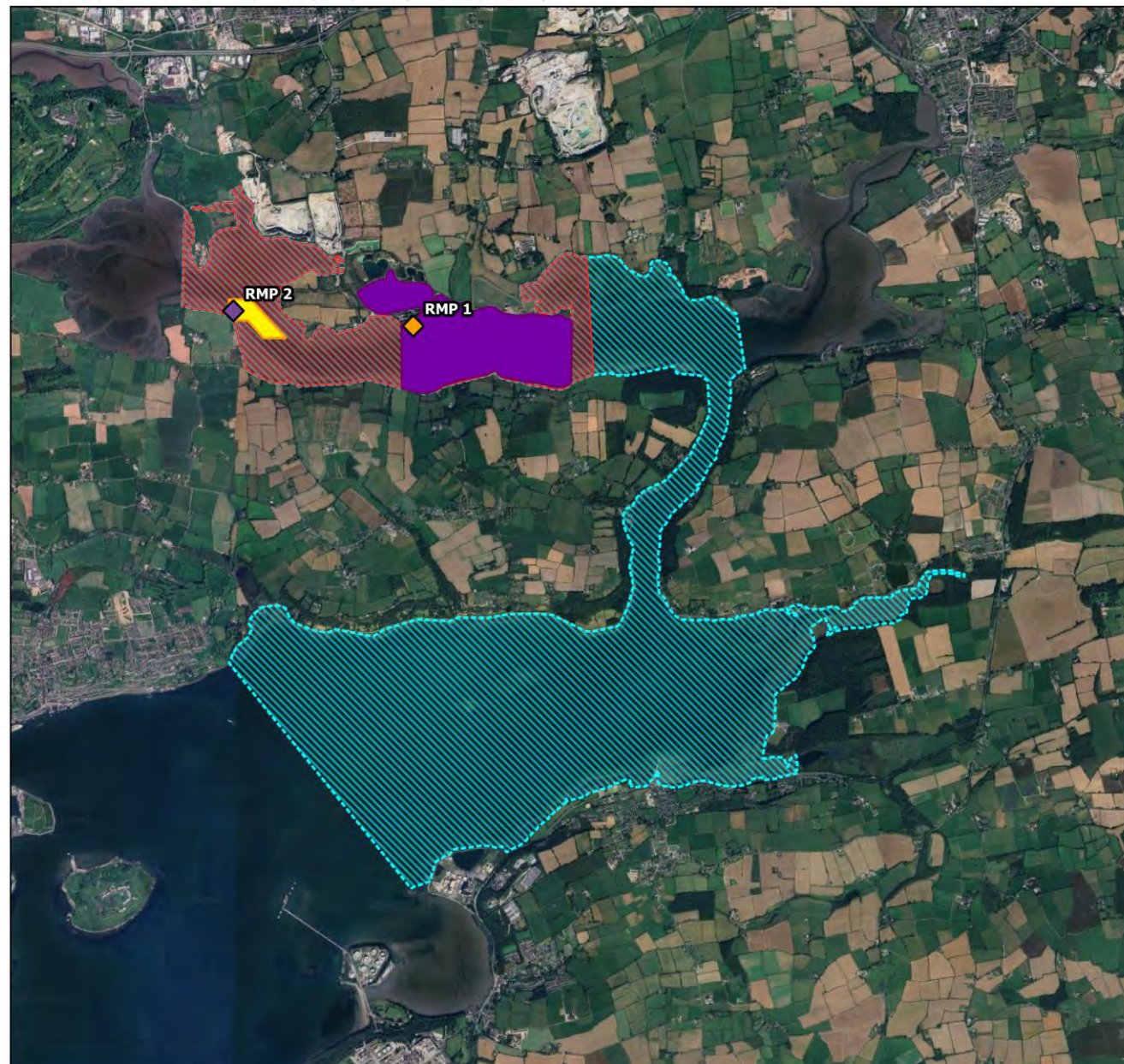
Table 7-1: Activation and deactivation triggers for Pacific oyster RMPs in the North Channel zoned production area.

RMP	Status	Trigger	Responsible	Timing
T05-017OFO	Interim active RMP	Deactivated when T05-294A is activated	SFPa sample coordinator	Deactivate from the same sampling event at which T05-294A becomes active
T05-294A	Inactive priority RMP	Written confirmation that Pacific oyster stock is present and available for official sampling within 100 m of the RMP to the shellfish monitoring manager	SFPa sample coordinator, following notification from licence holder or local industry representative	Activate at the next scheduled official sampling event

Within the Rostellan zoned production area, one RMP for Pacific oyster is identified at the following coordinates: 51.857518N, -8. 195570W (51°51'27.06"N, 8°11'44.05"W) (Figure 7-2). This RMP captures the notably contaminated inflow from Saleen Creek along with the likely drainage flow from the North Channel. Pacific oyster harvesting in the area is contingent upon the availability of stock. In the absence of Pacific oyster production, the RMP will remain inactive until harvesting activities resumes. The RMP will be activated following written confirmation that Pacific oyster stock is present within the zoned production area and available for official control sampling within 100 m of the identified RMP. The SFPa shellfish monitoring manager will confirm activation of the RMP prior to its use in the official classification sampling programme.

Based on the findings of the desk based current pattern analysis (Section 2.4.3, Figure 2-7), SPR outcome (Table 2-10), sanitary survey and bacteriological results, although site T05-294A is identified as the most representative sampling location for the North Channel zoned production area it is not currently active. Therefore, site T05-017OFO will be representative of the area until/if the other becomes active. In the Rostellan zoned production area, there is a single RMP. Considering the size of the BMPA, the presence of two zoned production areas, and prevailing circulation patterns, two Representative Monitoring Point (RMPs) are recommended.

While specific RMPs have been identified within both the North Channel and Rostellan zoned production areas, it is recognised that, due to the unpredictable nature of seed supply and intermittent growth at these sites, samples may not always be available within 100 metres of the RMPs. In such circumstances, the SFPa sample coordinator and local industry representatives should be informed, and an alternative sampling location agreed. These alternative locations should be selected with reference to the findings of the sanitary survey and should continue to represent a worst-case scenario for contamination risk in either zoned production area.



Sanitary Survey and Sampling Plan for Cork Harbour, Co. Cork

Location of Representative Monitoring
Points for Pacific Oyster in the North
Channel Zoned Production Area



Legend

- Amended BMPA
- North Channel Zoned Production Area
- Representative Monitoring Point
 - RMP 1 Active
 - RMP 2 Inactive
- Bivalve Production Sites
 - Pacific Oyster (T05-01OFO)
 - Pacific Oyster (T05-294A, Inactive)

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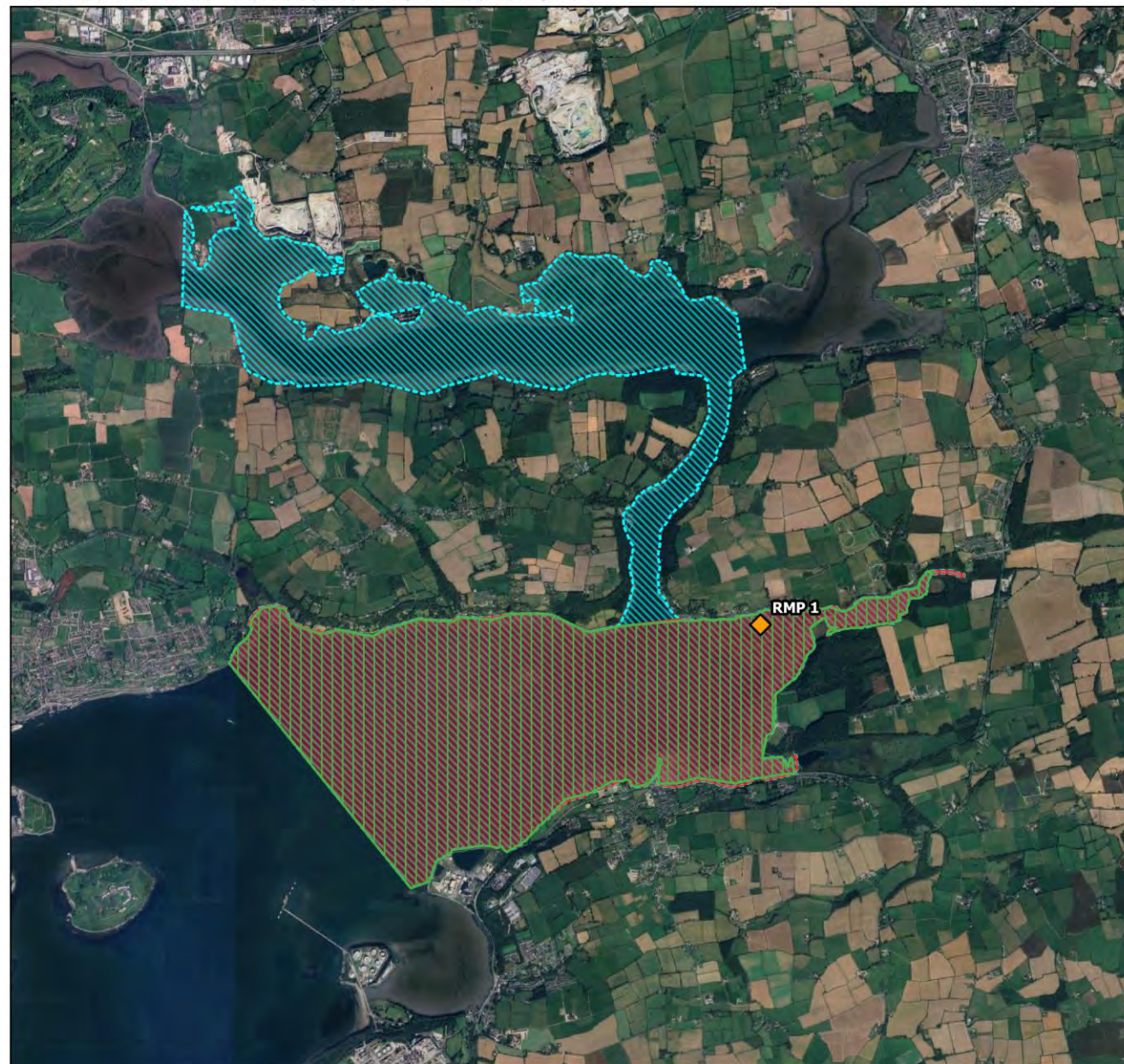


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Project Manager: Maeve Gullfoyle, Senior Ecologist



Figure 7-1: Location of Representative Monitoring Points for Pacific Oyster in the North Channel Zoned Production Area



Sanitary Survey and Sampling Plan for Cork Harbour, Co. Cork

Location of Representative Monitoring Point
for Pacific Oyster in the Rostellan Zoned
Production Area



Legend

- Amended BMPA
- Rostellan Zoned Production Area
- Representative Monitoring Point
 - RMP 1
- Bivalve Production Sites
 - Pacific Oyster Fishery & Aquaculture (T05-000FO)

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Project Manager: Maeve Gullfoyle, Senior Ecologist



Figure 7-2: Location of Representative Monitoring Point for Pacific Oyster in the Rostellan Zoned Production Area

7.2 SAMPLING PLAN FOR PACIFIC OYSTER

A species-specific sampling plan has been developed in line with EU Regulation 2019/627 and the SFPA Code of Practice (2025). Key features of the plan are detailed in Table 7-2 and Table 7-3.

Table 7-2: Sampling Plan for Pacific Oyster in North Channel Zoned Production Area

SPECIES	Pacific oyster (<i>Magallana gigas</i>)
SITE NAME	North Channel zoned production area
SAMPLE POINT IDENTIFIER	RMP 1: CK-CH-NE-PO RMP 2: CK-CH-NW-PO
GEOGRAPHICAL LOCATION OF SAMPLING POINT (RMP)	- RMP 1: 51.882894N, -8.243817W (51°52'58.42"N, 8°14'37.74"W) - RMP 2 (inactive until production at site starts): 51.884138N, -8.268764W (51°53'2.90"N, 8°16'7.55"W)
SAMPLING FREQUENCY	Samples shall be taken monthly upon classification of the North Channel zoned production area. Sampling will occur throughout the year.
SAMPLING DEPTH	Samples should be taken as close to the surface as possible, within the top one metre of the water column.
MAXIMUM ALLOWED DISTANCE FROM SAMPLING POINT	Samples are to be collected within 100 m of the RMP. Where this is not possible, the SFPA sample coordinator and local industry shall be informed to agree an alternative sampling location.
SAMPLING METHOD	Sampling will be conducted in accordance with the SFPA Code of Practice for the Classification and Microbiological Monitoring of Bivalve Mollusc Production Areas (SFPA, 2025), specifically in accordance with Appendix II.
SAMPLE SIZE	A minimum of 10 oysters of market size.
AUTHORISED SAMPLERS	It is the responsibility of the SFPA Cork Port Office to arrange sampling, with designated sampling officers assigned to collect samples.

Table 7-3: Sampling Plan for Pacific Oyster in the Rostellan Zoned Production Area

SPECIES	Pacific oyster (<i>Magallana gigas</i>)
SITE NAME	Rostellan zoned production area
SAMPLE POINT IDENTIFIER	CK-CH-RN-PO
GEOGRAPHICAL LOCATION OF SAMPLING POINT (RMP)	RMP 1: 51.857518N, -8.19557W (51°51'27.06"N, 8°11'44.05"W)
SAMPLING FREQUENCY	Samples shall be taken monthly upon classification of the Rostellan zoned production area. Sampling will occur throughout the year.
SAMPLING DEPTH	Samples should be taken as close to the surface as possible, within the top one metre of the water column.
MAXIMUM ALLOWED DISTANCE FROM SAMPLING POINT	Samples are to be collected within 100 m of the RMP. Where this is not possible, the SFPA sample coordinator and local industry shall be informed to agree an alternative sampling location.

SAMPLING METHOD	Sampling will be conducted in accordance with the SFPA Code of Practice for the Classification and Microbiological Monitoring of Bivalve Mollusc Production Areas (SFPA, 2025), specifically in accordance with Appendix II.
SAMPLE SIZE	A minimum of 10 oysters of market size.
AUTHORISED SAMPLERS	It is the responsibility of the SFPA Cork Port Office to arrange sampling, with designated sampling officers assigned to collect samples.

This plan ensures the data collected will be representative of contamination affecting the zoned production area, supporting both initial classification and ongoing official controls.

7.3 REPRESENTATIVE MONITORING POINT - EUROPEAN FLAT OYSTER

The recommended RMP for European flat oyster (Figure 7-3) within the North Channel zoned production area is located within the licensed site T05-0170FO at the following coordinates⁶: 51.882894N, -8.243817W (51°52'58.42"N 8°14'37.74"W).

European flat oysters are currently classified as B within the North Channel whereas in the Rostellan zoned production area they are, as yet, unclassified. Preliminary classification can be awarded where a sanitary survey has been conducted for the specific production area, supported by existing monitoring data and risk assessment.

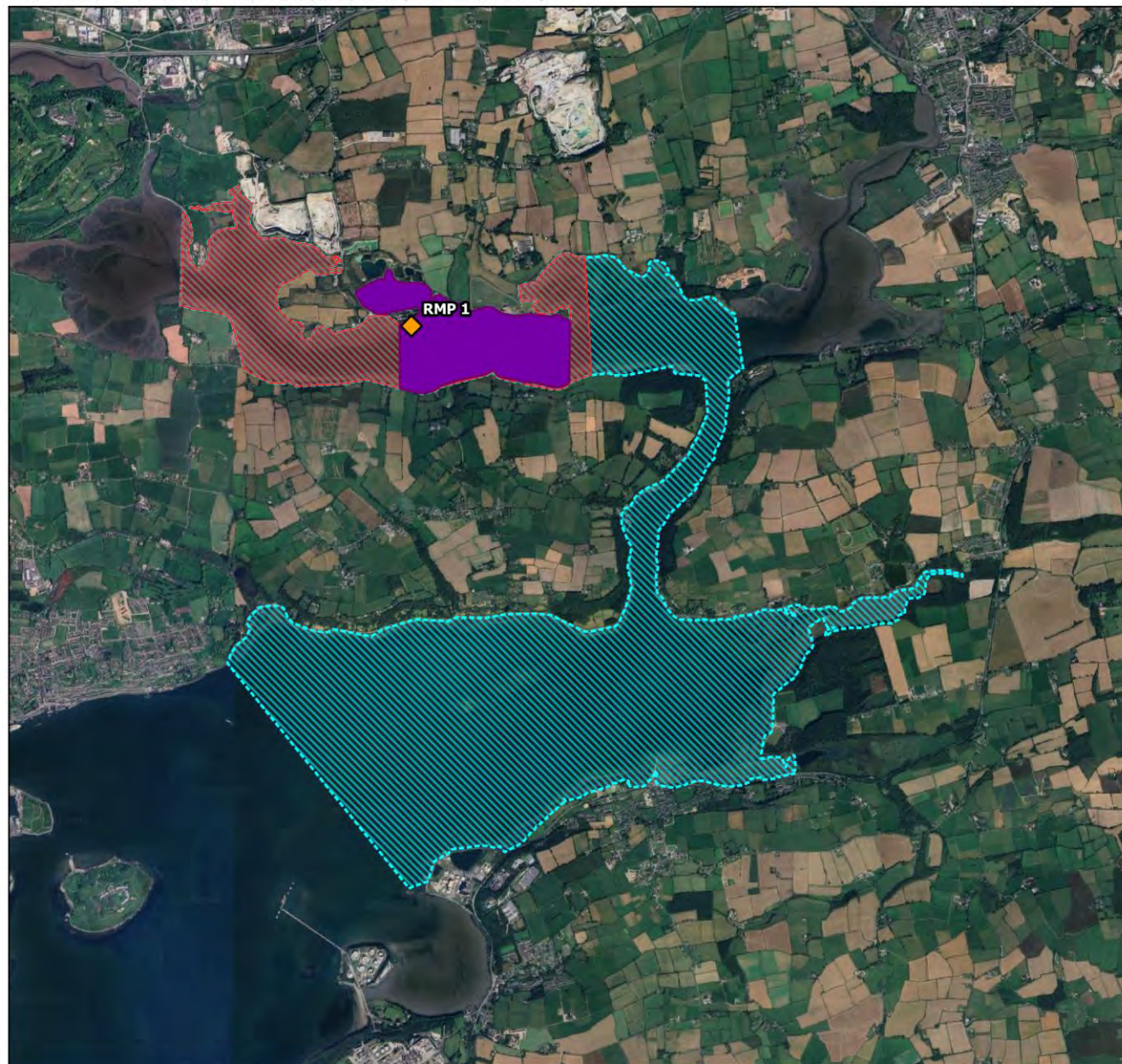
To support the potential future classification of European flat oysters within the Rostellan area, the following RMP locations within this section and species-specific sampling plan in Section 7.4 are proposed.

Within the Rostellan zoned production area, an RMP is identified within the licensed site T05-002OFO at the following coordinates: 51.857518N, -8.19557W (51°51'27.06"N 8°11'44.05"W)

Based on the findings of the desk based current pattern analysis (Section 2.4.3, Figure 2-7), SPR outcome (Table 2-10), shoreline survey and bacteriological results, site T05-0170FO is identified as the most representative sampling location for North Channel zoned production area and site T05-002OFO for Rostellan zoned production area. Considering the size of the BMPA, prevailing circulation patterns, two Representative Monitoring Points (RMP) are recommended.

The RMP in the North Channel zoned production area is likely to be influenced by contamination from the Tibbotstown_010 river sub basin and related unnamed rivers including Inflows 26 and 27 along with the extended water residence times in the area. The proximity of the RMP's location in the Rostellan zoned production area to the coast further ensures its suitability as the most representative location for the European flat oyster RMP.

⁶ These coordinates are presented in the WGS84 coordinate reference system in two formats as follows: decimal degree (degree, minute, seconds).



Sanitary Survey and Sampling Plan for Cork Harbour, Co. Cork

Location of Representative Monitoring Point
for European Flat Oyster in the North
Channel Zoned Production Area



Legend

- Amended BMPA
- North Channel Zoned Production Area
- Representative Monitoring Point
- RMP 1
- Bivalve Production Sites
- European Flat Oyster (T05-0170FO)

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Scale at A3: 1:50,000

Coordinate System: IRENET95 / Irish Transverse Mercator

0 1 2 km



Revision No.	Date	Drawn By	Reviewed By
01	01/12/2025	POR	MG
02	09/01/2026	KQ	MG
03	15/01/2026	KQ	MG

Project Manager: Maeve Gullfoyle, Senior Ecologist



Figure 7-3: Location of inactive RMP for European Flat Oyster in North Channel Zoned Production Area

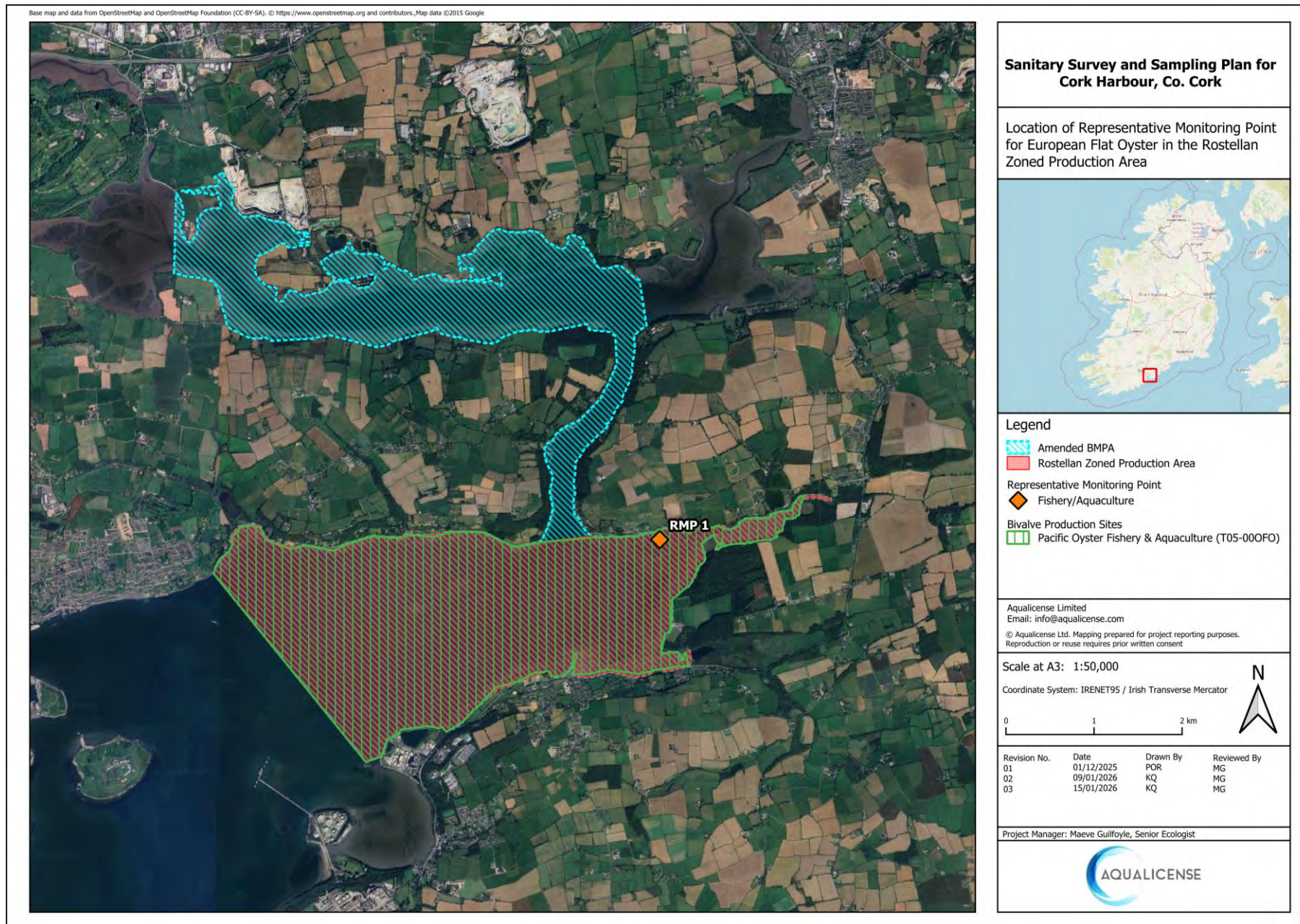


Figure 7-4: Location of RMP for European Flat Oyster in Rostellan Zoned Production Area

7.4 SAMPLING PLAN FOR EUROPEAN FLAT OYSTERS

A species-specific sampling plan has been developed in line with EU Regulation 2019/627 and the SFPA Code of Practice (2025). Key features of the plan are detailed in Table 7-4 and Table 7-5:

Table 7-4: Sampling Plan for European Flat Oysters in the North Channel Zoned Production Area

SPECIES	European flat oyster (<i>Ostrea edulis</i>)
SITE NAME	North Channel zoned production area
SAMPLE POINT IDENTIFIER	CK-CH-NC-NO
GEOGRAPHICAL LOCATION OF SAMPLING POINT (RMP)	51.882894N, -8.243817W (51°52'58.42"N 8°14'37.74"W)
SAMPLING FREQUENCY	Samples shall be taken monthly upon classification of North Channel zoned production area. Sampling will occur throughout the year.
SAMPLING DEPTH	Samples should be taken as close to the surface as possible, within the top one metre of the water column.
MAXIMUM ALLOWED DISTANCE FROM SAMPLING POINT	Samples are to be collected within 100 m of the RMP. Where this is not possible, the SFPA sample coordinator and local industry shall be informed to agree an alternative sampling location.
SAMPLING METHOD	Sampling will be conducted in accordance with the SFPA Code of Practice for the Classification and Microbiological Monitoring of Bivalve Mollusc Production Areas (SFPA, 2025), specifically in accordance with Appendix II.
SAMPLE SIZE	A minimum of 10 oysters of market size.
AUTHORISED SAMPLERS	It is the responsibility of the SFPA Cork Port Office to arrange sampling, with designated sampling officers assigned to collect samples.

Table 7-5: Sampling Plan for European Flat Oysters in the Rostellan Zoned Production Area

SPECIES	European flat oyster (<i>Ostrea edulis</i>)
SITE NAME	Rostellan zoned production area
SAMPLE POINT IDENTIFIER	CK-CH-RN-NO
GEOGRAPHICAL LOCATION OF SAMPLING POINT (RMP)	RMP 1: 51.857518N, -8.195570W (51°51'27.06"N, 8°11'44.05"W)
SAMPLING FREQUENCY	Samples shall be taken monthly upon classification of Rostellan zoned production area. Sampling will occur throughout the year.
SAMPLING DEPTH	Samples should be taken as close to the surface as possible, within the top one metre of the water column.
MAXIMUM ALLOWED DISTANCE FROM SAMPLING POINT	Samples are to be collected within 100 m of the RMP. Where this is not possible, the SFPA sample coordinator and local industry shall be informed to agree an alternative sampling location.
SAMPLING METHOD	Sampling will be conducted in accordance with the SFPA Code of Practice for the Classification and Microbiological Monitoring of Bivalve

	Mollusc Production Areas (SFPA, 2025), specifically in accordance with Appendix II.
SAMPLE SIZE	A minimum of 10 oysters of market size.
AUTHORISED SAMPLERS	It is the responsibility of the SFPA Cork Port Office to arrange sampling, with designated sampling officers assigned to collect samples.

These plans ensure the data collected will be representative of contamination affecting the zoned production area, supporting both initial classification and ongoing official controls.

7.5 REPRESENTATIVE MONITORING POINT- BLUE MUSSELS

An RMP is recommended at the following coordinates⁷: 51.857518N, -8.19557W (51°51'27.06"N, 8°11'44.05"W). This RMP is within the northern portion of site T05-522B (Figure 7-5). Blue mussel is included on the aquaculture licence for site T05-522B and the RMP is therefore identified for the licensed mussel activity within the BMPA. Mussel harvesting in the area is contingent upon the availability of stock. In the absence of mussel production, the RMP will remain inactive until harvesting activities resumes.

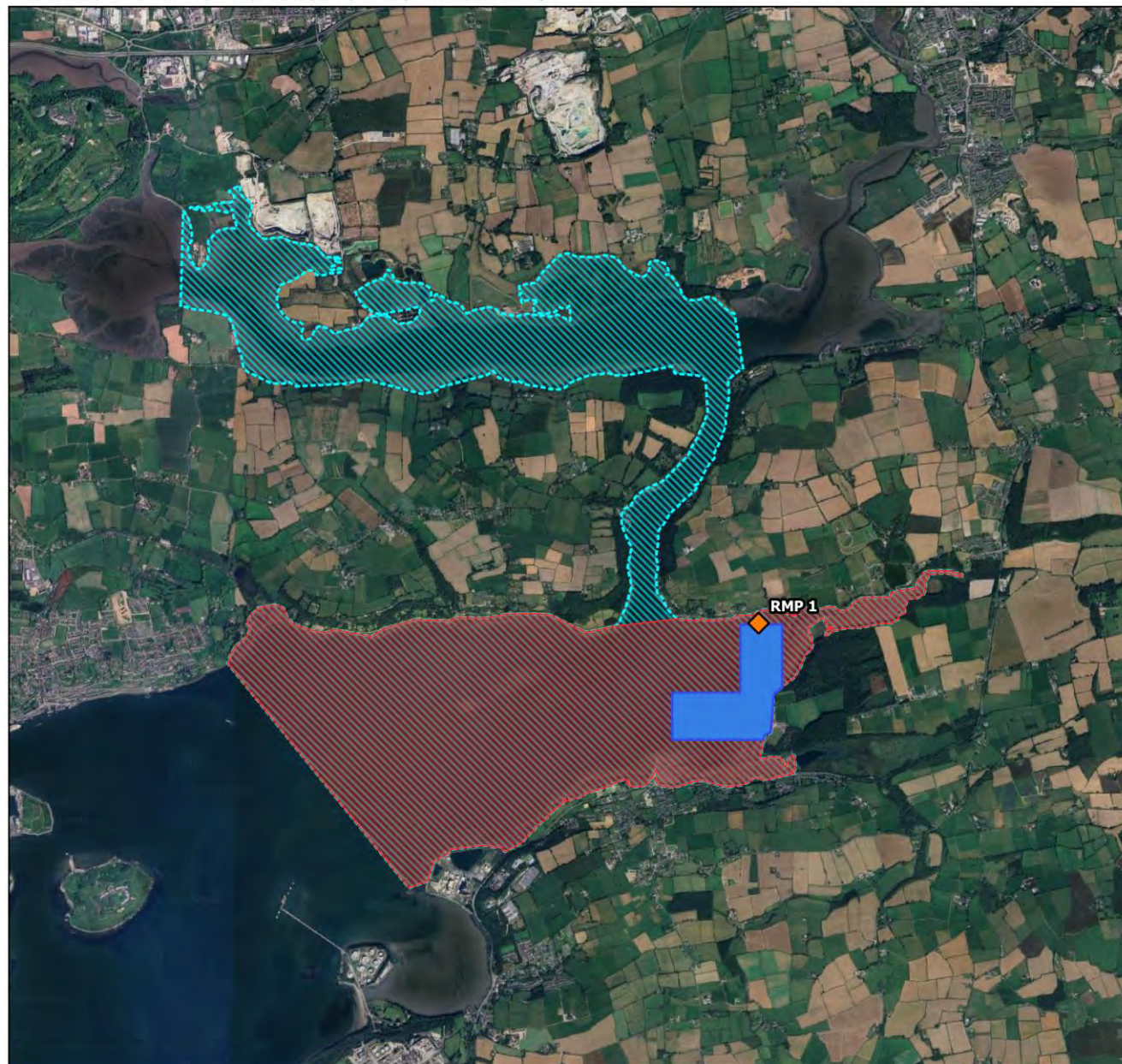
Blue mussels are currently not classified within the Rostellan zoned production area. To support the potential future classification of blue mussels within this production area, the following RMP locations within this section and species-specific sampling plan in Section 7.6 are proposed.

Based on the findings of the desk based current pattern analysis (Section 2.4.3, Figure 2-7), SPR outcome (Table 2-10), shoreline survey and bacteriological results, site T05-522B is identified as the most representative sampling location. Considering the size of the BMPA, prevailing circulation patterns, a single Representative Monitoring Point (RMP) is recommended.

While a specific RMP have been identified for site T05-522B, it is recognised that, due to the unpredictable nature of seed mussel supply, intermittent growth at this site, a sample may not always be available within 100 m of the RMP. In such circumstances, the SFPA sample coordinator and local industry representatives should be informed, and an alternative sampling location agreed. This alternative location should be selected with reference to the findings of the sanitary survey and should continue to represent a worst-case scenario for contamination risk.

This RMP has been located in order to represent the aquaculture activity at licensed site T05-522B. In the event samples are not available at the aquaculture site, an alternative sampling plan will need to be determined in discussion with the SFPA sample coordinator and local industry.

⁷ These coordinates are presented in the WGS84 coordinate reference system in two formats as follows: decimal degree (degree, minute, seconds).



Sanitary Survey and Sampling Plan for Cork Harbour, Co. Cork

Location of Representative Monitoring Point
for Blue Mussel in the Rostellan Zoned
Production Area



Legend

-  Amended BMAPA
-  Rostellan Zoned Production Area
- Representative Monitoring Point
-  RMP 1
- Bivalve Production Sites
-  Blue Mussel Aquaculture (T05-522B)

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Project Manager: Maeve Gullfoyle, Senior Ecologist



Figure 7-5: Location of Representative Monitoring Point for Blue Mussel in the Rostellan Zoned Production Area

7.6 SAMPLING PLAN FOR BLUE MUSSELS

A species-specific sampling plan has been developed in line with EU Regulation 2019/627 and the SFPA Code of Practice (2025). Key features of the plan are detailed in Table 7-6:

Table 7-6: Sampling Plan for Blue Mussels within Rostellan Zoned Production Area

SPECIES	Blue mussel (<i>Mytilus edulis</i>)
SITE NAME	Rostellan zoned production area
SAMPLE POINT IDENTIFIER	CK-CH-RN-MU
GEOGRAPHICAL LOCATION OF SAMPLING POINT (RMP)	51.857518N, -8.195570W (51°51'27.06"N, 8°11'44.05"W)
SAMPLING FREQUENCY	Samples shall be taken monthly upon classification of Rostellan zoned production area. Sampling will occur throughout the year.
SAMPLING DEPTH	Samples should be taken as close to the surface as possible
MAXIMUM ALLOWED DISTANCE FROM SAMPLING POINT	Samples are to be collected within 100 m of the RMP. Where this is not possible, the SFPA sample coordinator and local industry shall be informed to agree an alternative sampling location.
SAMPLING METHOD	Sampling will be conducted in accordance with the SFPA Code of Practice for the Classification and Microbiological Monitoring of Bivalve Mollusc Production Areas (SFPA, 2025), specifically in accordance with Appendix II.
SAMPLE SIZE	A minimum of 15 mussels of market size (minimum length of 4 cm).
AUTHORISED SAMPLERS	It is the responsibility of the SFPA Cork Port Office to arrange sampling, with designated sampling officers assigned to collect samples.

This plan ensures the data collected will be representative of contamination affecting the zoned production area, supporting both initial classification and ongoing official controls.

8 CONCLUSIONS

A sanitary survey has been conducted in accordance with Article 56 of Regulation (EU) 2017/625 and Regulation (EU) 2019/627. The survey integrated a catchment-scale desk assessment, field-based shoreline verification, and bacteriological sampling to evaluate faecal contamination risks in Cork Harbour.

These findings informed the delineation of the Bivalve Mollusc Production Area (BMPA), identification of a Representative Monitoring Points (RMPs), and the development of a microbiological sampling plan.

The outputs of the sanitary survey are as follows:

- A geographically defined BMPA boundary (i.e. the amended BMPA) of approximately 14.8 km² of which 12.8 km² is classified for production, within two zoned production areas as follows:
 - Northern Channel zoned production area = 3.5 km².
 - Rostellan zoned production area = 9.3 km².
- To capture the dominant contamination pressures species specific RMPs have been created located at the following locations:
 - European flat oyster (North Channel zoned production area):
 - RMP 1: 51.882894N, -8.243817W
 - European flat oyster (Rostellan zoned production area):
 - RMP 1: 51.857518N, -8.195570W
 - Blue mussel (Rostellan zoned production area):
 - RMP 1: 51.857518N, -8.195570W
 - Pacific oyster (North Channel zoned production area):
 - RMP 1: 51.882894N, -8.243817W (active) and
 - RMP 2: 51.884138N, -8.268764W (inactive until production occurs).
 - Pacific oyster (Rostellan zoned production area):
 - RMP 1: 51.857518N, -8.195570W

A species-specific sampling plan for European flat oyster (*Ostrea edulis*), Blue mussel (*Mytilus edulis*) and Pacific oyster (*Magallana gigas*) has been presented in line with SFPA and EU regulatory requirements.

These components provide the scientific basis for the classification and ongoing monitoring of Cork Harbour BMPA as a shellfish production area.

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Appendix - 1 SUMMARY STATISTICS FOR WEATHER

Appendix 1A. Summary Statistics for Wind derived from Roches Point Weather Station (July 2015 to June 2025 inclusive)

Direction	Frequency (%)	Max. Mean Wind Speed (m/s)	Mean Wind Speed (m/s)
W	26.6	17.8	6.9
S	20.5	14.5	6
SW	14.9	16.2	7
NW	10.5	11.7	5
E	10.2	16.7	6.7
SE	9.5	15.8	6.1
N	6.1	11.2	5.3
NE	1.8	8.4	4.9

Appendix 1B. Summary Statistics for Daily Rainfall derived from Roches Point Weather Station (July 15 to June inclusive)

Month	Max. Daily Rain (mm)	Mean Daily Rain (mm)	Median Daily Rain (mm)
January	175	104.07	99.45
February	167.2	103.76	103.45
March	164.7	93.52	78.75
April	146.9	73.26	69.6
May	151.8	66.76	53.5
June	112.6	64	59.95
July	136.5	63.42	51.25
August	159.8	81.67	72.4
September	145.9	93.19	81.25
October	242.1	128.8	117.8
November	200	102.28	111.25
December	340.6	136.94	119.05

Appendix - 2 CHARACTERISATION OF ALL WASTE WATER DISCHARGE AUTHORISATIONS FOR UWWTPs

Appendix 2A. Characterisation of all Agglomerations serving a Population Equivalent <500 within the Contributing Catchment (Leap Portal, EPA, 2025c)

CODE	AGGLOMERATION	INFLOWS	DESCRIPTION	TREATMENT TYPE	DESIGN CAPACITY (PE)
A0355-01	Aghabullogue	19	- No compliance records. - Discharges to the Delehinagh River. - Serving a PE of 189 in 2011.	Secondary	500
A0434-01	Annaghmore, County Cork	13	- No compliance records. - Discharges to ground. - Serving a PE of 50 in 2011.	Primary	75
A0359-01	Ballinagree	19	- No compliance records. - Discharges to the Laney River. - Serving a PE of 40 in 2011.	Tertiary	360
A0361-01	Ballincurrig and Lisgoold	30	Old WWTP in Lisgoold: - No specific compliance records. - Discharges to ground. - Secondary treatment with a design capacity of 125 PE. Ballincurrig Septic Tank: - No specific compliance records. - Discharges to ground. - Primary treatment with a design capacity of 150 PE. New WWTP in Lisgoold: - Compliance records are available for this WWTP, including - A spillage reported in January 2026. - In 2022 and 2020, a Licensee Return identified an ongoing pollution risk due to access issues preventing management. - A complaint sent by IFI in 2015 relating to lack of percolation and appearance of untreated sewage - Discharges to the Owennacurra River. - Secondary treatment with a design capacity of 125 PE.	Primary/Secondary	400
A0442-01	Cill Na Martra	19	- No compliance records. - Discharges to the Sullane River. - Serving a PE of 227 in 2011.	Secondary	600
A0463-01	Clondrohid	19	WWTP 1 No compliance records.	Primary	Not Provided

CODE	AGGLOMERATION	INFLOWS	DESCRIPTION	TREATMENT TYPE	DESIGN CAPACITY (PE)
			- Discharges to the Foherish River. - Serving a PE of 100 in 2011. WWTP 2 - No compliance records. - Discharges to the Foherish River. - Serving a PE of 150 in 2011.		
A0431-01	Coolcower	19	WWTP 1 - No compliance records. - Discharges to the River Lee. - Serving a PE of 140 in 2011. - Primary Treatment and design capacity of 100 PE. WWTP 2 - No compliance records. - Discharges to the River Lee. - Serving a PE of 140 in 2011. - Secondary Treatment, unknown design capacity.	Primary/Secondary	Not Provided
A0433-01	Coole East	21	- No compliance records. - Discharges to ground. - Serving a PE of 48 in 2011.	Primary	48
A0523-01	Coolea near Macroom	19	- No compliance records. - Discharges to the Sullane River. - Serving a PE of 200 in 2012.	Primary	Not Provided
A0437-01	Courtbrack	19	- No compliance records. - Discharges to the Shournagh River. - Serving a PE of 250 in 2008.	Tertiary	250
A0354-01	Crookstown	19	- Compliance records are available for this WWTP, including: - A compliance investigation in 2018 (closed in 2020) due to the WWTP being the sole pressure preventing the River Bride from meeting its WFD status. After investigation, desludging procedures improved and river quality improved. - Two WWTPs within this agglomeration. - Both discharge to the River Bride South. - Total PE of the agglomeration was 170 PE in 2011.	Primary	280

CODE	AGGLOMERATION	INFLOWS	DESCRIPTION	TREATMENT TYPE	DESIGN CAPACITY (PE)
A0524-01	Grenagh	19	- No compliance records. - Discharges to the Martin River. - Serving a PE of 441 in 2015.	Secondary	Not Provided
A0443-01	Halfway	13	- Compliance records are available for this WWTP since 2019, including: - Odour issues (8 complaints), - Abatement equipment being offline (1 incident), - Uncontrolled release (1 incident). - A compliance investigation is also open relating to network surcharge and discharge into the Owenboy River in 2022/2023. - Discharges to the Owenboy River. - Serving a PE of 230 in 2011.	Secondary	450
A0349-02	Inchigeelagh	19	- Compliance records are available for this WWTP, including: - Open compliance investigation (started 2014) due to impact on water quality of the River Lee. Corrective actions have since been undertaken. - Agglomeration load in 2024 was 327 PE. - Discharges both to ground and the River Lee. - Agglomeration is served by a new WWTP (design capacity = 292 PE) and old septic tank design capacity = 53 PE).	Primary/Secondary	345
A0441-01	Inniscarra Waterworks site	19	- No compliance records. - Discharges to ground. - Serving a PE of 63 in 2011.	Secondary	100
A0435-01	Killumney	19	- Compliance records are available for this WWTP since 2021, including: - Open Compliance Investigation relating to water quality in the River Bride. - A site visit by the EPA in January 2026 found that the plant is overloaded and flow metre repair had not been carried out. - Discharges to the Bride River. - Serving a PE of 114 in 2011. - WWTP (design capacity = 700 PE) and storage tank (design capacity = 41 PE), which is tankered weekly to Ballincollig WWTP.	Secondary	741
A0358-01	Kilmurry	19	- No compliance records. - Discharges to the Buinegea River. - Serving a PE of 42 in 2011.	Secondary	Not Provided
A0352-01	Knockraha	21	- No compliance records. - Two WWTPs serve the agglomeration: Chapelfield (secondary treatment, Design Capacity = 50 PE) and the Village Centre WWTP (primary treatment, design capacity = 12).	Primary/Secondary	62

CODE	AGGLOMERATION	INFLOWS	DESCRIPTION	TREATMENT TYPE	DESIGN CAPACITY (PE)
			- Both WWTPs discharge to ground. - The agglomeration had a PE of 62 in 2011.		
A0356-01	Minane Bridge	6	- Compliance records are available for this WWTP, including: - Report in 2023 of raw sewage entering the river. - Enforcement plan visit in 2021 in found the River Valley WWTP to be of a high standard but Spruce Grove is of less quality (although low volume as only servicing 8 houses) - Two WWTPs serve the agglomeration: Spruce Grove Estate Septic Tank (primary treatment, design capacity = 28) and River Valley WWTP (secondary treatment, design capacity = 250 PE. - Spruce Grove Estate discharges to ground. - River Valley WWTP discharges to the Minane River. - The agglomeration served a PE 133 in 2011.	Primary/Secondary	178
A0351-01	Rosemount, Kilcully	20	- No compliance records. - Discharges to ground. - Serving a PE of 100 in 2011.	Secondary	100
A0357-01	Rylane	19	- No compliance records. - Discharges to the Delehinagh River. - Serving a PE of 110 in 2011.	Tertiary	250
A0432-01	Saleen Village	33	- Compliance records are available for this WWTP since 2024, including: - A complaint with no details due to GDPR restrictions - A Cork Harbour Shellfish Impact Assessment in relation to Uisce Eireann assets in the Cork Harbour Area. Key findings relation to the BMPA include that contamination at Rostellan is through Aghada discharges and local rivers. Impacts at the north Channel is primarily at Belvelly bridge. - Discharges to a tributary of Cork Harbour. - Serving a PE of 490 in 2011, much higher than its design capacity.	Primary	40

Appendix 2B Characterisation of all Waste Water Discharge Authorisations for UWWTPs serving a Population Equivalent >500 within the Contributing Catchment (Uisce Eireann 2023)

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
D0517-01_Carrignavar	TPEFF0500D0517SW001	No storm water overflows in this agglomeration	2 - Secondary Treatment	300	No remaining capacity (PE= 604)	N	Fail- Ammonia-Total (as N) mg/l BOD, 5 days with Inhibition (Carbonaceous) mg/l COD-Cr mg/l ortho-Phosphate (as P) - unspecified mg/l Suspended Solids mg/l	1	Yes	No storm water overflows are present so the pathway of discharge to the BMPA is unknown. The annual mean hydraulic loading is greater than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity. The WWTP discharge was not compliant with the ELV's set in the waste water discharge licence. The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. Based on ambient monitoring results a deterioration in BOD,

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										concentrations downstream of the effluent discharge is noted. A deterioration in water quality has been identified; however, it is not known if it or is not caused by the WWTP. Other causes of deterioration in water quality in the area are unknown. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status. (D0517-01_Carrignavar_Annual_Report_2023)
D0426-01_Dripsey	TPEFF0500D0426SW001	168507, 336839; 206639, 140596	2 - Secondary Treatment	600	410	Y	None- Pass	2	No	Discharge will ultimately enter the BMPA via the Inflow 19 (River Lee). The WWTP discharge was not compliant with the ELV's set in the waste water discharge licence for the following: Ammonia-Total (as N)

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										mg/l, orthoPhosphate (as P) - unspecified mg/l. The ambient monitoring results do not meet the required EQS at the upstream monitoring location. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. The discharge from the waste water treatment plant does not have an observable impact on the water quality. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status. (D0426-01 Dripsey Annual Report 2023)
D0427-01_Coachford	TPEFF0500D0427SW001	145955, 73162 145991, 73146 145992, 73145 145992, 73145	2 - Secondary Treatment	1600	634	Y	None- Pass	1 Uncontrolled release due to adverse weather conditions	No	All discharges will ultimately enter the BMPA via the Inflow 19. The WWTP discharge was compliant with the ELV's set in the waste water discharge licence.

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										Based on ambient monitoring results a deterioration in Total Phosphorus, concentrations downstream of the effluent discharge is noted. A deterioration in water quality has been identified; however, it is not known if it or is not caused by the WWTP. Other causes of deterioration in water quality in the area are unknown (D0427-01 Coachford Annual Report 2023)
D0431-01_Ballingearry	TPEFF0500D0431SW001	115155, 66919	1 - Primary Treatment	200	No remaining capacity (PE=206)	N	Primary treatment Based on ambient monitoring results a deterioration in Ammonia, concentration s downstream of the effluent discharge is noted.	1 Breach of Emission Limit Values (ELV) – WWTP upgrade require to meet ELV	Yes	All discharges will ultimately enter the BMPA via the Inflow 19. The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity. The WWTP is not in compliance with the ELV, as set out in the

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										WWDL. A new WWTP is necessary to comply with ELVs specified in licence schedule- to be completed by 2029. (D0431-01 Ballingeary Annual Report 2023)
D0436-01_Ringaskiddy Village	TPEFF0500D0436SW001	178173,64677	N/A	N/A	N/A	N/A	N/A	1 Spillage due to adverse weather	N/A	This agglomeration is connected to the Cork Lower Harbour Sewerage. Flows from the agglomeration are pumped to the new WWTP at Shanbally which is now part of D0057-Ringaskiddy. (D0436-01 Ringaskiddy Village Annual Report 2023)
D0140-01_North Cobh	TPEFF0500D0140SW001	N/A- no storm water overflows in this Agglomeration	2 - Secondary Treatment	2000	818	N	Fail- BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	1 Breach of ELV	No	No storm water overflows are present so the pathway of discharge to the BMPA is unknown. The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity.

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)		Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
											The WWTP discharge was not compliant with the ELV's set in the waste water discharge licence for the following: BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status (D0140-01_North_Cobh_Annual_Report_2023)
D0033-01_Cork City	TPEFF0400D0033SW001	167442,72569	175350,71492	3P - Tertiary P Removal	413200	116775	N	Fail – Total Nitrogen mg/l	22 incidences were caused by a combination of factors including: Blocked Sewer, Adverse Weather, Plant or equipment	No	Discharges will enter the BMPA via the Inflows 17, 18, 19, 20, and 23. Other outfalls to the BMPA are found around the perimeter of Cork City and Lough Mahon, as well as the outflow of the river Glashaboy (Lough Mahon)_030 which later enters the BMPA. The annual maximum and mean hydraulic loading is less than the peak

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
		167499,73710 167458,73281 167445,72650 168815,73446 165219,69285 162898,69881 162794,70707 165720,71690 165987,71724 166772,72082 166965,72159 167054,72194 167469,72139 165605,70430 176683,69726 168304,72007	167915,71715 1169935,73933 163148,71116 164731,69408 168765,72118 168765,72117 168765,72118 167119,71591 164943,71226 164252,69363 165219,69285 165219,69285 165219,69285 165219,69285 165219,69285 165219,69285 165219,69285					breakdown at WWTP, Emergency overflow caused by pump failure, Emergency overflow caused by ragging or blocking, Emergency overflow caused by power failure, Adverse Weather, Shock load to the WWTP, WWTP upgrade required to meet ELV,		Treatment Plant Capacity, which is designed to allow for peak values and therefore peak loads have not impacted on compliance with Emission Limit Values. The WWTP discharge was not compliant with the ELV's set in the waste water discharge licence for the following: Total Nitrogen mg/l. The ambient monitoring results do not meet the required EQS at the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status. (D0033-01 Cork City Annual Report 2023)

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
		167558,721 35 167663,721 30 168078,720 52 168078,720 52 168078,720 52 169332,723 03 170463,722 70 170703,722 71 170270,721 07 168322,718 68 167533,715 38 167457,715 46 167260,715 21 167185,715 01 167185,715 01 167185,715 01	65219,69285 165281,7116 3 169118,6921 0 172264,7201 5 171683,6981 4 173151,7054 7 171176,7214 9 170607,7227 0 169812,7229 6 173059,7135 6 173033,6951 5 165485,7159 4 178044,7315 8 169716,6946 4 167607,7150 5 172783,7420 1							

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
		166415,714 78 165975,713 26 164347,694 23 163247,699 74 171683,698 14 165283,711 54 165309,708 32 165602,704 34 165598,704 36 165705,697 91 166295,692 86 168668,698 93 168668,698 93 170005,696 72 170046,700 86 171597,718 26	175264,7277 0 172531,6950 5 168978,7374 4 167494,7213 8 163370,6999 7 167164,7067 0 167141,7069 1 173059,7135 6 167273,7212 0 167134,7091 4 164417,6928 9 163576,7118 2 162362,6931 5 -,- 167128,7157 9 173059,7135 6							

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
		171597,718 26 171597,718 26 168313,700 79 168313,700 79 170768,720 79 166610,714 92 167273,721 19 167386,715 75 165509,715 92 165262,713 18 164731,694 08 165014,714 72 170572,698 37 172686,696 71 174421,710 67 175958,729 71								
		165231,6926 6 172588,7187 5 168979,7374 4 -, - 163243,6997 6 163243,6997 6 163243,6997 6 163243,6997 6 163243,6997 6 163243,6997 6 163243,6997 6 163243,6997 6 163243,6997 6 163243,6997 6 168979,7374 4 -, - 168979,7374 4 163243,6997 6 172682,7390 6								

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
		177331,73293								
D0126-01_Macroon	TPEFF0500D0126SW001	134957, 72953 133877, 73202	2 - Secondary Treatment	6000	850	N	Fail - Ammonia-Total (as N) mg/l, BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l, ortho-Phosphate (as P) - unspecified mg/l, Suspended Solids mg/l	1 WWTP upgrade required to meet ELV	Yes	All discharges will ultimately enter the BMPA via the Inflow 19. The annual maximum and mean hydraulic loading are greater than the peak Treatment Plant Capacity. The WWTP discharge was not compliant with the ELV's set in the waste water discharge licence. The ambient monitoring results do not meet the required EQS at the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. Based on ambient monitoring results a deterioration in BOD, Ortho-Phosphate & Ammonia, concentrations downstream of the effluent discharge is noted. A deterioration in water quality has been observed;

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										however, it is unknown whether or not this is caused by the WWTP. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status. (D0126-01 Macroom Annual Report 2023)
D0129-01_Passage-Monkstown	TPEFF0500D0129SW001	175591, 69656 176984, 68828 177115, 67735 177101, 66102 176650, 65474	No treatment provided as flow is directed to Shanbally WWTP	Unknown – flow directed to Shanbally WWTP	Unknown – flow directed to Shanbally WWTP	N/A	No effluent monitoring was carried out. This agglomeration is connected to Cork Lower Harbour Sewerage scheme	1 Adverse Weather	Unknown	All discharges will ultimately enter the BMPA directly from outflow points located around the Ringaskiddy peninsula. There is no effluent data included in the AER as the effluent is directed to Shanbally D0057. This agglomeration is connected to the Cork Lower Harbour Sewerage. Flows from the agglomeration are pumped to the new WWTP at Shanbally which is now part of D0057 – Ringaskiddy.

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										(D0129-01 Passage Monkstown Annual Report 2023)
D0298-01_Cloyne	TPEFF0500D0298SW01	191396, 67968 191123, 67812 191572, 68031	2 - Secondary Treatment	1400	0	N	Fail - BOD, 5 days with Inhibition (Carbonaceous mg/l, COD-Cr mg/l, Suspended Solids mg/l, Total Nitrogen mg/l)	1 WWTP upgrade required to meet ELV	Yes	All discharges will ultimately enter the BMPA via the Inflow 33. The annual maximum and mean hydraulic loading are greater than the peak Treatment Plant Capacity. The WWTP discharge was not compliant with the ELV's set in the waste water discharge licence. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status (D0298-01 Cloyne Annual Report 2023)
D0299-01_Ballyvourney Ballymakeery	TPEFF0500D0299SW01	121261, 76400 121271, 76421	3P - Tertiary P Removal	2600	1925	N	Fail - Ammonia-N Total (as N) mg/l	3 - Two of the incidents were classified	No	All discharges will ultimately enter the BMPA via the Inflow 19. The annual maximum and mean hydraulic loading

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
								as Other, and one as Adverse Weather		are greater than the peak Treatment Plant Capacity. The WWTP discharge was not compliant with the ELV's set in the waste water discharge licence for the following: Ammonia-Total (as N) mg/l. The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. Based on ambient monitoring results a deterioration in Orthophosphate, concentrations downstream of the effluent discharge is noted. A deterioration in water quality has been identified; however, it is not known if it or is not caused by the WWTP. The discharge from the waste water treatment plant does not have an observable negative

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										impact on the Water Framework Directive status. (D0299-01 Ballyvourney Ballymakeery Annual Report 2023)
D0423-01_Whitegate-Aghada (A) Whitegate/Aghada Septic Tank (B) Whitegate Aghada Secondary Discharge #2 (C) Whitegate Aghada Secondary Discharge #3 (D) Ardnabourkey Estate WWTP	(A) TPEFF0500D0423SW002 (B) TPEFF0500D0423SW003 (C) TPEFF0500D0423GW004 (D) TPEFF0500D0423SW001	184035, 63811	(A), (B), (C), (D) Untreated	Unknown - untreated	Unknown - untreated	(A), (B), (C), (D) N	(A), (B), (C) Fail - BOD, 5 days with Inhibition (Carbonaceous BOD) mg/L, COD-Cr mg/L, Suspended Solids mg/L (D) Ammonia-Total (as N) mg/L, BOD, 5 days with Inhibition (Carbonaceous mg/L, COD-Cr mg/L, Suspended Solids mg/L	1 WWTP upgrade required to meet ELV	Unknown	Discharges will ultimately enter the BMPA in Whitegate. The agglomeration is not served by a waste water treatment plant (A) The WWTP is non-compliant with the ELV's set in the waste water Discharge License. There is no ambient data included in the AER. It is unknown if the ambient monitoring points meet the required EQS for this site. The EQS relates to the Oxygenation and Nutrient conditions set out in the Surface Water Regulations 2009. It is unknown if discharge from the site has an observable impact on the

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										water quality. It is unknown if discharge from the site has an observable negative impact on the Water Framework Directive status. (B) The WWTP is non-compliant with the ELV's set in the waste water Discharge License. The coastal/transitional ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. The discharge from the waste water treatment plant does not have an observable impact on the water quality. The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status. The discharge from the waste water treatment

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										plant does not have an observable impact on the designated shellfish water quality. (C) The WWTP is non-compliant with the ELV's set in the waste water Discharge License. The coastal/transitional ambient monitoring results do not meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. The discharge from the waste water treatment plant does not have an observable impact on the

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										water quality. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status. (D) The WWTP is non-compliant with the ELV's set in the waste water Discharge License. The coastal/transitional ambient monitoring results do not meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										The discharge from the waste water treatment plant does not have an observable impact on the water quality. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status. (D0423-01 Whitegate Aghada Annual Report 2023)
D0329-01_Killeens	TPEFF0500D0329SW001	163797, 75669	3P - Tertiary P removal	600	0	N	Fail - Ammonia-Total (as N) mg/l, Suspended Solids mg/l	1 WWTP upgrade required to meet ELV	Yes	All discharges will ultimately enter the BMPA via the Inflow 19. The WWTP is non-compliant with the ELV's set in the waste water Discharge License for the following: Suspended Solids mg/l, Ammonia-Total (as N) mg/l. The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. The EQS relates

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. Based on ambient monitoring results a deterioration in Ammonia, concentrations downstream of the effluent discharge is noted. A deterioration in water quality has been identified; however, it is not known if it or is not caused by the WWTP. Other causes of deterioration in water quality in the area are unknown. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status. (D0329-01 Kileens Annual Report 2023)

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
D0330-01_Cloughduv	TPEFF0500D0330SW001	145091, 66707	3P - Tertiary P removal	1500	1091	N	Fail - Ammonia-Total (as N) mg/l, ortho-Phosphate (as P) - unspecified mg/l	1 Other	No	All discharges will ultimately enter the BMPA via the Inflow 19. The annual maximum and mean hydraulic loading are less than the peak Treatment Plant Capacity. The WWTP is not in compliance with the ELV's as set out in the WWDL for the following: Ammonia-Total (as N) mg/l, orthoPhosphate (as P) - unspecified mg/l. The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. Based on ambient monitoring results a deterioration in Ammonia & Ortho-phosphate, concentrations downstream of the effluent discharge is noted. A deterioration in water quality has been

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining / Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										identified; however, it is not known if it or is not caused by the WWTP. Other causes of deterioration in water quality in the area are unknown. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status. (D0330-01 Cloughduv Annual Report 2023)
D0540-01_Ballygarvan	TEFF0500D0540SW001	N/A (none present)	2 - Secondary treatment	634	0	N	Fail - Ammonia-Total (as N) mg/l	3 Incidents included two instances of Inadequate Operational Procedures / Training and a Blocked Sewer,	Yes	No storm water overflows are present so the pathway of discharge to the BMPA is unknown. The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity.

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										The WWTP discharge was not compliant with the ELV's set in the waste water discharge licence for the following: Ammonia-Total (as N) mg/l. The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. Based on ambient monitoring results a deterioration in Ammonia & Ortho Phosphate, concentrations downstream of the effluent discharge is noted. A deterioration in water quality has been identified; however, it is not known if it or is not caused by the WWTP. Other causes of deterioration in water quality in the area are unknown.

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status. (D0540-01 Ballygarvan Annual Report 2023)
D0043-01_Blarney	TPEFF0500D0043SW001	159255, 74822 157517, 74063 160459, 73166 161628, 75252	3NP - Tertiary N&P removal	13000	4838	N	Fail - Ammonia-Total (as N) mg/l, ortho-Phosphate (as P) - unspecified mg/l	3 incidents were classified as Other and one as Plant or equipment maintenance at WWTP	No	All discharges will ultimately enter the BMPA via the Inflow 19. The annual maximum and mean hydraulic loading are greater than the peak Treatment Plant Capacity. The WWTP is non-compliant with the ELV's set in the waste water Discharge License for the following: Ammonia-Total (as N) mg/l, orthoPhosphate (as P) - unspecified mg/l. The discharge from the waste water treatment plant does not have an observable negative impact on the Water

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										Framework Directive status. (D0043-01 Blarney Annual Report 2023)
D0044-01_Carrigtwohill and Environs	TPEFF0500D0044SW01	179911,72605/ 181277,72257/ 180600,73562/ 181544,73040/ 181544,73040/ 181133,72310	3NP - Tertiary N&P removal.	30000	8134	Y	None -Pass	2 Broken sewer pipes caused spillages and uncontrolled releases	No	All discharges will ultimately enter the BMPA via the Tibbotstown_010 river which flows into a holding lake prior to entering the BMPA. The annual mean and maximum hydraulic loading is less than the peak Treatment Plant Capacity. The coastal/transitional ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. The WWTP discharge was compliant with the ELV's set in the waste water discharge licence. A deterioration in water quality has been identified; however, it is

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
										not known if it or is not caused by the WWTP. Other causes of deterioration in water quality in the area are unknown. The discharge from the waste water treatment plant does have an observable negative impact on the Water Framework Directive status. (D0044-01 Carrigwohill and Environs Annual Report 2023)
D0049-01_Ballincollig	TPEFF0500D0049SW001	159239,71509/ 159239,71509/ 161297,71625/ 159686,70001/ 159142,70494/ 159718,71261/ 159142,70494/ 161279,71596	3NP - Tertiary N&P removal.	33000	7895 remaining	N	Fail Ammonia-Total (as N) mg/l Total Nitrogen mg/l	6, Incidents included adverse weather causing uncontrolled release, breach of ELV and other. Plant or equipment breakdown at WWTP caused	No	All discharges will ultimately enter the BMPA via the Inflows 18 and 19. The annual mean and maximum hydraulic loading is less than the peak Treatment Plant Capacity. The WWTP discharge was not compliant with the ELV's set in the waste water discharge licence for the following: Total Nitrogen mg/l, Ammonia-Total (as N)

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
								abatement equipment to be offline.		mg/l. The ambient monitoring results does meet the required EQS at the downstream monitoring location. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009. The discharge from the waste water treatment plant does not have an observable impact on the water quality. The discharge from the waste water treatment plant does not have an observable negative impact on the Water Framework Directive status. (D0049-01 Ballinacollig Annual Report 2024)
D0054-01_Cobh	TPEFF0500D0054SW001	178402,65649	N/A	N/A	N/A	N/A	Currently there is no treatment provided at Cobh as the	3 – A blocked sewer caused a spillage,	N/A	All discharges will ultimately enter the BMDPA via an outfall in the southeast of Cobh in proximity to Ringmeen.

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
							flow is directed to Shanbally WWTP - D0057	dosing pump failure or maintenance at WWTP caused by abatement equipment off-line and an uncontrolled release when an emergency overflow caused by pump failure		Currently there is no treatment provided at Cobh as the flow is directed to Shanbally WWTP - D0057. Shanbally WWTP has been accepting the load from Cobh since September 2021. (D0054-01 Cobh Annual Report 2023)
D0056-01_Midleton	TPEFF0500D0056SW001	187975,73109/ 188047,72518/ 188518,71783/ 187525,72897/ 188346,73332/ 188266,73232/ 188346,73332/ 188740,73338/ 187687,73025	3N - Tertiary N removal	15000	Remaining Capacity 0, current collected load: 17042	N	Pass- though it has failed on faecal coliform loading <250FC/100mls	3 Uncontrolled releases due to adverse weather and network infrastructure issues along with plant or equipment breakdown	Yes	Discharges will ultimately enter the BMPA via the Inflows 28 and 30. Other outfalls are located downstream of Inflow 30 and 31 and directly to the BMPA from Midleton. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity, though the annual mean is less than the peak. The

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
								at the WWTP.		WWTP is compliant with the ELV's set in the Urban Waste Water Treatment Directive. The WWTP is compliant with most of the ELV's set in the Wastewater Discharge Licence aside from the Faecal coliform's requirements. (D0056-01 Midleton Annual Report 2023)
D0057-01_Ringaskiddy	TPEFF0500D0057SW01	174439,62606/ 173154,62416/ 173066,62347/ 178818,61289/ 179639,61145/ 174443,62603/ 173315,62498/ 178202,64724/ 175797,64929/ 172986,62329/ 173154,62416/ 181358,62521/ 179845,61439	2- Secondary Treatment	65000	26408	Y	Fail due to BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l COD-Cr mg/l Suspended Solids mg/l	9- this included blocked sewers. Plant or equipment breakdown at WWTP, upgrades to meet ELV resulting in Breach of ELV, broken sewer pipe and adverse weather causing an	No	Discharges will ultimately enter the BMPA via the Inflows 10 and 12. There are other outfalls to the BMPA directly to the BMPA from the Ringaskiddy peninsula. The WWTP is compliant with the ELVs set in the Urban Waste Water Treatment Directive, though non-compliant with the ELV's set in the wastewater Discharge License The annual mean and maximum hydraulic loading is greater than the

Name	Discharge Point Reference (Inflow Point)	Storm Water Overflows (Irish Grid, Approx. Ultimate Inflow Point)	Treatment	Population Capacity	Capacity Remaining/ Exceeded	2023 AER Compliance (Y/N)	Parameters Failing	Incidents in 2023	Current Capacity to be Exceeded by 2026	Notes
								uncontrolled release		peak Treatment Plant Capacity. The findings of the report are that the discharge from the waste water treatment plant does not have an observable impact on the water quality or on the Water Framework Directive status (D0057-01_Ringaskiddy Annual Report 2023)

Appendix - 3 STATISTICS FROM THE CENSUS OF AGRICULTURE 2020 RELATING TO GRAZING FARM ANIMALS WITHIN THE ELECTORAL DIVISIONS OVERLAPPING THE CONTRIBUTING CATCHMENT

Electoral Division	Percentage Overlap of Contributing Catchment	Total (Corrected) Dairy Cows	Total (Corrected) Livestock	Total (Corrected) Other Cows	Total (Corrected) Cattle	Total (Corrected) Sheep
Aghinagh	>99%	701 (701)	2356 (2358)	204 (204)	2598 (2599)	770 (770)
Aglish	>99%	2664 (2665)	4901 (4903)	154 (154)	6507 (6510)	0 (0)
Ahil	<1%	0 (0)	1714 (3)	369 (1)	1110 (2)	9507 (17)
Aultagh	1.5%	1488 (22)	3116 (45)	236 (3)	4110 (60)	674 (10)
Ballincollig	>99%	2441 (2442)	4417 (4419)	98 (98)	5808 (5811)	0 (0)
Ballinlough A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Ballinlough B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Ballinlough C	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Ballintemple	2.6%	479 (12)	1489 (39)	142 (4)	2099 (55)	0 (0)
Ballyfeard	76.3%	961 (733)	2152 (1641)	149 (114)	2895 (2208)	0 (0)
Ballygarvan	>99%	1482 (1483)	2435 (2436)	42 (42)	3038 (3039)	0 (0)
Ballygroman	97.9%	2357 (2309)	3390 (3320)	14 (14)	4269 (4181)	0 (0)
Ballymartle	20.3%	1498 (303)	2922 (592)	239 (48)	3906 (791)	0 (0)
Ballymurphy	95.3%	1640 (1563)	2880 (2746)	104 (99)	3593 (3425)	0 (0)
Ballynaglogh	23.2%	2215 (513)	5946 (1378)	173 (40)	4863 (1127)	0 (0)
Ballynamona	1.7%	3202 (53)	6690 (110)	454 (7)	8810 (145)	759 (13)
Ballyphehane B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Ballyspillane	>99%	653 (653)	2242 (2243)	163 (163)	3327 (3328)	0 (0)
Bealanageary	>99%	0 (0)	1166 (1161)	268 (267)	928 (924)	5348 (5327)
Bealanageary	97.4%	0 (0)	1709 (1664)	301 (293)	1214 (1182)	8642 (8416)
Bealock	>99%	245 (245)	1197 (1196)	293 (293)	1359 (1358)	2592 (2590)
Bengour	19.6%	1024 (201)	3126 (613)	165 (32)	4424 (867)	0 (0)
Bishopstown	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Bishopstown A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Bishopstown B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Bishopstown C	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Bishopstown D	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Bishopstown E	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Blackpool	85.7%	2003 (1716)	4269 (3656)	237 (203)	5551 (4755)	0 (0)
Blackpool A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Blackpool B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Blarney	>99%	1348 (1349)	3519 (3520)	339 (339)	3899 (3901)	0 (0)

Electoral Division	Percentage Overlap of Contributing Catchment	Total (Corrected) Dairy Cows	Total (Corrected) Livestock	Total (Corrected) Other Cows	Total (Corrected) Cattle	Total (Corrected) Sheep
Brinny	2.5%	1182 (29)	2449 (60)	97 (2)	3271 (80)	0 (0)
Browningstown	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caherlag	85.6%	808 (692)	2067 (1770)	52 (45)	2828 (2422)	0 (0)
Candroma	>99%	483 (483)	1098 (1099)	161 (161)	1491 (1492)	0 (0)
Cannaway	>99%	1680 (1681)	3366 (3367)	308 (308)	4264 (4266)	0 (0)
Carrigaline	>99%	1117 (1111)	2439 (2425)	207 (206)	3402 (3383)	0 (0)
Carrigaline	97.8%	1165 (1139)	2208 (2159)	146 (143)	2861 (2797)	0 (0)
Carrigboy	64.8%	1040 (674)	3049 (1975)	511 (331)	4281 (2773)	345 (224)
Carrignavar	84.1%	3448 (2901)	6416 (5399)	201 (169)	8508 (7159)	0 (0)
Carrigrohanebeg	>99%	1695 (1696)	2574 (2575)	134 (134)	3165 (3166)	0 (0)
Carrigtohill	95.9%	1785 (1711)	8204 (7865)	344 (330)	6980 (6692)	475 (455)
Castlemartyr	18.8%	808 (152)	2962 (557)	200 (38)	2874 (540)	1762 (331)
Castletown	20.6%	1285 (265)	2436 (502)	262 (54)	3185 (656)	0 (0)
Centre A	8.5%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Churchfield	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
City Hall A	96.0%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
City Hall B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Cleanrath	>99%	0 (0)	1113 (1114)	416 (416)	1376 (1377)	2267 (2268)
Clondrohid	>99%	888 (887)	4088 (4083)	791 (790)	5404 (5398)	3476 (3472)
Clonmoyle	>99%	1080 (1080)	2572 (2573)	158 (158)	3534 (3536)	0 (0)
Clonmult	37.3%	1129 (421)	2377 (885)	63 (23)	3285 (1224)	0 (0)
Cloyne	53.6%	1477 (791)	3164 (1694)	149 (80)	3798 (2034)	1855 (994)
Clydagh	<1%	0 (0)	1659 (11)	394 (3)	1123 (7)	9478 (60)
Cobh Rural	9.7%	613 (59)	1492 (144)	198 (19)	2091 (202)	0 (0)
Commons	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Coolmountain	8.7%	609 (53)	2244 (196)	482 (42)	2947 (257)	1403 (122)
Coomlogane	10.7%	990 (106)	3448 (368)	415 (44)	4046 (432)	5605 (598)
Corkbeg	81.3%	0 (0)	666 (541)	0 (0)	747 (607)	0 (0)
Crinnaloo	<1%	656 (1)	1617 (1)	155 (0)	2141 (2)	0 (0)
Cullen	9.0%	604 (55)	1336 (121)	0 (0)	1896 (171)	0 (0)
Derryfineen	>99%	272 (272)	1048 (1048)	263 (263)	1298 (1299)	1200 (1201)
Douce	<1%	0 (0)	1332 (9)	535 (3)	1480 (10)	3369 (22)
Douglas	87.2%	2214 (1930)	3494 (3046)	118 (103)	4210 (3670)	0 (0)
Dripsey	>99%	2975 (2976)	5230 (5232)	160 (160)	6868 (6871)	0 (0)
Drishane	<1%	1202 (4)	3162 (11)	288 (1)	4373 (15)	0 (0)
Dromore	4.1%	2885 (118)	7038 (287)	413 (17)	8389 (343)	0 (0)

Electoral Division	Percentage Overlap of Contributing Catchment	Total (Corrected) Dairy Cows	Total (Corrected) Livestock	Total (Corrected) Other Cows	Total (Corrected) Cattle	Total (Corrected) Sheep
Dunderrow	>99%	790 (790)	2257 (2258)	238 (238)	3206 (3207)	0 (0)
Dungourney	63.8%	1406 (897)	3008 (1920)	131 (84)	4011 (2560)	0 (0)
Evergreen	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Fair Hill A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Fair Hill B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Fair Hill C	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Farranbrien	56.5%	705 (399)	1445 (817)	72 (41)	1918 (1084)	0 (0)
Farranferris A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Farranferris B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Farranferris C	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Firmount	83.7%	2477 (2074)	4140 (3467)	138 (116)	5425 (4543)	0 (0)
Garrown	1.6%	343 (6)	1487 (24)	241 (4)	1255 (21)	5717 (94)
Gillabbey A	67.4%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Gillabbey B	74.1%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Gillabbey C	84.0%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Glanlee	<1%	0 (0)	1907 (14)	328 (2)	892 (7)	11759 (89)
Glasheen A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Glasheen B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Glasheen C	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Gortnatubbrid	98.8%	0 (0)	1692 (1672)	367 (363)	1479 (1461)	6812 (6729)
Gortroe	23.2%	2067 (480)	4425 (1027)	245 (57)	5830 (1354)	491 (114)
Gowlane	90.0%	3601 (3242)	6506 (5857)	178 (160)	8457 (7614)	0 (0)
Greenfort	>99%	2709 (2710)	4703 (4705)	286 (286)	5985 (5988)	0 (0)
Greenmount	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Greenville	>99%	1234 (1235)	2944 (2945)	193 (193)	3851 (3853)	0 (0)
Gurranebraher A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Gurranebraher C	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Gurranebraher E	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Inch	17.0%	768 (131)	1932 (328)	0 (0)	2377 (404)	1404 (239)
Inchigeelagh	>99%	515 (515)	2147 (2148)	389 (389)	2720 (2721)	2516 (2517)
Inishannon	9.2%	802 (74)	2311 (212)	149 (14)	2171 (199)	0 (0)
Inishkenny	>99%	1880 (1881)	2665 (2666)	80 (80)	3247 (3248)	0 (0)
Kilberrihert	98.2%	2418 (2375)	5902 (5798)	614 (603)	7160 (7034)	3573 (3510)
Kilbonane	60.9%	2245 (1368)	3247 (1979)	88 (54)	3933 (2397)	0 (0)
Kilcor	15.4%	2287 (353)	4542 (701)	352 (54)	5954 (919)	290 (45)
Kilcorney	<1%	1593 (14)	3237 (28)	261 (2)	4187 (37)	0 (0)

Electoral Division	Percentage Overlap of Contributing Catchment	Total (Corrected) Dairy Cows	Total (Corrected) Livestock	Total (Corrected) Other Cows	Total (Corrected) Cattle	Total (Corrected) Sheep
Kilcullen	91.9%	2688 (2469)	5211 (4787)	359 (330)	6904 (6342)	318 (292)
Killeagh	72.4%	2113 (1531)	4056 (2938)	236 (171)	5266 (3814)	0 (0)
Kilnamartery	>99%	1789 (1790)	3878 (3880)	496 (496)	5160 (5162)	471 (471)
Kilpatrick	>99%	1063 (1063)	1837 (1838)	0 (0)	1898 (1899)	0 (0)
Kilshannig	<1%	1688 (0)	5448 (1)	317 (0)	6645 (2)	897 (0)
Knockantota	73.9%	1397 (1032)	2907 (2147)	198 (146)	3876 (2863)	0 (0)
Knockavilly	54.4%	1274 (693)	2592 (1410)	152 (83)	3218 (1750)	0 (0)
Knocknaheeny	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Knockraha	>99%	1231 (1232)	3525 (3526)	256 (256)	4103 (4105)	0 (0)
Knockrea A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Knockrea B	86.0%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Lehenagh	>99%	1480 (1481)	2300 (2300)	0 (0)	2938 (2939)	0 (0)
Liscleary	95.4%	1491 (1423)	3049 (2910)	97 (93)	3938 (3759)	0 (0)
Lisgould	>99%	1610 (1611)	5277 (5279)	234 (234)	5134 (5136)	853 (853)
Macloneigh	>99%	1066 (1066)	3103 (3104)	334 (334)	4197 (4199)	938 (938)
Macroom Urban	>99%	0 (0)	1048 (1048)	0 (0)	1376 (1377)	0 (0)
Magourney	>99%	1170 (1171)	3124 (3125)	102 (102)	2898 (2899)	0 (0)
Mahon A	79.2%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Mahon B	96.9%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Mahon C	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Mardyke	1.1%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Mashanaglass	>99%	811 (811)	1675 (1676)	114 (114)	2228 (2229)	276 (276)
Matehy	>99%	2216 (2217)	3790 (3792)	134 (134)	4923 (4925)	0 (0)
Mayfield	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Midleton Rural	96.2%	454 (437)	4893 (4709)	287 (276)	3942 (3794)	994 (957)
Midleton Urban	95.5%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Mogeely	5.2%	570 (30)	1887 (99)	119 (6)	2766 (145)	0 (0)
Monkstown Rural	96.9%	0 (0)	559 (541)	0 (0)	716 (694)	0 (0)
Monkstown Urban	81.4%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Montenotte A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Montenotte B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Mountrivers	95.0%	1325 (1259)	3500 (3326)	196 (186)	4628 (4397)	990 (941)
Moviddy	94.1%	2422 (2279)	4260 (4008)	258 (243)	5310 (4996)	0 (0)
Murragh	43.3%	1489 (645)	3192 (1382)	71 (31)	4206 (1821)	0 (0)
Nohaval	10.6%	499 (53)	1298 (137)	92 (10)	1796 (190)	0 (0)
Ovens	>99%	537 (537)	959 (959)	0 (0)	1193 (1194)	0 (0)

Electoral Division	Percentage Overlap of Contributing Catchment	Total (Corrected) Dairy Cows	Total (Corrected) Livestock	Total (Corrected) Other Cows	Total (Corrected) Cattle	Total (Corrected) Sheep
Pouladuff A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Pouladuff B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Rahalisk	>99%	1039 (1038)	3656 (3652)	538 (537)	4524 (4519)	3814 (3810)
Rathcooney	>99%	2640 (2637)	4984 (4978)	77 (77)	5437 (5431)	0 (0)
Riverstown	>99%	1341 (1338)	2399 (2393)	54 (54)	3099 (3091)	0 (0)
Rostellan	86.2%	701 (604)	1897 (1635)	151 (130)	2691 (2320)	0 (0)
Shanakiel	96.9%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Shandon A	97.3%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Shandon B	55.1%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Slievareagh	>99%	433 (430)	2326 (2308)	459 (455)	2665 (2644)	5310 (5269)
South Gate A	98.8%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
South Gate B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
St. Mary's	>99%	1223 (1224)	2147 (2148)	205 (205)	2711 (2712)	0 (0)
St. Patrick's A	71.4%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
St. Patrick's B	97.8%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
St. Patrick's C	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Sunday's Well A	86.9%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Sunday's Well B	63.7%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Teerelton	>99%	1757 (1758)	4617 (4619)	565 (565)	6159 (6162)	340 (340)
Templebodan	70.6%	834 (589)	2268 (1601)	58 (41)	2943 (2078)	607 (429)
Templebreedy	98.0%	0 (0)	794 (779)	178 (175)	1025 (1005)	0 (0)
Templemartin	16.2%	2538 (410)	6706 (1084)	404 (65)	7477 (1209)	0 (0)
Templemichael	72.9%	2388 (1742)	5102 (3721)	166 (121)	6108 (4456)	0 (0)
Templenacarriga	>99%	984 (984)	2674 (2676)	163 (163)	3456 (3457)	0 (0)
The Glen A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
The Glen B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
The Lough	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Tivoli A	92.6%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Tivoli B	82.4%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Togher A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Togher B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Tramore A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Tramore B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Tramore C	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Turner's Cross A	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Turner's Cross B	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Electoral Division	Percentage Overlap of Contributing Catchment	Total (Corrected) Dairy Cows	Total (Corrected) Livestock	Total (Corrected) Other Cows	Total (Corrected) Cattle	Total (Corrected) Sheep
Turner's Cross C	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Turner's Cross D	>99%	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Ullanes	>99%	1040 (1040)	2976 (2977)	339 (339)	3797 (3798)	1749 (1749)
Warrencourt	>99%	3065 (3066)	5861 (5863)	222 (222)	7617 (7620)	0 (0)
Watergrasshill	22.7%	1991 (452)	5213 (1184)	297 (67)	7434 (1688)	0 (0)
Whitechurch	>99%	2642 (2643)	5112 (5114)	169 (169)	6611 (6614)	0 (0)

Appendix - 4 STATISTICS FROM CENSUS OF AGRICULTURE 2020 RELATING TO LAND UTILISATION WITHIN THE ELECTORAL DIVISIONS OVERLAPPING THE CONTRIBUTING CATCHMENT

ELECTORAL DIVISION	PERCENTAGE OVERLAP OF CONTRIBUTING CATCHMENT	TOTAL (CORRECTED) NUMBER OF HOLDINGS	AVERAGE SIZE OF HOLDINGS	TOTAL (CORRECTED) AREA FARMED (HECTARES)	TOTAL (CORRECTED) CEREALS	TOTAL (CORRECTED) GRASSLAND
Aghinagh	>99%	34 (34)	42.9	1458.3 (1458.9)	20.2 (20.2)	1420.3 (1420.9)
Aglish	>99%	57 (57)	43.9	2503.6 (2504.7)	246.1 (246.2)	2130.7 (2131.6)
Ahil	<1%	65 (0)	42.8	2785.0 (4.9)	0.0 (0.0)	2738.9 (4.8)
Aultagh	1.5%	51 (1)	36.4	1856.4 (27.0)	0.0 (0.0)	1850.2 (26.9)
Ballincollig	>99%	45 (45)	47.8	2172.4 (2173.3)	47.7 (47.7)	2026.7 (2027.6)
Ballinlough a	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Ballinlough b	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Ballinlough c	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Ballintemple	2.6%	29 (1)	45.6	1322.4 (34.5)	409.1 (10.7)	824.5 (21.5)
Ballyfeard	76.3%	34 (26)	40.4	1373.2 (1047.3)	310.6 (236.9)	983.4 (750.0)
Ballygarvan	>99%	34 (34)	33.3	1136.6 (1137.1)	42.0 (42.0)	1071.4 (1071.9)
Ballygroman	97.9%	28 (27)	57.9	1620.8 (1587.6)	111.6 (109.3)	1412.2 (1383.2)
Ballymartle	20.3%	47 (10)	36.7	1727.0 (349.9)	282.4 (57.2)	1379.2 (279.4)
Ballymurphy	95.3%	29 (28)	50.2	1456.5 (1388.5)	0.0 (0.0)	1343.2 (1280.4)
Ballynaglogh	23.2%	25 (6)	62.5	1561.3 (361.9)	0.0 (0.0)	1527.7 (354.1)
Ballynamona	1.7%	88 (1)	39.8	3506.2 (57.9)	236.2 (3.9)	3202.3 (52.9)
Ballyphehane b	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Ballyspillane	>99%	23 (23)	50.7	1166.3 (1166.8)	143.7 (143.8)	986.0 (986.4)
Bealanageary	>99%	43 (43)	49.1	2112.0 (2103.7)	0.0 (0.0)	2105.7 (2097.5)
Bealanageary	97.4%	44 (43)	69.8	3071.2 (2991.0)	0.0 (0.0)	3069.2 (2989.0)
Bealock	>99%	38 (38)	35.3	1339.9 (1338.8)	0.0 (0.0)	1335.5 (1334.4)
Bengour	19.6%	41 (8)	43.4	1778.3 (348.7)	0.0 (0.0)	1649.6 (323.5)
Bishopstown	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Bishopstown a	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Bishopstown b	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Bishopstown c	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Bishopstown d	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Bishopstown e	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Blackpool	85.7%	64 (55)	33.3	2132.3 (1826.4)	0.0 (0.0)	2076.3 (1778.5)
Blackpool a	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Blackpool b	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)

ELECTORAL DIVISION	PERCENTAGE OVERLAP OF CONTRIBUTING CATCHMENT	TOTAL (CORRECTED) NUMBER OF HOLDINGS	AVERAGE SIZE OF HOLDINGS	TOTAL (CORRECTED) AREA FARMED (HECTARES)	TOTAL (CORRECTED) CEREALS	TOTAL (CORRECTED) GRASSLAND
Blarney	>99%	30 (30)	51	1529.4 (1530.1)	0.0 (0.0)	1430.0 (1430.6)
Brinny	2.5%	40 (1)	39.8	1590.9 (39.0)	96.1 (2.4)	1419.5 (34.8)
Browningstown	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Caherlag	85.6%	23 (20)	55.1	1266.6 (1084.6)	220.9 (189.2)	940.1 (805.0)
Candroma	>99%	31 (31)	26.5	822.4 (822.8)	0.0 (0.0)	817.9 (818.3)
Cannaway	>99%	43 (43)	41.6	1788.3 (1789.1)	66.8 (66.8)	1681.7 (1682.4)
Carrigaline	>99%	29 (29)	50.5	1464.5 (1456.5)	233.4 (232.1)	1104.4 (1098.3)
Carrigaline	97.8%	23 (22)	52.9	1216.6 (1189.6)	138.1 (135.0)	1006.0 (983.7)
Carrigboy	64.8%	64 (41)	30.9	1979.5 (1282.4)	0.0 (0.0)	1960.8 (1270.3)
Carrignavar	84.1%	54 (45)	50.6	2733.6 (2300.3)	0.0 (0.0)	2697.8 (2270.2)
Carrigrohanebeg	>99%	28 (28)	62.6	1752.5 (1753.3)	132.1 (132.2)	1581.3 (1582.0)
Carrigtohill	95.9%	74 (71)	48.8	3609.2 (3460.2)	930.2 (891.8)	2409.4 (2310.0)
Castlemartyr	18.8%	39 (7)	71.2	2778.7 (522.2)	938.8 (176.4)	1633.2 (306.9)
Castletown	20.6%	40 (8)	31	1239.8 (255.3)	0.0 (0.0)	1233.7 (254.0)
Centre A	8.5%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Churchfield	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
City Hall A	96.0%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
City Hall B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Cleanrath	>99%	41 (41)	41.2	1688.9 (1689.6)	0.0 (0.0)	1683.6 (1684.3)
Clondrohid	>99%	96 (96)	33.2	3184.0 (3180.4)	0.0 (0.0)	3176.9 (3173.3)
Clonmoyle	>99%	32 (32)	37.8	1209.2 (1209.7)	0.0 (0.0)	1191.2 (1191.7)
Clonmult	37.3%	32 (12)	41.1	1316.7 (490.5)	0.0 (0.0)	1219.6 (454.3)
Cloyne	53.6%	49 (26)	56.7	2780.6 (1489.3)	1036.6 (555.2)	1506.2 (806.7)
Clydagh	<1%	46 (0)	70.8	3255.1 (20.8)	0.0 (0.0)	3253.0 (20.7)
Cobh Rural	9.7%	35 (3)	38.4	1344.8 (130.2)	380.8 (36.9)	881.3 (85.3)
Commons	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Coolmountain	8.7%	59 (5)	32	1885.1 (164.3)	0.0 (0.0)	1876.2 (163.6)
Coomlogane	10.7%	72 (8)	35.3	2544.0 (271.6)	0.0 (0.0)	2541.1 (271.3)
Corkbeg	81.3%	24 (20)	47.3	1138.9 (925.6)	534.6 (434.5)	442.0 (359.2)
Crinnaloo	<1%	26 (0)	40.3	1046.9 (0.8)	0.0 (0.0)	1040.9 (0.8)
Cullen	9.0%	20 (2)	40.8	816.3 (73.8)	133.6 (12.1)	679.8 (61.4)
Derryfineen	>99%	36 (36)	29.6	1064.5 (1065.0)	0.0 (0.0)	1048.0 (1048.5)
Douce	<1%	56 (0)	38.2	2137.4 (13.9)	0.0 (0.0)	2136.7 (13.9)
Douglas	87.2%	36 (31)	56.8	2044.4 (1782.1)	329.2 (287.0)	1584.0 (1380.8)
Dripsey	>99%	50 (50)	45.7	2285.0 (2286.0)	99.5 (99.5)	2137.5 (2138.4)

ELECTORAL DIVISION	PERCENTAGE OVERLAP OF CONTRIBUTING CATCHMENT	TOTAL (CORRECTED) NUMBER OF HOLDINGS	AVERAGE SIZE OF HOLDINGS	TOTAL (CORRECTED) AREA FARMED (HECTARES)	TOTAL (CORRECTED) CEREALS	TOTAL (CORRECTED) GRASSLAND
Drishane	<1%	58 (0)	37.2	2159.5 (7.5)	0.0 (0.0)	2147.1 (7.5)
Dromore	4.1%	93 (4)	39	3627.7 (148.2)	234.4 (9.6)	3335.3 (136.2)
Dunderrow	>99%	35 (35)	45.2	1581.7 (1582.4)	344.6 (344.7)	1141.9 (1142.4)
Dungourney	63.8%	47 (30)	43.1	2026.1 (1293.0)	354.5 (226.2)	1572.2 (1003.3)
Evergreen	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Fair Hill A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Fair Hill B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Fair Hill C	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Farranbrien	56.5%	24 (14)	52.1	1250.1 (706.8)	467.5 (264.3)	735.6 (415.9)
Farranferris A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Farranferris B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Farranferris C	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Firmount	83.7%	39 (33)	46.7	1822.5 (1526.3)	0.0 (0.0)	1821.5 (1525.5)
Garrown	1.6%	46 (1)	49.8	2289.4 (37.7)	0.0 (0.0)	2287.2 (37.7)
Gillabbey A	67.4%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Gillabbey B	74.1%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Gillabbey C	84.0%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Glanlee	<1%	48 (0)	96.5	4631.2 (35.1)	0.0 (0.0)	4631.1 (35.1)
Glasheen A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Glasheen B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Glasheen C	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Gortnatubbrid	98.8%	62 (61)	47	2914.8 (2879.4)	0.0 (0.0)	2905.6 (2870.3)
Gortroe	23.2%	55 (13)	41.3	2270.9 (527.2)	0.0 (0.0)	2237.9 (519.6)
Gowlane	90.0%	67 (60)	45	3018.3 (2717.4)	0.0 (0.0)	2996.0 (2697.3)
Greenfort	>99%	43 (43)	50.9	2189.8 (2190.7)	128.7 (128.8)	2045.0 (2045.9)
Greenmount	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Greenville	>99%	33 (33)	46.2	1523.2 (1523.9)	0.0 (0.0)	1484.7 (1485.3)
Gurranebraher A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Gurranebraher C	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Gurranebraher E	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Inch	17.0%	43 (7)	42.1	1847.0 (314.0)	808.1 (137.4)	813.3 (138.2)
Inchigeelagh	>99%	55 (55)	32.2	1771.8 (1772.6)	0.0 (0.0)	1752.0 (1752.8)
Inishannon	9.2%	34 (3)	34.9	1186.9 (108.8)	97.3 (8.9)	1074.2 (98.5)
Inishkenny	>99%	33 (33)	41.4	1367.3 (1367.9)	102.1 (102.1)	1231.0 (1231.5)
Kilberrihert	98.2%	76 (75)	51.3	3902.5 (3833.7)	0.0 (0.0)	3864.0 (3795.9)

ELECTORAL DIVISION	PERCENTAGE OVERLAP OF CONTRIBUTIN G CATCHMENT	TOTAL (CORRECTED) NUMBER OF HOLDINGS	AVERAGE SIZE OF HOLDING S	TOTAL (CORRECTED) AREA FARMED (HECTARES)	TOTAL (CORRECTED) CEREALS	TOTAL (CORRECTED) GRASSLAND
Kilbonane	60.9%	32 (20)	50.5	1617.3 (985.7)	0.0 (0.0)	1465.2 (893.0)
Kilcor	15.4%	43 (7)	61	2623.7 (405.0)	138.6 (21.4)	2443.7 (377.2)
Kilcorney	<1%	45 (0)	46	2070.0 (18.1)	0.0 (0.0)	2038.6 (17.8)
Kilcullen	91.9%	69 (63)	37.7	2600.3 (2388.7)	0.0 (0.0)	2563.7 (2355.1)
Killeagh	72.4%	38 (28)	46.7	1776.3 (1286.7)	0.0 (0.0)	1737.2 (1258.3)
Kilnamartery	>99%	62 (62)	37.9	2350.4 (2351.4)	0.0 (0.0)	2266.7 (2267.7)
Kilpatrick	>99%	21 (21)	52.7	1120.3 (1120.8)	150.1 (150.2)	897.9 (898.3)
Kilshannig	<1%	84 (0)	41.7	3500.4 (0.9)	205.2 (0.1)	3198.3 (0.8)
Knockantota	73.9%	32 (24)	40.8	1306.2 (965.0)	0.0 (0.0)	1273.1 (940.5)
Knockavilly	54.4%	27 (15)	40.6	1096.1 (596.2)	0.0 (0.0)	1065.2 (579.4)
Knocknaheeny	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Knockraha	>99%	39 (39)	43.5	1694.8 (1695.5)	122.3 (122.4)	1537.0 (1537.7)
Knockrea A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Knockrea B	86.0%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Lehenagh	>99%	12 (12)	70.6	847.1 (847.5)	38.1 (38.1)	790.1 (790.4)
Liscleary	95.4%	44 (42)	39.7	1745.5 (1666.0)	78.7 (75.1)	1583.5 (1511.3)
Lisgould	>99%	58 (58)	39.4	2339.1 (2340.1)	205.8 (205.9)	1995.0 (1995.9)
Macloneigh	>99%	54 (54)	38.6	2085.5 (2086.4)	114.0 (114.0)	1903.9 (1904.7)
Macroom Urban	>99%	16 (16)	34.1	545.1 (545.3)	0.0 (0.0)	545.1 (545.3)
Magourney	>99%	31 (31)	36.4	1128.8 (1129.3)	0.0 (0.0)	980.2 (980.6)
Mahon A	79.2%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Mahon B	96.9%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Mahon C	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Mardyke	1.1%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Mashanaglass	>99%	26 (26)	37.7	979.7 (980.1)	0.0 (0.0)	957.0 (957.4)
Matehy	>99%	51 (51)	34.5	1757.7 (1758.5)	0.0 (0.0)	1693.4 (1694.1)
Mayfield	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Midleton Rural	96.2%	63 (61)	36.5	2301.0 (2214.5)	534.0 (513.9)	1590.2 (1530.5)
Midleton Urban	95.5%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Mogeely	5.2%	22 (1)	67.8	1492.5 (78.3)	509.3 (26.7)	908.5 (47.6)
Monkstown Rural	96.9%	10 (10)	53.2	531.9 (515.6)	0.0 (0.0)	491.5 (476.4)
Monkstown Urban	81.4%	5 (4)	53.4	266.9 (217.2)	0.0 (0.0)	243.3 (198.0)
Montenotte A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Montenotte B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)

ELECTORAL DIVISION	PERCENTAGE OVERLAP OF CONTRIBUTING CATCHMENT	TOTAL (CORRECTED) NUMBER OF HOLDINGS	AVERAGE SIZE OF HOLDINGS	TOTAL (CORRECTED) AREA FARMED (HECTARES)	TOTAL (CORRECTED) CEREALS	TOTAL (CORRECTED) GRASSLAND
Mountrivers	95.0%	53 (50)	41.4	2196.4 (2086.9)	69.5 (66.0)	2094.7 (1990.3)
Moviddy	94.1%	59 (56)	37.9	2235.7 (2103.7)	0.0 (0.0)	2135.5 (2009.4)
Murragh	43.3%	41 (18)	34	1394.3 (603.7)	0.0 (0.0)	1336.1 (578.5)
Nohaval	10.6%	15 (2)	56.6	849.7 (89.9)	147.4 (15.6)	685.4 (72.5)
Ovens	>99%	17 (17)	33.6	571.8 (572.0)	0.0 (0.0)	472.2 (472.4)
Pouladuff A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Pouladuff B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Rahalisk	>99%	69 (69)	38.3	2644.0 (2640.9)	0.0 (0.0)	2632.0 (2628.9)
Rathcooney	>99%	38 (38)	65.9	2502.8 (2500.0)	0.0 (0.0)	2040.2 (2037.9)
Riverstown	>99%	37 (37)	44.8	1659.4 (1655.2)	103.7 (103.4)	1437.2 (1433.6)
Rostellan	86.2%	27 (23)	49.5	1347.4 (1161.6)	374.6 (323.0)	861.3 (742.6)
Shanakiel	96.9%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Shandon A	97.3%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Shandon B	55.1%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Sliev ereagh	>99%	54 (54)	53.1	2866.0 (2843.8)	0.0 (0.0)	2864.3 (2842.2)
South Gate A	98.8%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
South Gate B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
St. Mary's	>99%	18 (18)	67.3	1210.6 (1211.1)	0.0 (0.0)	1110.5 (1111.0)
St. Patrick's A	71.4%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
St. Patrick's B	97.8%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
St. Patrick's C	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Sunday's Well A	86.9%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Sunday's Well B	63.7%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Teerelton	>99%	69 (69)	37.6	2594.6 (2595.7)	0.0 (0.0)	2543.1 (2544.2)
Templebodan	70.6%	35 (25)	35.5	1242.6 (877.5)	0.0 (0.0)	1228.5 (867.5)
Templebreedy	98.0%	15 (15)	55.3	848.9 (832.3)	158.8 (155.7)	588.0 (576.5)
Templemartin	16.2%	70 (11)	41.4	2901.5 (469.0)	45.8 (7.4)	2807.3 (453.8)
Templemichael	72.9%	47 (34)	46.3	2177.0 (1588.1)	0.0 (0.0)	2085.0 (1520.9)
Templenacarriga	>99%	43 (43)	43.8	1884.7 (1885.5)	146.4 (146.5)	1598.5 (1599.2)
The Glen A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
The Glen B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
The Lough	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Tivoli A	92.6%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Tivoli B	82.4%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Togher A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)

ELECTORAL DIVISION	PERCENTAGE OVERLAP OF CONTRIBUTING CATCHMENT	TOTAL (CORRECTED) NUMBER OF HOLDINGS	AVERAGE SIZE OF HOLDINGS	TOTAL (CORRECTED) AREA FARMED (HECTARES)	TOTAL (CORRECTED) CEREALS	TOTAL (CORRECTED) GRASSLAND
Togher B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Tramore A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Tramore B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Tramore C	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Turner's Cross A	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Turner's Cross B	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Turner's Cross C	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Turner's Cross D	>99%	0 (0)	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Ullanes	>99%	57 (57)	38.6	2198.7 (2199.2)	0.0 (0.0)	2191.8 (2192.3)
Warrencourt	>99%	53 (53)	48.6	2577.6 (2578.7)	44.0 (44.0)	2485.8 (2486.9)
Watergrasshill	22.7%	57 (13)	53.8	3066.7 (696.3)	545.4 (123.8)	2461.3 (558.8)
Whitechurch	>99%	50 (50)	47.5	2377.3 (2378.3)	95.7 (95.7)	2241.5 (2242.5)

Appendix - 5 CSO SMALL AREAS DESIGNATIONS 2022 WITH CORRESPONDING ID NUMBERS AND POPULATION DENSITIES FOR FIGURE 2-11

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
1	A048048006	Montenotte B	>99%	1747
2	A048048004	Montenotte B	>99%	2445
3	A048048009	Montenotte B	>99%	2508
4	A048048005	Montenotte B	>99%	5539
5	A048048003	Montenotte B	>99%	2954
6	A048048007	Montenotte B	>99%	3130
7	A048048010	Montenotte B	>99%	3760
8	A048048001	Montenotte B	>99%	6472
9	A048048008	Montenotte B	>99%	5176
10	A048048002	Montenotte B	>99%	2036
11	A048064007	Tivoli A	>99%	812
12	A048064006	Tivoli A	0.764	855
13	A048064009	Tivoli A	0.815	1208
14	A048064003	Tivoli A	>99%	2256
15	A048064002	Tivoli A	>99%	4443
16	A048064001	Tivoli A	>99%	6803
17	A048064004 /A048064005	Tivoli A	0.612	0
18	A048064008	Tivoli A	>99%	9079
19	A048018005	City Hall B	>99%	2350
20	A048018006	City Hall B	0.932	3082
21	A048018003	City Hall B	>99%	10290
22	A048018001	City Hall B	>99%	4976
23	A048018004	City Hall B	>99%	10062
24	A048018002	City Hall B	>99%	5094
25	A048012001	Blackpool B	>99%	1603
26	A048012002	Blackpool B	>99%	5444
27	A048012004	Blackpool B	>99%	2280
28	A048012008	Blackpool B	>99%	10134
29	A048012010	Blackpool B	>99%	7173
30	A048012005	Blackpool B	>99%	15751
31	A048012011	Blackpool B	>99%	6785
32	A048012009	Blackpool B	>99%	11007
33	A048012007	Blackpool B	>99%	7374
34	A048012006	Blackpool B	>99%	18443
35	A048012003	Blackpool B	>99%	14150
36	A048057002	St. PATRICK'S B	>99%	1837
37	A048057001	St. PATRICK'S B	>99%	9028
38	A048057006	St. PATRICK'S B	>99%	6657
39	A048057003	St. PATRICK'S B	>99%	7350
40	A048057007	St. PATRICK'S B	>99%	4009

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
41	A048057004	St. PATRICK'S B	>99%	36478
42	A048057005	St. PATRICK'S B	>99%	13927
43	A048073001	Turner's Cross C	>99%	5558
44	A048073003	Turner's Cross C	>99%	1738
45	A048073002/02	Turner's Cross C	>99%	5739
46	A048073002/01	Turner's Cross C	>99%	4375
47	A048007006	Bishopstown B	>99%	3034
48	A048007001	Bishopstown B	>99%	686
49	A048007004	Bishopstown B	>99%	1677
50	A048007009	Bishopstown B	>99%	2042
51	A048007005	Bishopstown B	>99%	2695
52	A048007007	Bishopstown B	>99%	4017
53	A048007008	Bishopstown B	>99%	3126
54	A048007003	Bishopstown B	>99%	13556
55	A048007002	Bishopstown B	>99%	9995
56	A048004001	Ballyphehane A	>99%	5289
57	A048004002	Ballyphehane A	>99%	7296
58	A048004003	Ballyphehane A	>99%	5199
59	A048019004	Commons	>99%	409
60	A048019001	Commons	>99%	931
61	A048019003	Commons	>99%	1508
62	A048019002	Commons	>99%	17104
63	A048056005	St. PATRICK'S A	>99%	7713
64	A048056003	St. PATRICK'S A	>99%	20101
65	A048056001	St. PATRICK'S A	>99%	13065
66	A048056004	St. PATRICK'S A	>99%	8009
67	A048056006	St. PATRICK'S A	>99%	14033
68	A048056002	St. PATRICK'S A	0.766	1419
69	A048056007	St. PATRICK'S A	>99%	9293
70	A048043004/01	Mahon B	>99%	456
71	A048043017	Mahon B	>99%	1629
72	A048043001	Mahon B	0.99	1457
73	A048043018	Mahon B	0.911	1631
74	A048043016	Mahon B	>99%	2220
75	A048043014	Mahon B	>99%	1653
76	A048043007	Mahon B	>99%	6690
77	A048043010	Mahon B	>99%	487
78	A048043003	Mahon B	>99%	4911
79	A048043012	Mahon B	>99%	8306
80	A048043008	Mahon B	>99%	16762
81	A048043005	Mahon B	>99%	3585
82	A048043013	Mahon B	>99%	6105
83	A048043009	Mahon B	>99%	5370
84	A048043006	Mahon B	>99%	9505
85	A048043015	Mahon B	>99%	4876

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
86	A048043004/02	Mahon B	>99%	902
87	A048066003	Togher A	>99%	6106
88	A048066002	Togher A	>99%	3289
89	A048066006	Togher A	>99%	1882
90	A048066001	Togher A	>99%	2275
91	A048066004	Togher A	>99%	2688
92	A048066005	Togher A	>99%	9764
93	A048066007	Togher A	>99%	5018
94	A048049002	Pouladuff A	>99%	3493
95	A048049003	Pouladuff A	>99%	6783
96	A048049001	Pouladuff A	>99%	4454
97	A048070005	Tramore C	>99%	3296
98	A048070009	Tramore C	>99%	460
99	A048070010	Tramore C	>99%	3384
100	A048070004	Tramore C	>99%	2355
101	A048070002	Tramore C	>99%	6881
102	A048070006	Tramore C	>99%	5676
103	A048070003	Tramore C	>99%	7058
104	A048070011	Tramore C	>99%	1753
105	A048070008	Tramore C	>99%	10670
106	A048070007	Tramore C	>99%	5844
107	A048070012	Tramore C	>99%	4205
108	A048070001	Tramore C	>99%	3650
109	A048003002	Ballinlough C	>99%	1842
110	A048003004/01	Ballinlough C	>99%	2772
111	A048003005	Ballinlough C	>99%	4023
112	A048003006	Ballinlough C	>99%	3425
113	A048003003	Ballinlough C	>99%	3025
114	A048003001	Ballinlough C	>99%	4077
115	A048003004/02	Ballinlough C	>99%	3918
116	A048025003	Farranferris B	>99%	4714
117	A048025001	Farranferris B	>99%	5568
118	A048025002	Farranferris B	>99%	8831
119	A048025004	Farranferris B	>99%	7407
120	A048059002	Sunday's Well A	0.903	1432
121	A048059001	Sunday's Well A	>99%	3296
122	A048059003	Sunday's Well A	0.911	2991
123	A048016001	Churchfield	>99%	6174
124	A048016004	Churchfield	>99%	2162
125	A048016003	Churchfield	>99%	6563
126	A048016002	Churchfield	>99%	7057
127	A048016005	Churchfield	>99%	7735
128	A048016006	Churchfield	>99%	6891
129	A047320002	Whitechurch	>99%	769
130	A047320005	Whitechurch	>99%	401

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
131	A047320001	Whitechurch	>99%	2941
132	A047178008	Inishkenny	>99%	114
133	A047178012	Inishkenny	>99%	385
134	A047178017	Inishkenny	>99%	2505
135	A047178018	Inishkenny	>99%	1312
136	A047178009	Inishkenny	>99%	837
137	A047178001	Inishkenny	>99%	103
138	A047178016	Inishkenny	>99%	6570
139	A047178015	Inishkenny	>99%	3975
140	A047178005	Inishkenny	>99%	3869
141	A047178011	Inishkenny	>99%	7386
142	A047178013	Inishkenny	>99%	7255
143	A047178003	Inishkenny	>99%	6050
144	A047178004	Inishkenny	>99%	3755
145	A047178010	Inishkenny	>99%	5989
146	A047178014	Inishkenny	>99%	6614
147	A047178002	Inishkenny	>99%	7497
148	A047178020	Inishkenny	>99%	6360
149	A047178021	Inishkenny	>99%	5374
150	A047270007/01	Ovens	>99%	1795
151	A047270009	Ovens	>99%	4383
152	A047270005	Ovens	>99%	2913
153	A047270006	Ovens	>99%	9274
154	A047270008	Ovens	>99%	7367
155	A047270007/02	Ovens	>99%	1522
156	A048042018	Mahon A	0.503	1436
157	A048042006	Mahon A	0.61	926
158	A048042004	Mahon A	>99%	1917
159	A048042009/02	Mahon A	>99%	3202
160	A048042008	Mahon A	>99%	2273
161	A048042003	Mahon A	>99%	4303
162	A048042010	Mahon A	>99%	6560
163	A048042002	Mahon A	>99%	5080
164	A048042007	Mahon A	>99%	4702
165	A048042016	Mahon A	>99%	7883
166	A048042013	Mahon A	>99%	4170
167	A048042005	Mahon A	>99%	2185
168	A048042001	Mahon A	>99%	7977
169	A048042009/01	Mahon A	>99%	18666
170	A048042011	Mahon A	>99%	8282
171	A048042014	Mahon A	>99%	5813
172	A048042015	Mahon A	>99%	4080
173	A048040004	Knockree A	>99%	2089
174	A048040001	Knockree A	>99%	4227
175	A048040002	Knockree A	>99%	1921

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
176	A048040003	Knockree A	>99%	10200
177	A048040005	Knockree A	>99%	3863
178	A048040006	Knockree A	>99%	9560
179	A048040007	Knockree A	>99%	17254
180	A048068003	Tramore A	>99%	2491
181	A048068002	Tramore A	>99%	5030
182	A048068001	Tramore A	>99%	2163
183	A048074001	Turner's Cross D	>99%	1322
184	A048074002	Turner's Cross D	>99%	3091
185	A048050003	Pouladuff B	>99%	1052
186	A048050005	Pouladuff B	>99%	6253
187	A048050004	Pouladuff B	>99%	5964
188	A048050006	Pouladuff B	>99%	8063
189	A048050007	Pouladuff B	>99%	5503
190	A048050002	Pouladuff B	>99%	6693
191	A048050001	Pouladuff B	>99%	5768
192	A048010004	Bishopstown D	>99%	1156
193	A048010006	Bishopstown D	>99%	3149
194	A048010005	Bishopstown D	>99%	4230
195	A048010003	Bishopstown D	>99%	2922
196	A048010002	Bishopstown D	>99%	3588
197	A047054021	Blarney	>99%	251
198	A047054007	Blarney	>99%	2102
199	A047054018	Blarney	>99%	3275
200	A047054006	Blarney	>99%	3060
201	A047054010	Blarney	>99%	1579
202	A047054012	Blarney	>99%	3042
203	A047054008	Blarney	>99%	2797
204	A047054011	Blarney	>99%	2445
205	A047054017	Blarney	>99%	1733
206	A047054013	Blarney	>99%	4257
207	A047054019	Blarney	>99%	1826
208	A047054004	Blarney	>99%	4617
209	A047054014	Blarney	>99%	1728
210	A047054009	Blarney	>99%	1722
211	A047054002	Blarney	>99%	3749
212	A047054016/01	Blarney	>99%	4530
213	A048033004	Glasheen C	>99%	6984
214	A048033005	Glasheen C	>99%	7582
215	A048033006	Glasheen C	>99%	5927
216	A048033009	Glasheen C	>99%	4084
217	A048033007	Glasheen C	>99%	3150
218	A048033003	Glasheen C	>99%	4305
219	A048033011	Glasheen C	>99%	5329
220	A048033010	Glasheen C	>99%	4456

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
221	A048033002	Glasheen C	>99%	4468
222	A048033008	Glasheen C	>99%	5745
223	A048033001	Glasheen C	>99%	4450
224	A047076005	Carrigrohanebeg	>99%	202
225	A047076006	Carrigrohanebeg	>99%	390
226	A047132019	Carrigaline/Monkstown Rural/Douglas	>99%	444
227	A047132050	Carrigaline/Monkstown Rural/Douglas	>99%	751
228	A047132047	Carrigaline/Monkstown Rural/Douglas	0.428	502
229	A047132015	Carrigaline/Monkstown Rural/Douglas	>99%	1928
230	A047132006	Carrigaline/Monkstown Rural/Douglas	>99%	3527
231	A047132079	Carrigaline/Monkstown Rural/Douglas	>99%	2497
232	A047132074	Carrigaline/Monkstown Rural/Douglas	>99%	2061
233	A047132055	Carrigaline/Monkstown Rural/Douglas	>99%	5068
234	A047132054	Carrigaline/Monkstown Rural/Douglas	>99%	1538
235	A047132084	Carrigaline/Monkstown Rural/Douglas	>99%	304
236	A047132069	Carrigaline/Monkstown Rural/Douglas	>99%	1252
237	A047132072	Carrigaline/Monkstown Rural/Douglas	0.988	838
238	A047132046	Carrigaline/Monkstown Rural/Douglas	>99%	3655
239	A047132048	Carrigaline/Monkstown Rural/Douglas	>99%	6381
240	A047132071	Carrigaline/Monkstown Rural/Douglas	>99%	2078
241	A047132070	Carrigaline/Monkstown Rural/Douglas	>99%	2624
242	A047132066	Carrigaline/Monkstown Rural/Douglas	>99%	3177
243	A047132068	Carrigaline/Monkstown Rural/Douglas	>99%	2716
244	A047132077	Carrigaline/Monkstown Rural/Douglas	>99%	933
245	A047132057	Carrigaline/Monkstown Rural/Douglas	>99%	2014
246	A047132059	Carrigaline/Monkstown Rural/Douglas	>99%	3880
247	A047132011	Carrigaline/Monkstown Rural/Douglas	>99%	1968
248	A047132083	Carrigaline/Monkstown Rural/Douglas	>99%	2399
249	A047132043	Carrigaline/Monkstown Rural/Douglas	>99%	2390
250	A047132029	Carrigaline/Monkstown Rural/Douglas	>99%	2891
251	A047132034	Carrigaline/Monkstown Rural/Douglas	>99%	4774
252	A047132031	Carrigaline/Monkstown Rural/Douglas	>99%	3552
253	A047132032	Carrigaline/Monkstown Rural/Douglas	>99%	5842
254	A047132081	Carrigaline/Monkstown Rural/Douglas	>99%	8080
255	A047132026	Carrigaline/Monkstown Rural/Douglas	>99%	5062
256	A047132023	Carrigaline/Monkstown Rural/Douglas	>99%	3087
257	A047132075	Carrigaline/Monkstown Rural/Douglas	>99%	4388
258	A047132017	Carrigaline/Monkstown Rural/Douglas	>99%	6746
259	A047132076	Carrigaline/Monkstown Rural/Douglas	>99%	5487
260	A047132078	Carrigaline/Monkstown Rural/Douglas	>99%	5162
261	A047132067	Carrigaline/Monkstown Rural/Douglas	>99%	6062
262	A047132008	Carrigaline/Monkstown Rural/Douglas	>99%	3287
263	A047132073	Carrigaline/Monkstown Rural/Douglas	>99%	6318
264	A047132012	Carrigaline/Monkstown Rural/Douglas	>99%	7443
265	A047132001	Carrigaline/Monkstown Rural/Douglas	>99%	4207

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
266	A047132039	Carrigaline/Monkstown Rural/Douglas	>99%	7215
267	A047132060	Carrigaline/Monkstown Rural/Douglas	>99%	4379
268	A047132020	Carrigaline/Monkstown Rural/Douglas	>99%	5198
269	A047132062	Carrigaline/Monkstown Rural/Douglas	>99%	1774
270	A047132056	Carrigaline/Monkstown Rural/Douglas	>99%	3007
271	A047132058	Carrigaline/Monkstown Rural/Douglas	>99%	3278
272	A047132044	Carrigaline/Monkstown Rural/Douglas	>99%	2717
273	A047132065	Carrigaline/Monkstown Rural/Douglas	>99%	6198
274	A047132041	Carrigaline/Monkstown Rural/Douglas	>99%	2446
275	A047132042	Carrigaline/Monkstown Rural/Douglas	>99%	2622
276	A047132004	Carrigaline/Monkstown Rural/Douglas	>99%	4695
277	A047132038	Carrigaline/Monkstown Rural/Douglas	>99%	2680
278	A047132021	Carrigaline/Monkstown Rural/Douglas	>99%	2877
279	A047132025	Carrigaline/Monkstown Rural/Douglas	>99%	4342
280	A047132005	Carrigaline/Monkstown Rural/Douglas	>99%	5037
281	A047132030	Carrigaline/Monkstown Rural/Douglas	>99%	6951
282	A047132035	Carrigaline/Monkstown Rural/Douglas	>99%	7468
283	A047132028	Carrigaline/Monkstown Rural/Douglas	>99%	5418
284	A047132027	Carrigaline/Monkstown Rural/Douglas	>99%	6192
285	A047132002	Carrigaline/Monkstown Rural/Douglas	>99%	6616
286	A047132036	Carrigaline/Monkstown Rural/Douglas	>99%	5355
287	A047132040	Carrigaline/Monkstown Rural/Douglas	>99%	3933
288	A047132080	Carrigaline/Monkstown Rural/Douglas	>99%	4791
289	A047132049	Carrigaline/Monkstown Rural/Douglas	>99%	5053
290	A047132009	Carrigaline/Monkstown Rural/Douglas	>99%	6497
291	A047132016	Carrigaline/Monkstown Rural/Douglas	>99%	4860
292	A047132013	Carrigaline/Monkstown Rural/Douglas	>99%	6967
293	A047132014	Carrigaline/Monkstown Rural/Douglas	>99%	6951
294	A047132003	Carrigaline/Monkstown Rural/Douglas	>99%	5171
295	A047132024	Carrigaline/Monkstown Rural/Douglas	>99%	4131
296	A047132022	Carrigaline/Monkstown Rural/Douglas	>99%	4227
297	A047132082	Carrigaline/Monkstown Rural/Douglas	>99%	3413
298	A047132052	Carrigaline/Monkstown Rural/Douglas	0.989	11294
299	A047132064	Carrigaline/Monkstown Rural/Douglas	>99%	6984
300	A047132063	Carrigaline/Monkstown Rural/Douglas	>99%	5568
301	A047132061	Carrigaline/Monkstown Rural/Douglas	>99%	7659
302	A047132037	Carrigaline/Monkstown Rural/Douglas	>99%	5657
303	A047132033/01	Carrigaline/Monkstown Rural/Douglas	>99%	430
304	A047132018/01	Carrigaline/Monkstown Rural/Douglas	>99%	283
305	A048009004	Bishopstown E	>99%	3369
306	A048009005	Bishopstown E	>99%	875
307	A048009001	Bishopstown E	>99%	1419
308	A048009008	Bishopstown E	>99%	5101
309	A048009003	Bishopstown E	>99%	5900
310	A048009009	Bishopstown E	>99%	4186

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
311	A048009012	Bishopstown E	>99%	4669
312	A048009002	Bishopstown E	>99%	5013
313	A048009010	Bishopstown E	>99%	4101
314	A048009011	Bishopstown E	>99%	5214
315	A048009006	Bishopstown E	>99%	6789
316	A048065001/01	Tivoli B	0.728	167
317	A048065005	Tivoli B	>99%	7009
318	A048065007	Tivoli B	>99%	10507
319	A048065008	Tivoli B	>99%	4507
320	A048065010	Tivoli B	>99%	1742
321	A048065009	Tivoli B	>99%	5796
322	A048065003	Tivoli B	>99%	6804
323	A048065006	Tivoli B	>99%	8283
324	A048065004	Tivoli B	>99%	5959
325	A048065002	Tivoli B	>99%	3997
326	A048065001/02	Tivoli B	>99%	3576
327	A047052001/A047052002/A047016014	Bishopstown	>99%	0
328	A048044002	Mahon C	>99%	2210
329	A048044005	Mahon C	>99%	5157
330	A048044012	Mahon C	>99%	4595
331	A048044008	Mahon C	>99%	4454
332	A048044003	Mahon C	>99%	1960
333	A048044010	Mahon C	>99%	5826
334	A048044009	Mahon C	>99%	3302
335	A048044007	Mahon C	>99%	2790
336	A048044001	Mahon C	>99%	3723
337	A048044006	Mahon C	>99%	3605
338	A048044004	Mahon C	>99%	3014
339	A048044011	Mahon C	>99%	4339
340	A048022004	Fair Hill B	>99%	1784
341	A048022003	Fair Hill B	>99%	5806
342	A048022001	Fair Hill B	>99%	4638
343	A048022002	Fair Hill B	>99%	5384
344	A048051006	Shanakiel	>99%	651
345	A048051005	Shanakiel	>99%	5716
346	A048051009	Shanakiel	0.947	1398
347	A048051007/01	Shanakiel	>99%	3905
348	A048051013	Shanakiel	>99%	1410
349	A048051008	Shanakiel	>99%	3343
350	A048051004	Shanakiel	>99%	6712
351	A048051010	Shanakiel	>99%	2502
352	A048051011	Shanakiel	>99%	7423
353	A048051003	Shanakiel	>99%	7723
354	A048051002	Shanakiel	>99%	7580
355	A048051001	Shanakiel	>99%	5140

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
356	A048051012	Shanakiel	>99%	4629
357	A048051014	Shanakiel	>99%	10883
358	A048051007/02	Shanakiel	>99%	5814
359	A048061005	The Glen A	>99%	1562
360	A048061007	The Glen A	>99%	838
361	A048061004	The Glen A	>99%	1358
362	A048061003	The Glen A	>99%	2841
363	A048061006	The Glen A	>99%	7025
364	A048061008/02	The Glen A	>99%	10727
365	A048061001	The Glen A	>99%	9492
366	A048061002	The Glen A	>99%	7582
367	A048061008/01	The Glen A	>99%	9538
368	A048021003	Fair Hill A	>99%	2657
369	A048021002	Fair Hill A	>99%	6120
370	A048021001	Fair Hill A	>99%	8585
371	A047279016	Riverstown	>99%	505
372	A047279004	Riverstown	>99%	4476
373	A047279011	Riverstown	>99%	2079
374	A047279007	Riverstown	>99%	2433
375	A047279003	Riverstown	>99%	3541
376	A047279015	Riverstown	>99%	5899
377	A047279012	Riverstown	>99%	2018
378	A047279013	Riverstown	>99%	4069
379	A047279009	Riverstown	>99%	5186
380	A047279006	Riverstown	>99%	4400
381	A047279008	Riverstown	>99%	6597
382	A047279005	Riverstown	>99%	6761
383	A047279010	Riverstown	>99%	4084
384	A048054004	South Gate A	0.887	6045
385	A048054002	South Gate A	0.921	18762
386	A048054001	South Gate A	0.911	15099
387	A048054003	South Gate A	0.977	13305
388	A048054006	South Gate A	>99%	7546
389	A048054007	South Gate A	>99%	13403
390	A048054008	South Gate A	0.853	13542
391	A048054005	South Gate A	>99%	24313
392	A048054009	South Gate A	>99%	14514
393	A048054011	South Gate A	0.848	14138
394	A048054010	South Gate A	>99%	13821
395	A048034007	Greenmount	>99%	4699
396	A048034003	Greenmount	>99%	5741
397	A048034001	Greenmount	>99%	9456
398	A048034005	Greenmount	>99%	6819
399	A048034004	Greenmount	>99%	10202
400	A048034006	Greenmount	>99%	10158

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
401	A048034002	Greenmount	>99%	9398
402	A048034008	Greenmount	>99%	5090
403	A047235024/02	Ballygarvan/Lehenagh	>99%	1289
404	A047235004	Ballygarvan/Lehenagh	>99%	4247
405	A047235003	Ballygarvan/Lehenagh	>99%	3874
406	A047235025	Ballygarvan/Lehenagh	>99%	1241
407	A047235023	Ballygarvan/Lehenagh	>99%	4381
408	A047235014	Ballygarvan/Lehenagh	>99%	4402
409	A047235001	Ballygarvan/Lehenagh	>99%	7888
410	A047235002	Ballygarvan/Lehenagh	>99%	5556
411	A047235017/01	Ballygarvan/Lehenagh	>99%	1048
412	A047235024/01	Ballygarvan/Lehenagh	>99%	723
413	A048006003	Bishopstown A	0.813	1584
414	A048006002	Bishopstown A	>99%	259
415	A048006007	Bishopstown A	>99%	3132
416	A048006005	Bishopstown A	>99%	4717
417	A048006006	Bishopstown A	>99%	3482
418	A048006001/01	Bishopstown A	>99%	11293
419	A048006001/02	Bishopstown A	>99%	14239
420	A048006004	Bishopstown A	>99%	7534
421	A048062010	The Glen B	>99%	1860
422	A048062007	The Glen B	>99%	3603
423	A048062008	The Glen B	>99%	6629
424	A048062014	The Glen B	>99%	2257
425	A048062013	The Glen B	>99%	4201
426	A048062012	The Glen B	>99%	6244
427	A048062009	The Glen B	>99%	9443
428	A048062004	The Glen B	>99%	5312
429	A048062011	The Glen B	>99%	4782
430	A048062003	The Glen B	>99%	7051
431	A048062002	The Glen B	>99%	6106
432	A048062006	The Glen B	>99%	8617
433	A048062001	The Glen B	>99%	4920
434	A048062005	The Glen B	>99%	7478
435	A047277016	Rathcooney	>99%	170
436	A047277014	Rathcooney	>99%	125
437	A047277011	Rathcooney	>99%	133
438	A047277002	Rathcooney	0.976	237
439	A047277015	Rathcooney	>99%	689
440	A047277013	Rathcooney	>99%	124
441	A047277008	Rathcooney	>99%	2030
442	A047277022	Rathcooney	>99%	2499
443	A047277006	Rathcooney	>99%	216
444	A047277020	Rathcooney	>99%	477
445	A047277025	Rathcooney	>99%	2198

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
446	A047277026	Rathcooney	0.957	725
447	A047277005	Rathcooney	>99%	2933
448	A047277007	Rathcooney	>99%	1614
449	A047277019	Rathcooney	>99%	2476
450	A047277024	Rathcooney	>99%	365
451	A047277012	Rathcooney	>99%	1981
452	A047277023	Rathcooney	>99%	3206
453	A047277021	Rathcooney	>99%	4647
454	A047277003	Rathcooney	>99%	4533
455	A047277018	Rathcooney	>99%	1552
456	A047277028	Rathcooney	>99%	2478
457	A047277004	Rathcooney	>99%	3915
458	A047277027	Rathcooney	>99%	3099
459	A047277017	Rathcooney	>99%	5954
460	A047277001	Rathcooney	>99%	7035
461	A047277010/01	Rathcooney	>99%	147
462	A048031003	Glasheen A	>99%	2017
463	A048031001	Glasheen A	>99%	4455
464	A048031002	Glasheen A	>99%	4013
465	A048005001	Ballypnehane B	>99%	615
466	A048005004	Ballypnehane B	>99%	5265
467	A048005002	Ballypnehane B	>99%	7445
468	A048005003	Ballypnehane B	>99%	5820
469	A048058002	St. PATRICK'S C	>99%	10510
470	A048058003	St. PATRICK'S C	>99%	11918
471	A048058004	St. PATRICK'S C	>99%	6729
472	A048058001	St. PATRICK'S C	>99%	10105
473	A048041002	Knockrea B	0.88	716
474	A048041005	Knockrea B	0.89	280
475	A048041004	Knockrea B	>99%	2343
476	A048041001	Knockrea B	>99%	5877
477	A048041003	Knockrea B	>99%	5975
478	A047016031/02	Ballincollig	>99%	165
479	A047016061	Ballincollig	>99%	1892
480	A047016035	Ballincollig	>99%	714
481	A047016005	Ballincollig	>99%	1368
482	A047016056	Ballincollig	>99%	976
483	A047016013/01	Ballincollig	>99%	117
484	A047016051	Ballincollig	>99%	1225
485	A047016032	Ballincollig	>99%	1993
486	A047016043	Ballincollig	>99%	2986
487	A047016045	Ballincollig	>99%	1358
488	A047016039	Ballincollig	>99%	2603
489	A047016012	Ballincollig	>99%	677
490	A047016002	Ballincollig	>99%	4351

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
491	A047016044	Ballincollig	>99%	3454
492	A047016053	Ballincollig	>99%	4546
493	A047016037/01	Ballincollig	>99%	5275
494	A047016011	Ballincollig	>99%	2023
495	A047016066	Ballincollig	>99%	1317
496	A047016009	Ballincollig	>99%	2647
497	A047016003	Ballincollig	>99%	6602
498	A047016034	Ballincollig	>99%	4669
499	A047016027	Ballincollig	>99%	1415
500	A047016052	Ballincollig	>99%	871
501	A047016004	Ballincollig	>99%	5165
502	A047016048	Ballincollig	>99%	9337
503	A047016054	Ballincollig	>99%	5518
504	A047016010	Ballincollig	>99%	5646
505	A047016047	Ballincollig	>99%	3487
506	A047016055	Ballincollig	>99%	2867
507	A047016028	Ballincollig	>99%	3821
508	A047016062	Ballincollig	>99%	1465
509	A047016065	Ballincollig	>99%	4938
510	A047016057	Ballincollig	>99%	5678
511	A047016020	Ballincollig	>99%	6208
512	A047016017	Ballincollig	>99%	2756
513	A047016023	Ballincollig	>99%	4298
514	A047016038	Ballincollig	>99%	1816
515	A047016001	Ballincollig	>99%	3140
516	A047016015	Ballincollig	>99%	5040
517	A047016019	Ballincollig	>99%	3828
518	A047016016	Ballincollig	>99%	3385
519	A047016006	Ballincollig	>99%	3417
520	A047016060	Ballincollig	>99%	4646
521	A047016033	Ballincollig	>99%	4484
522	A047016008	Ballincollig	>99%	5856
523	A047016024	Ballincollig	>99%	4300
524	A047016058	Ballincollig	>99%	5710
525	A047016007	Ballincollig	>99%	5837
526	A047016049	Ballincollig	>99%	9273
527	A047016026	Ballincollig	>99%	5057
528	A047016021	Ballincollig	>99%	5722
529	A047016036	Ballincollig	>99%	6610
530	A047016025	Ballincollig	>99%	5409
531	A047016022	Ballincollig	>99%	4547
532	A048043011	Mahon B	>99%	1809
533	A048043002	Mahon B	>99%	1422
534	A048042012	Mahon A	0.95	1992
535	A048042017	Mahon A	0.386	1228

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
536	A047054015/01	Blarney	>99%	122
537	A047054020	Blarney	>99%	53
538	A047054016/02	Blarney	>99%	1668
539	A047054005	Blarney	>99%	1794
540	A047076004	Carrigrohanebeg	>99%	24
541	A047076003	Carrigrohanebeg	>99%	101
542	A047132045	Carrigaline/Monkstown Rural/Douglas	0.562	69
543	A047132051	Carrigaline/Monkstown Rural/Douglas	0.125	1306
544	A047132053	Carrigaline/Monkstown Rural/Douglas	0.47	451
545	A047132010	Carrigaline/Monkstown Rural/Douglas	>99%	24
546	A047279002	Riverstown	>99%	76
547	A047235022/A047027005	Ballygarvan/Lehenagh	>99%	0
548	A047016063	Ballincollig	>99%	8449
549	A047016041	Ballincollig	>99%	5954
550	A047016046	Ballincollig	>99%	8398
551	A047016018	Ballincollig	>99%	6144
552	A047016040	Ballincollig	>99%	4875
553	A047016042	Ballincollig	>99%	5241
554	A047016059	Ballincollig	>99%	12293
555	A047016013/02	Ballincollig	>99%	1403
556	A047016037/02	Ballincollig	>99%	8983
557	A048052010	Shandon A	0.793	7941
558	A048052004	Shandon A	>99%	10399
559	A048052006	Shandon A	>99%	7591
560	A048052005	Shandon A	>99%	17010
561	A048052007	Shandon A	>99%	10932
562	A048052002	Shandon A	>99%	16572
563	A048052001	Shandon A	>99%	5152
564	A048052003	Shandon A	>99%	14085
565	A048052008	Shandon A	0.817	41953
566	A048052009	Shandon A	0.956	43553
567	A048023007	Fair Hill C	>99%	3994
568	A048023010	Fair Hill C	>99%	1956
569	A048023004	Fair Hill C	>99%	2286
570	A048023002	Fair Hill C	>99%	7691
571	A048023011	Fair Hill C	>99%	2954
572	A048023008	Fair Hill C	>99%	5016
573	A048023009	Fair Hill C	>99%	5005
574	A048023006	Fair Hill C	>99%	6152
575	A048023001	Fair Hill C	>99%	6653
576	A048023003	Fair Hill C	>99%	3359
577	A048023012	Fair Hill C	>99%	7046
578	A048023005	Fair Hill C	>99%	7569
579	A048039008	Knocknaheeny	>99%	1110
580	A048039014	Knocknaheeny	>99%	3322

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
581	A048039005	Knocknaheeny	>99%	3382
582	A048039004	Knocknaheeny	>99%	4660
583	A048039001	Knocknaheeny	>99%	6096
584	A048039011	Knocknaheeny	>99%	4503
585	A048039010	Knocknaheeny	>99%	2288
586	A048039007	Knocknaheeny	>99%	2652
587	A048039003	Knocknaheeny	>99%	5536
588	A048039002	Knocknaheeny	>99%	2346
589	A048039006	Knocknaheeny	>99%	9156
590	A048039009	Knocknaheeny	>99%	15050
591	A048039013	Knocknaheeny	>99%	9196
592	A048002005	Ballinlough B	>99%	1637
593	A048002001	Ballinlough B	>99%	5012
594	A048002003	Ballinlough B	>99%	3811
595	A048002007	Ballinlough B	>99%	6641
596	A048002004	Ballinlough B	>99%	4158
597	A048002002	Ballinlough B	>99%	5602
598	A048002006	Ballinlough B	>99%	6086
599	A048038005	Gurranebraher E	>99%	6323
600	A048038002	Gurranebraher E	>99%	5547
601	A048038004	Gurranebraher E	>99%	8080
602	A048038001	Gurranebraher E	>99%	9982
603	A048038003	Gurranebraher E	>99%	11434
604	A048011001	Blackpool A	>99%	6722
605	A048011004	Blackpool A	>99%	5416
606	A048011003	Blackpool A	>99%	8455
607	A048011002	Blackpool A	>99%	2586
608	A048013003	Browningstown	>99%	1722
609	A048013005	Browningstown	>99%	3318
610	A048013002	Browningstown	>99%	3234
611	A048013001	Browningstown	>99%	5033
612	A048013004	Browningstown	>99%	3397
613	A048017001	City Hall A	0.957	4951
614	A048017003	City Hall A	>99%	7794
615	A048017002	City Hall A	>99%	6316
616	A048008005	Bishopstown C	>99%	1844
617	A048008014	Bishopstown C	>99%	1417
618	A048008004	Bishopstown C	>99%	3570
619	A048008012	Bishopstown C	>99%	3920
620	A048008003	Bishopstown C	>99%	3241
621	A048008001	Bishopstown C	>99%	2694
622	A048008006	Bishopstown C	>99%	2870
623	A048008015	Bishopstown C	>99%	3510
624	A048008010	Bishopstown C	>99%	2592
625	A048008007	Bishopstown C	>99%	3226

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
626	A048008013	Bishopstown C	>99%	2768
627	A048008016	Bishopstown C	>99%	3943
628	A048008009	Bishopstown C	>99%	4755
629	A048008011	Bishopstown C	>99%	8103
630	A048008002	Bishopstown C	>99%	5171
631	A048008008	Bishopstown C	>99%	3221
632	A048063005	The Lough	>99%	1590
633	A048063002	The Lough	>99%	3614
634	A048063006	The Lough	>99%	12249
635	A048063007	The Lough	>99%	11125
636	A048063003	The Lough	>99%	7329
637	A048063004	The Lough	>99%	4836
638	A048063001	The Lough	>99%	17791
639	A047298009	St. MARY'S (WEST)	>99%	111
640	A047298016	St. MARY'S (WEST)	>99%	3269
641	A047298015	St. MARY'S (WEST)	>99%	687
642	A047298002/03	St. MARY'S (WEST)	>99%	85
643	A047298004	St. MARY'S (WEST)	>99%	191
644	A047298003	St. MARY'S (WEST)	>99%	96
645	A047298001	St. MARY'S (WEST)	>99%	520
646	A047298005	St. MARY'S (WEST)	>99%	99
647	A047298010	St. MARY'S (WEST)	>99%	5658
648	A047298011	St. MARY'S (EAST)	>99%	285
649	A047298008	St. MARY'S (EAST)	>99%	705
650	A047298012	St. MARY'S (EAST)	>99%	675
651	A047298014	St. MARY'S (EAST)	>99%	2813
652	A047298006	St. MARY'S (EAST)	>99%	5605
653	A047298007	St. MARY'S (EAST)	>99%	7105
654	A047298013	St. MARY'S (EAST)	>99%	6128
655	A047064008/A047064001	Caherlag	0.777	0
656	A047064014/A047064016/01	Caherlag	>99%	0
657	A047064007	Caherlag	>99%	1415
658	A047064010	Caherlag	>99%	855
659	A047064018	Caherlag	>99%	2183
660	A047064012	Caherlag	>99%	2082
661	A047064009	Caherlag	>99%	4716
662	A047064006	Caherlag	>99%	2153
663	A047064015	Caherlag	>99%	7202
664	A047064017	Caherlag	>99%	5715
665	A047064005	Caherlag	>99%	7866
666	A047132007	Douglas/Lehenagh	>99%	65
667	A047235028	Douglas/Lehenagh	>99%	389
668	A047235027/A047235026	Douglas/Lehenagh	>99%	0
669	A047235021	Douglas/Lehenagh	>99%	873
670	A047235016	Douglas/Lehenagh	>99%	978

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
671	A047235007	Douglas/Lehenagh	>99%	2222
672	A047235011	Douglas/Lehenagh	>99%	2519
673	A047235010	Douglas/Lehenagh	>99%	2841
674	A047235005	Douglas/Lehenagh	>99%	3669
675	A047235018	Douglas/Lehenagh	>99%	5300
676	A047235029	Douglas/Lehenagh	>99%	3334
677	A047235031	Douglas/Lehenagh	>99%	2156
678	A047235032	Douglas/Lehenagh	>99%	5843
679	A047235033	Douglas/Lehenagh	>99%	6642
680	A047235015	Douglas/Lehenagh	>99%	3455
681	A047235034	Douglas/Lehenagh	>99%	5528
682	A047235009	Douglas/Lehenagh	>99%	3975
683	A047235019	Douglas/Lehenagh	>99%	5096
684	A047235013	Douglas/Lehenagh	>99%	6097
685	A047235012	Douglas/Lehenagh	>99%	4571
686	A047235030	Douglas/Lehenagh	>99%	4038
687	A047235020	Douglas/Lehenagh	>99%	5951
688	A047235008	Douglas/Lehenagh	>99%	6738
689	A047235006	Douglas/Lehenagh	>99%	5899
690	A047235026	Douglas/Lehenagh	>99%	97
691	A047028003	Ballygroman	>99%	1125
692	A047028002	Ballygroman	>99%	1961
693	A047028004	Ballygroman	>99%	7176
694	A047028001	Ballygroman	>99%	971
695	A047115007	Corkbeg	0.928	1060
696	A047115008	Corkbeg	>99%	186
697	A047115010	Corkbeg	>99%	1267
698	A047115009	Corkbeg	>99%	449
699	A047115005	Corkbeg	>99%	958
700	A047261004	Monkstown Rural	>99%	722
701	A047261002/02	Monkstown Rural	>99%	896
702	A047284002	Rostellan	0.977	443
703	A047284001	Rostellan	>99%	1293
704	A047077001/02	Carrigtohill	>99%	161
705	A047077012	Carrigtohill	0.987	296
706	A047077006	Carrigtohill	>99%	370
707	A047077001/01	Carrigtohill	0.823	1057
708	A047077007	Carrigtohill	>99%	2618
709	A047077008	Carrigtohill	>99%	952
710	A047077017/01	Carrigtohill	>99%	2677
711	A047077021	Carrigtohill	>99%	5365
712	A047077015	Carrigtohill	>99%	4629
713	A047077024	Carrigtohill	>99%	5305
714	A047077001/03	Carrigtohill	>99%	2383
715	A047077016	Carrigtohill	>99%	12814

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
716	A047077014	Carrigtohill	>99%	4384
717	A047077009	Carrigtohill	>99%	3717
718	A047077020	Carrigtohill	>99%	8968
719	A047077019	Carrigtohill	>99%	9283
720	A047077022	Carrigtohill	>99%	8707
721	A047077023	Carrigtohill	>99%	4305
722	A047077018	Carrigtohill	>99%	2308
723	A047077010	Carrigtohill	>99%	3476
724	A047077017/02	Carrigtohill	>99%	4194
725	A047178019	Inishkenny	>99%	278
726	A047178007	Inishkenny	>99%	959
727	A047028006	Ballygroman	>99%	48
728	A047028005	Ballygroman	0.966	26
729	A047115002	Corkbeg	0.839	21
730	A047115003	Corkbeg	0.682	99
731	A047261001	Monkstown Rural	>99%	60
732	A047261002/01	Monkstown Rural	0.066	98
733	A047284003	Rostellan	0.856	36
734	A047284004	Rostellan	0.912	48
735	A047077005	Carrigtohill	>99%	46
736	A047077002	Carrigtohill	>99%	98
737	A047077004	Carrigtohill	0.942	27
738	A047077003	Carrigtohill	0.724	33
739	A047077011	Carrigtohill	>99%	29
740	A047077013	Carrigtohill	>99%	26
741	A047178006	Inishkenny	>99%	41
742	A047064022	Caherlag	0.857	50
743	A047064024	Caherlag	>99%	150
744	A047064013	Caherlag	>99%	180
745	A047064003	Caherlag	0.969	136
746	A047064004	Caherlag	>99%	208
747	A047064021	Caherlag	>99%	956
748	A047064025	Caherlag	>99%	1406
749	A047064027	Caherlag	>99%	1226
750	A047064026	Caherlag	>99%	717
751	A047064023	Caherlag	>99%	497
752	A047064019	Caherlag	>99%	5505
753	A047271016	Monkstown Urban	>99%	632
754	A047271017	Monkstown Urban	0.974	2414
755	A047271009	Monkstown Urban	>99%	385
756	A047271011	Monkstown Urban	>99%	803
757	A047271003	Monkstown Urban	>99%	6894
758	A047271002	Monkstown Urban	>99%	4053
759	A047271021	Monkstown Urban	0.59	1134
760	A047271010	Monkstown Urban	0.58	1277

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
761	A047271008	Monkstown Urban	0.47	1496
762	A047271007	Monkstown Urban	>99%	1485
763	A047271013	Monkstown Urban	>99%	2299
764	A047271004	Monkstown Urban	>99%	6596
765	A047271015	Monkstown Urban	>99%	4270
766	A047271006	Monkstown Urban	>99%	1908
767	A047271012	Monkstown Urban	>99%	2379
768	A047271014	Monkstown Urban	>99%	11932
769	A047271005	Monkstown Urban	>99%	8432
770	A047016029/A047016030	Ballincollig	>99%	0
771	A047016031/01	Ballincollig	>99%	437
772	A047270004	Ovens	>99%	45
773	A047270001	Ovens	>99%	48
774	A047270002	Ovens	>99%	59
775	A047270003	Ovens	>99%	870
776	A047064002	Caherlag	0.526	24
777	A047064011	Caherlag	>99%	42
778	A047064020	Caherlag	>99%	1692
779	A047271018	Monkstown Urban	>99%	900
780	A047271001	Monkstown Urban	0.308	360
781	A047271019	Monkstown Urban	>99%	296
782	A047271020	Monkstown Urban	0.348	1083
783	A047176002	Inchigeelagh	>99%	14
784	A047176001	Inchigeelagh	>99%	25
785	A047016064	Ballincollig	>99%	50
786	A047016050	Ballincollig	>99%	49
787	A047229001	Knockraha	>99%	6258
788	A047229003	Knockraha	>99%	2597
789	A047229002	Knockraha	>99%	2509
790	A047229005	Knockraha	>99%	27
791	A047229004	Knockraha	>99%	27
792	A047177003	Inishannon	0.227	43
793	A047177001	Inishannon	0.093	40
794	A047142005	Dunderrow	>99%	86
795	A047142002	Dunderrow	>99%	48
796	A047142001	Dunderrow	>99%	98
797	A048026002	Farranferris C	>99%	4044
798	A047142003	Dunderrow	>99%	67
799	A048046002	Mayfield	>99%	3319
800	A048046003	Mayfield	>99%	4248
801	A048026001	Farranferris C	>99%	1291
802	A048069001	Tramore B	>99%	3902
803	A048030002	Gillabbey C	>99%	4566
804	A048071003	Turner's Cross A	>99%	6218
805	A048072006	Turner's Cross B	>99%	8817

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
806	A048071001	Turner's Cross A	>99%	4945
807	A048071004	Turner's Cross A	>99%	5416
808	A048028005	Gillabbey A	0.985	2733
809	A048029005	Gillabbey B	0.828	2061
810	A048046012	Mayfield	>99%	4373
811	A048001003	Ballinlough A	>99%	4334
812	A048069003	Tramore B	>99%	2312
813	A048030004/01	Gillabbey C	>99%	5148
814	A048046013	Mayfield	>99%	3459
815	A048047007	Montenotte A	>99%	5306
816	A048047005	Montenotte A	>99%	5218
817	A048030003	Gillabbey C	0.943	15415
818	A048032003	Glasheen B	>99%	4005
819	A048030005	Gillabbey C	0.563	2512
820	A048047009	Montenotte A	>99%	8692
821	A048060005	Sunday's Well B	0.881	1851
822	A048036003	Gurranebraher B	>99%	9376
823	A048069004	Tramore B	>99%	4644
824	A048069002	Tramore B	>99%	3312
825	A048046005	Mayfield	>99%	2724
826	A048046006	Mayfield	>99%	2227
827	A048046007	Mayfield	>99%	4009
828	A048026003	Farranferris C	>99%	5084
829	A048001002	Ballinlough A	>99%	4739
830	A048028004	Gillabbey A	0.063	8834
831	A048001004	Ballinlough A	>99%	7066
832	A048053006	Shandon B	0.691	11106
833	A048024006	Farranferris A	>99%	9541
834	A048024009	Farranferris A	>99%	7912
835	A048067002	Togher B	>99%	6179
836	A048067001	Togher B	>99%	6474
837	A048028006	Gillabbey A	0.971	7101
838	A048060002	Sunday's Well B	0.79	8615
839	A048036002	Gurranebraher B	>99%	7447
840	A048035003	Gurranebraher A	>99%	9352
841	A048035002	Gurranebraher A	>99%	7302
842	A048030004/02	Gillabbey C	>99%	4728
843	A048030006	Gillabbey C	>99%	5202
844	A048032002	Glasheen B	>99%	7122
845	A048028001	Gillabbey A	>99%	13822
846	A048029003	Gillabbey B	>99%	8326
847	A048027003	Gurranebraher D	>99%	13547
848	A048027004	Gurranebraher D	>99%	11416
849	A048037002	Gurranebraher C	>99%	9825
850	A048060004	Sunday's Well B	>99%	8329

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
851	A048029001	Gillabbey B	>99%	12036
852	A048037003	Gurranebraher C	>99%	7650
853	A048029002	Gillabbey B	>99%	9742
854	A048028009	Gillabbey A	0.775	4213
855	A048035001	Gurranebraher A	>99%	9995
856	A048027001	Gurranebraher D	>99%	9480
857	A048027002	Gurranebraher D	>99%	9595
858	A048037006	Gurranebraher C	>99%	7455
859	A048037001	Gurranebraher C	>99%	9322
860	A048028007	Gillabbey A	>99%	12328
861	A048028008	Gillabbey A	>99%	11463
862	A048028002	Gillabbey A	>99%	9682
863	A048036001	Gurranebraher B	>99%	10642
864	A048028010	Gillabbey A	0.703	8043
865	A048053007	Shandon B	>99%	10781
866	A048053003	Shandon B	>99%	10343
867	A048020004	Evergreen	>99%	8442
868	A048020001	Evergreen	>99%	13372
869	A048055005	South Gate B	>99%	19617
870	A048053001	Shandon B	>99%	10507
871	A048055004	South Gate B	>99%	9274
872	A048024001	Farranferris A	>99%	8856
873	A048047003	Montenotte A	>99%	7904
874	A048024005	Farranferris A	>99%	6188
875	A048024004	Farranferris A	>99%	13758
876	A048024003	Farranferris A	>99%	8695
877	A048024008	Farranferris A	>99%	5806
878	A048030001	Gillabbey C	>99%	6335
879	A048067003	Togher B	>99%	4583
880	A048046010	Mayfield	>99%	9738
881	A048046011	Mayfield	>99%	12261
882	A048047001	Montenotte A	>99%	4470
883	A048046009	Mayfield	>99%	4166
884	A048046008	Mayfield	>99%	5236
885	A048047004	Montenotte A	>99%	3323
886	A048047002	Montenotte A	>99%	6485
887	A048046001	Mayfield	>99%	4583
888	A048046004	Mayfield	>99%	6103
889	A048072001	Turner's Cross B	>99%	5508
890	A048020003	Evergreen	>99%	5619
891	A048020002	Evergreen	>99%	5790
892	A048072005	Turner's Cross B	>99%	6914
893	A048020006	Evergreen	>99%	8005
894	A048072004	Turner's Cross B	>99%	8846
895	A048072002	Turner's Cross B	>99%	6920

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
896	A048072003	Turner's Cross B	>99%	6936
897	A048071002	Turner's Cross A	>99%	2762
898	A048001001	Ballinlough A	>99%	5470
899	A048055001	South Gate B	>99%	20581
900	A048055003	South Gate B	>99%	21083
901	A048020005	Evergreen	>99%	6500
902	A048047006	Montenotte A	>99%	6232
903	A048047008	Montenotte A	>99%	3657
904	A048024002	Farranferris A	>99%	7050
905	A048032001	Glasheen B	>99%	8514
906	A048055002	South Gate B	>99%	13458
907	A048030004/03	Gillabbey C	>99%	46687
908	A048053002	Shandon B	>99%	19832
909	A048029004	Gillabbey B	>99%	13655
910	A048060003	Sunday's Well B	0.844	14214
911	A048037005	Gurranebraher C	>99%	8645
912	A048037004	Gurranebraher C	>99%	9307
913	A048037007	Gurranebraher C	>99%	8569
914	A048053005	Shandon B	0.755	17792
915	A048060001	Sunday's Well B	>99%	24040
916	A048053004	Shandon B	>99%	23318
917	A048024007	Farranferris A	>99%	9902
918	A047142004	Dunderrow	>99%	3244
919	A047176003	Inchigeelagh	>99%	1025
920	A047277009	Rathcooney	>99%	120
921	A047320006	Whitechurch	>99%	114
922	A047132018/02	Carrigaline/Monkstown Rural/Douglas	>99%	4126
923	A047132018/03	Carrigaline/Monkstown Rural/Douglas	>99%	716
924	A047261003	Monkstown Rural	>99%	341
925	A047071004/02	Carrigaline	>99%	4935
926	A047071002	Carrigaline	>99%	5665
927	A047071003	Carrigaline	>99%	3257
928	A047071005	Carrigaline	0.977	2800
929	A047071004/01	Carrigaline	>99%	509
930	A047224004	Knockantota	>99%	6375
931	A047224003	Knockantota	>99%	1520
932	A047071001	Carrigaline	>99%	31
933	A047071006	Carrigaline	>99%	83
934	A047224001/A047224002	Knockantota	0.738	0
935	A047007003	Aglish	>99%	755
936	A047303002/A047303010	Templebreedy	>99%	0
937	A047303013	Templebreedy	0.989	1101
938	A047303008	Templebreedy	0.95	1990
939	A047303014	Templebreedy	>99%	1162
940	A047303015	Templebreedy	>99%	271

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
941	A047303004/A047303005	Templebreedy	0.988	0
942	A047303011	Templebreedy	0.971	3574
943	A047303012	Templebreedy	0.961	1416
944	A047303016	Templebreedy	>99%	2518
945	A047303007	Templebreedy	>99%	7066
946	A047303018	Templebreedy	>99%	6566
947	A047303017	Templebreedy	>99%	5792
948	A047303009/02	Templebreedy	>99%	1426
949	A047303009/03	Templebreedy	>99%	7837
950	A047303006	Templebreedy	>99%	798
951	A047007004	Aglish	>99%	44
952	A047007002	Aglish	>99%	48
953	A047007001	Aglish	>99%	49
954	A047303001	Templebreedy	>99%	52
955	A047303003	Templebreedy	0.929	705
956	A047303009/01	Templebreedy	0.963	581
957	A047243015	Macroom Urban	>99%	1804
958	A047243006	Macroom Urban	>99%	1393
959	A047243012	Macroom Urban	>99%	918
960	A047243002/A047243004	Macroom Urban	>99%	0
961	A047243016	Macroom Urban	>99%	2516
962	A047243003	Macroom Urban	>99%	2987
963	A047243018	Macroom Urban	>99%	2084
964	A047243005	Macroom Urban	>99%	3879
965	A047243009	Macroom Urban	>99%	2751
966	A047243017	Macroom Urban	>99%	4612
967	A047243001	Macroom Urban	>99%	1385
968	A047114001	Coomlogane	0.188	9
969	A047259001	Mogeely	0.054	17
970	A047140002	Dromore	0.086	15
971	A047243007/03/A047243011	Macroom Urban	>99%	0
972	A047135005	Dripsey	>99%	1943
973	A047136008/A047136003/A047136005	Drishane	<1%	0
974	A047135001	Dripsey	>99%	37
975	A047135003	Dripsey	>99%	40
976	A047135002	Dripsey	>99%	59
977	A047135004	Dripsey	>99%	155
978	A047236002	Leighmoney	<1%	31
979	A047243014	Macroom Urban	>99%	2371
980	A047243008	Macroom Urban	>99%	1600
981	A047243007/01	Macroom Urban	>99%	6617
982	A047243010	Macroom Urban	>99%	1493
983	A047243007/02	Macroom Urban	>99%	2831
984	A047263005	Moviddy	>99%	1309
985	A047263001	Moviddy	>99%	1169

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
986	A047244005/01	Magourney	>99%	892
987	A047244003/01	Magourney	>99%	1197
988	A047106014	Cobh Rural	<1%	39
989	A047106013	Cobh Rural	0.86	115
990	A047035003	Ballymurphy	0.876	47
991	A047035001	Ballymurphy	>99%	37
992	A047035002	Ballymurphy	>99%	1388
993	A047263006	Moviddy	>99%	34
994	A047263004	Moviddy	>99%	23
995	A047263002	Moviddy	0.725	29
996	A047263003	Moviddy	>99%	42
997	A047244004	Magourney	>99%	40
998	A047244005/02/A047244001	Magourney	>99%	0
999	A047244003/02/A047244002	Magourney	>99%	0
1000	A047239015/02	Liscleary	>99%	2202
1001	A047239011/01	Liscleary	>99%	2638
1002	A047239003	Liscleary	>99%	3514
1003	A047239008	Liscleary	>99%	5882
1004	A047239015/01	Liscleary	>99%	969
1005	A047239004	Liscleary	>99%	2232
1006	A047239013	Liscleary	>99%	5896
1007	A047239010	Liscleary	>99%	3787
1008	A047239009	Liscleary	>99%	829
1009	A047239012	Liscleary	>99%	6816
1010	A047239006	Liscleary	>99%	3330
1011	A047239007	Liscleary	>99%	5777
1012	A047239005	Liscleary	>99%	4727
1013	A047239011/02	Liscleary	>99%	5648
1014	A047075004	Carrignavar	>99%	1706
1015	A047086003	Castlemartyr	0.058	26
1016	A047086002	Castlemartyr	0.601	53
1017	A047086001	Castlemartyr	0.043	41
1018	A047239002	Liscleary	0.853	47
1019	A047239001/A047239014	Liscleary	>99%	0
1020	A047075002	Carrignavar	>99%	39
1021	A047075003	Carrignavar	>99%	44
1022	A047075001	Carrignavar	0.717	17
1023	A047250005/01	Matehy	>99%	57
1024	A047250002	Matehy	>99%	46
1025	A047250004	Matehy	>99%	33
1026	A047250003	Matehy	>99%	95
1027	A047072017	Carrigaline	0.979	2000
1028	A047072033	Carrigaline	>99%	1260
1029	A047072035	Carrigaline	>99%	3407
1030	A047072036	Carrigaline	>99%	2771

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
1031	A047072032	Carrigaline	>99%	5537
1032	A047072004	Carrigaline	>99%	3789
1033	A047072028	Carrigaline	>99%	2251
1034	A047072030	Carrigaline	>99%	1149
1035	A047072019	Carrigaline	>99%	7894
1036	A047072020	Carrigaline	>99%	4772
1037	A047072021	Carrigaline	>99%	6532
1038	A047072018	Carrigaline	>99%	4704
1039	A047072037	Carrigaline	>99%	2166
1040	A047072010	Carrigaline	>99%	6684
1041	A047072009	Carrigaline	>99%	5540
1042	A047072024	Carrigaline	>99%	5805
1043	A047072007	Carrigaline	>99%	6587
1044	A047072013	Carrigaline	>99%	495
1045	A047072026	Carrigaline	>99%	2754
1046	A047072031	Carrigaline	>99%	4058
1047	A047072027	Carrigaline	>99%	5122
1048	A047072015	Carrigaline	>99%	4807
1049	A047072014	Carrigaline	>99%	3400
1050	A047072012	Carrigaline	>99%	7874
1051	A047072011	Carrigaline	>99%	7740
1052	A047072005	Carrigaline	>99%	9154
1053	A047072022	Carrigaline	>99%	8247
1054	A047072025	Carrigaline	>99%	4249
1055	A047072034	Carrigaline	>99%	5022
1056	A047072008/01	Carrigaline	>99%	2252
1057	A047072023	Carrigaline	>99%	2549
1058	A047072016	Carrigaline	>99%	3566
1059	A047072038	Carrigaline	>99%	953
1060	A047072040	Carrigaline	>99%	3446
1061	A047072041/A047072042	Carrigaline	0.983	0
1062	A047072003	Carrigaline	>99%	45
1063	A047072039	Carrigaline	0.989	49
1064	A047072002	Carrigaline	0.981	23
1065	A047072029	Carrigaline	0.887	1793
1066	A047072001	Carrigaline	>99%	129
1067	A047097001	Clondrohid	>99%	34
1068	A047097004	Clondrohid	>99%	18
1069	A047097002	Clondrohid	>99%	8
1070	A047072008/02	Carrigaline	>99%	4335
1071	A047072008/03	Carrigaline	>99%	1516
1072	A047072006	Carrigaline	>99%	3818
1073	A047097003	Clondrohid	>99%	1070
1074	A047250001	Matehy	>99%	2314
1075	A047250006	Matehy	>99%	1815

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
1076	A047250008	Matehy	>99%	3430
1077	A047250009	Matehy	>99%	3145
1078	A047250010	Matehy	>99%	1956
1079	A047250005/02	Matehy	>99%	73
1080	A047254006	Midleton Urban	0.738	705
1081	A047254015	Midleton Urban	>99%	3280
1082	A047254014	Midleton Urban	>99%	2372
1083	A047254002	Midleton Urban	>99%	4253
1084	A047254012	Midleton Urban	>99%	1488
1085	A047254005	Midleton Urban	>99%	832
1086	A047254009	Midleton Urban	>99%	2527
1087	A047254016	Midleton Urban	>99%	1686
1088	A047254010	Midleton Urban	>99%	4093
1089	A047254013	Midleton Urban	>99%	3163
1090	A047254017	Midleton Urban	>99%	1970
1091	A047254004	Midleton Urban	>99%	4529
1092	A047254001	Midleton Urban	>99%	3248
1093	A047254011	Midleton Urban	>99%	2185
1094	A047254007	Midleton Urban	>99%	6440
1095	A047254008	Midleton Urban	>99%	4946
1096	A047254003	Midleton Urban	>99%	4920
1097	A047318003	Watergrasshill	>99%	4161
1098	A047318004	Watergrasshill	0.898	747
1099	A047318002	Watergrasshill	0.747	3236
1100	A047105006	Cloyne	0.637	2968
1101	A047105013	Cloyne	0.944	921
1102	A047105005	Cloyne	0.517	3138
1103	A047105012	Cloyne	>99%	1176
1104	A047105010	Cloyne	>99%	4296
1105	A047105014	Cloyne	>99%	6028
1106	A047105011	Cloyne	>99%	2917
1107	A047105002	Cloyne	0.202	2861
1108	A047032003	Ballymartle	0.01	30
1109	A047032002	Ballymartle	0.652	38
1110	A047296002	Slieveragh	>99%	9
1111	A047296001	Slieveragh	>99%	18
1112	A047296003/01	Slieveragh	>99%	633
1113	A047296003/02	Slieveragh	>99%	498
1114	A047120001	Cullen	0.09	34
1115	A047318001/01	Watergrasshill	0.141	19
1116	A047318005	Watergrasshill	0.307	27
1117	A047318001/02	Watergrasshill	0.235	1164
1118	A047105009	Cloyne	0.784	41
1119	A047105004	Cloyne	0.578	31
1120	A047105001/A047105003	Cloyne	0.195	0

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
1121	A047253009	Midleton Rural	0.97	873
1122	A047253007	Midleton Rural	0.969	1227
1123	A047253028	Midleton Rural	>99%	1149
1124	A047253017	Midleton Rural	>99%	2807
1125	A047253008	Midleton Rural	0.904	5123
1126	A047253027	Midleton Rural	>99%	4402
1127	A047253022	Midleton Rural	>99%	7718
1128	A047253018	Midleton Rural	>99%	2846
1129	A047253012	Midleton Rural	>99%	1530
1130	A047253020	Midleton Rural	>99%	7583
1131	A047253004	Midleton Rural	>99%	1097
1132	A047253016	Midleton Rural	>99%	1292
1133	A047253021	Midleton Rural	>99%	6193
1134	A047253002/02	Midleton Rural	>99%	8441
1135	A047253005	Midleton Rural	>99%	8166
1136	A047253010	Midleton Rural	>99%	5740
1137	A047253002/01	Midleton Rural	>99%	3952
1138	A047253011	Midleton Rural	>99%	6657
1139	A047253019	Midleton Rural	>99%	10066
1140	A047253023	Midleton Rural	>99%	6214
1141	A047253024	Midleton Rural	>99%	5181
1142	A047253006	Midleton Rural	>99%	944
1143	A047253025	Midleton Rural	>99%	887
1144	A047320004	Whitechurch	>99%	2467
1145	A047320010	Whitechurch	>99%	1946
1146	A047027004/01	Ballygarvan	>99%	2771
1147	A047027004/02	Ballygarvan	>99%	3678
1148	A047253003	Midleton Rural	0.966	47
1149	A047253026	Midleton Rural	>99%	45
1150	A047253001	Midleton Rural	0.645	49
1151	A047253013	Midleton Rural	>99%	38
1152	A047253015	Midleton Rural	>99%	345
1153	A047253014	Midleton Rural	>99%	7447
1154	A047320008	Whitechurch	>99%	56
1155	A047320009	Whitechurch	>99%	37
1156	A047320003/01	Whitechurch	>99%	34
1157	A047320007	Whitechurch	>99%	75
1158	A047027005	Ballygarvan	>99%	74
1159	A047027003	Ballygarvan	>99%	107
1160	A047027002	Ballygarvan	>99%	84
1161	A047027001	Ballygarvan	>99%	91
1162	A047183004	Kilbonane	>99%	3304
1163	A047183001	Kilbonane	0.846	44
1164	A047048002	Bealanageary	>99%	17
1165	A047048001	Bealanageary	>99%	7

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
1166	A047183002	Kilbonane	0.364	35
1167	A047183003	Kilbonane	>99%	1252
1168	A047250007	Matehy	>99%	1379
1169	A047048003	Bealanageary	>99%	858
1170	A047105015	Cloyne	>99%	288
1171	A047215002	Kilpatrick	>99%	52
1172	A047215001	Kilpatrick	>99%	37
1173	A047308002	Templenacarriga	>99%	36
1174	A047308001	Templenacarriga	>99%	19
1175	A047168003	Gortroe	0.528	23
1176	A047168002	Gortroe	0.172	27
1177	A047049001	Bealock	>99%	10
1178	A047277010/02	Rathcooney	>99%	39
1179	A047317003	Warrenscourt	>99%	37
1180	A047317001	Warrenscourt	>99%	24
1181	A047317002	Warrenscourt	>99%	32
1182	A047036001	Ballynaglogh	0.229	26
1183	A047242002	Macloneigh	>99%	55
1184	A047242003	Macloneigh	>99%	24
1185	A047242001/A047243013	Macloneigh	>99%	0
1186	A047132033/02	Douglas	>99%	45
1187	A047054003/02	Blarney	>99%	162
1188	A047240003	Lisgoold	>99%	64
1189	A047302002	Templebodan	>99%	38
1190	A047150001	Farranbrien	0.778	46
1191	A047088002	Castletown	0.4	24
1192	A047264002	Murragh	0.327	39
1193	A047304003	Templemartin	0.172	26
1194	A047058002	Brinny	0.061	37
1195	A047306003	Templemichael	0.627	28
1196	A047306002	Templemichael	>99%	42
1197	A047306001	Templemichael	0.63	51
1198	A047249002	Mashanaglass	>99%	39
1199	A047214002	Kilnamartery	>99%	23
1200	A047214001	Kilnamartery	>99%	34
1201	A047214003	Kilnamartery	>99%	24
1202	A047006002	Aghinagh	>99%	39
1203	A047182003	Kilberrihert	>99%	39
1204	A047266001	Nad	<1%	6
1205	A047304002	Templemartin	0.329	29
1206	A047067002	Cannaway	>99%	34
1207	A047101002	Clonmoyle	>99%	36
1208	A047101001	Clonmoyle	>99%	40
1209	A047262003	Mountrivers	>99%	44
1210	A047193003	Kilcullen	>99%	56

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
1211	A047169003	Gowlane	>99%	45
1212	A047169004	Gowlane	>99%	65
1213	A047169001	Gowlane	0.876	25
1214	A047169002	Gowlane	0.808	34
1215	A047171001	Greenfort	>99%	37
1216	A047054015/02	Blarney	>99%	42
1217	A047171003	Greenfort	>99%	53
1218	A047076002	Carrigrohanebeg	>99%	42
1219	A047076001	Carrigrohanebeg	>99%	124
1220	A047171002	Greenfort	>99%	34
1221	A047053003	Blackpool	>99%	43
1222	A047203002	Killeagh	>99%	39
1223	A047279014	Riverstown	>99%	40
1224	A047053002	Blackpool	>99%	41
1225	A047037004	Ballynamona	0.065	27
1226	A047019002	Ballintemple	0.049	23
1227	A047019001	Ballintemple	0.019	35
1228	A047039001	Ballyspillane	>99%	27
1229	A047014001	Aulagh	0.014	16
1230	A047167001	Gortnatubbrid	0.982	10
1231	A077052001	Clydagh	<1%	2
1232	A047272001	Rahalisk	>99%	10
1233	A047182002	Kilberrihert	>99%	19
1234	A047182001	Kilberrihert	0.966	8
1235	A047193002	Kilcullen	>99%	22
1236	A047005001	Aghern	<1%	15
1237	A047155001	Garrown	0.016	8
1238	A047217002	Kilshannig	<1%	17
1239	A047269001	Nohaval	0.096	38
1240	A047025001	Ballyfeard	0.758	29
1241	A047008001	Ahil	<1%	5
1242	A077079001	Glanlee	<1%	3
1243	A047315003	Ullanes	>99%	18
1244	A047315002	Ullanes	>99%	12
1245	A047272002	Rahalisk	>99%	21
1246	A047262001	Mountrivers	0.896	15
1247	A047191001	Kilcorney	<1%	16
1248	A047226001	Knockavilly	0.545	32
1249	A047067001	Cannaway	>99%	30
1250	A047262002	Mountrivers	>99%	18
1251	A047193001	Kilcullen	0.829	20
1252	A047153002	Firmount	>99%	45
1253	A047153001	Firmount	0.721	30
1254	A047053001	Blackpool	0.596	29
1255	A047203001	Killeagh	0.509	26

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
1256	A047118001	Crinnaloo	<1%	10
1257	A047131001	Douce	<1%	7
1258	A047047001	Bealanageary	0.98	4
1259	A047113002	Coolmountain	0.176	10
1260	A047167002	Gortnatubbrid	>99%	15
1261	A047092001	Cleanrath	>99%	8
1262	A047127001	Derryfineen	>99%	13
1263	A047066001	Candroma	>99%	21
1264	A047074002	Carrigboy	0.457	18
1265	A047074001	Carrigboy	0.793	18
1266	A047301001	Teerelton	>99%	22
1267	A047051001	Bengour	0.199	19
1268	A047264001	Murragh	0.508	22
1269	A047301002	Teerelton	>99%	25
1270	A047172001	Greenville	>99%	18
1271	A047249001	Mashanaglass	>99%	28
1272	A047006001	Aghinagh	>99%	21
1273	A047150002	Farranbrien	0.43	24
1274	A047175001	Inch	0.285	25
1275	A047240002	Lisgoold	>99%	37
1276	A047240001	Lisgoold	>99%	29
1277	A047302001	Templebodan	0.551	16
1278	A047190001	Kilcor	0.158	16
1279	A047143001	Dungourney	0.957	43
1280	A047143002	Dungourney	0.418	29
1281	A047102001	Clonmult	0.371	16
1282	A047054001	Blarney	>99%	59
1283	A047315001	Ullanes	>99%	125
1284	A047320003/02	Whitechurch	>99%	2383
1285	A047071007	Carrigaline	0.977	1114
1286	A047115004/01	Corkbeg	>99%	2821
1287	A047115004/02	Corkbeg	0.984	1677
1288	A047115006	Corkbeg	>99%	2439
1289	A047064014/A047064016/A03	Caherlag	>99%	0
1290	A047064014/A047064016/A02	Caherlag	>99%	0
1291	A047235017/04	Ballygarvan/Lehenagh	>99%	932
1292	A047235017/03	Ballygarvan/Lehenagh	>99%	6426
1293	A047235017/02	Ballygarvan/Lehenagh	>99%	9827
1294	A047298002/01	St. Mary's (West)	>99%	670
1295	A047298002/02	St. Mary's (West)	>99%	4137
1296	A047016014	Ballincollig	>99%	374
1297	A047054003/01	Blarney	>99%	34
1298	A047140001	Dromore	0.075	17
1299	A047279001	Riverstown	>99%	28
1300	A048009007	Bishopstown E	>99%	5376

ID	Small Area Code	ED Name	Contributing Catchment Overlap	Population Density (People per km ²)
1301	A048010001	Bishopstown D	>99%	3526

Appendix - 6 EIA APPLICATIONS

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
2017037	Cork County Council	17/5659	Janssen Sciences Ireland UC	Barnahely, Ringaskiddy, Co. Cork	An extension to the existing biomedicines manufacturing facility (proposed gross floor area c. 19,116m ²).	51° 49' 49.6	8° 20' 12.0
2017066	An Bord Pleanála	PL04.248153	Barna Wind Energy (BWE) Ltd	Lissarda and Barnadivane, Terelton, Co. Cork.	6 no. wind turbines.	51° 48' 48.5	8° 57' 45.0
2017084	An Bord Pleanála	PL04.246742	Cleanrath Windfarm Ltd.	Cloontycarthy, Cleanrath North, Cleanrath South, Rathgaskig, Derragh, Auderis, Gorteenakilla, Carrignadoura, Co. Cork.	11 No. Wind turbines.	51° 51' 58.9	9° 9' 6.32"
2017093	An Bord Pleanála	PL04.248154	GE Healthcare Life Sciences BioPark	Barnahely, Raheens East, Ringaskiddy, Co. Cork.	Bio-park and all ancillary site development works including landscaping.	51° 49' 25.3	8° 20' 1.05
2017113	Cork County Council	17/7348	Roadstone Ltd.	Lackenbehy, Carrigtwohill	The extraction by quarrying of 300,000 tonne per annum of sandstone rock from an existing quarry (over a 20-year period) on a 26.8 Ha site.	51° 57' 3.22	8° 14' 57.8
2017114	Cork County Council	17/7428	John Garde	Courtstown Industrial Estate, Courtstown, Little Island, Co. Cork	Construct a building (6625m ²) containing a waste transfer and recycling facility. The proposed development also includes the construction of a separate two storey administration block (178 m ²).	51° 53' 50.4	8° 20' 6.58
2018009	Cork County Council	18/5155	Roadstone Ltd.	Garryhesta Pit Knockanemore Ovens County Cork	Development consists of restoration of part (c. 6.7ha) of existing quarry (QR19 06/11798 & PL04.225332) by importation of up to 300,000 tonnes per annum of	51° 52' 45.9	8° 41' 15.1

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
					inert soil and stones and river dredging spoil (EWC 17-05-04 and 17-05-06).		
2018011	Cork County Council	18/5176	Forge Hill Recycling Ltd	Forge Hill, Ballycurreen,	An expansion to facilitate an increase in tonnage to 100,000 tonnes per annum of an existing Materials Recovery Facility. The proposed development will consist of 2 no. extensions to the existing waste handling building to allow for a proposed waste receptacle.	51° 52' 13.4	8° 28' 53.2
2018028	Environmental Protection Agency	P0778-02	Janssen Sciences Ireland UC	Barnahely, Ringaskiddy, County Cork	5.16 The production of pharmaceutical products including intermediates.	51° 49' 49.1	8° 20' 9.69
2018067	Cork County Council	18/7131	Roadstone Ltd.	"Coppingerstown Quarry Coppingerstown, Carrigshane, Midleton Co. Cork"	Continuation of an authorised rock quarry (ref. 14/4146) as a rock quarry for a further period of 20 years, to include restoration. The quarry area is c. 20.98Ha, and the development will include for provision of temporary office and ancillary works.	51° 54' 12.6	8° 8' 25.42
2018069	Cork County Council	18/7200	Country Clean Recycling Unlimited Company	Courtstown Industrial Estate, Courtstown, Little Island, Co. Cork.	Construct a building containing a waste transfer and recycling facility along with a separate Administration Block, ESB Sub-Station, weighbridges, underground tanks, service yard, new boundary treatments and all associated drainage and site works.	51° 53' 50.4	8° 20' 4.98
2019004	Cork County Council		Roadstone Limited	Midleton Quarry located in the townlands of Castleredmond, Carrigshane and	Waste soils recovery facility for the importation of approx. 1.4Mm3 of inert soil and stones material; final restoration and landscaping for agricultural use;	51° 54' 16.4	8° 8' 51.30

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
				Coppingerstown, Middleton, Co. Cork.	internal access track linking with adjacent permitted Coppingerstown Quarry; ancillary services.		
2019034	Cork County Council	19/4641	Irish Distillers Ltd.	Ballynona North, Dungourney, Co. Cork	Expansion of the existing maturation warehouse facility to include 60 no. maturation warehouses, which will be constructed in 30 no. blocks of 2 warehouses and 3 no. ESB substations.	51° 59' 56.6	8° 9' 26.53
2019041	Cork County Council	19/4719.	Roadstone Limited	Middleton Quarry located in the townlands of Castleredmond, Carrigshane and Coppingerstown, Middleton, Co. Cork.	Middleton Quarry located in the townlands of Castleredmond, Carrigshane and Coppingerstown, Middleton, Co. Cork.	51° 54' 15.9	8° 8' 50.58
2019058	Cork County Council	19/4972.	Knocknamork Ltd	Townlands of Slieveragh and Coomnaclohy, Ballyvourney Co. Cork.	Renewable energy development consisting of up to 7 turbines with an overall tip height of 150 m, solar array (up to 70,000sqm) and substation including battery storage compound.	51° 58' 46.0	9° 11' 1.66
2019064	An Bord Pleanála	ABP-304367-19	Cairn Homes Properties Ltd.	Castletreasure / Maryborough (townlands), Carr's Hill/Carrigaline Road (R609), Douglas Cork"	The development will consist of the construction of a strategic housing development comprising 472 residential units, a crèche, and all associated ancillary development works.	51° 51' 52.1	8° 25' 40.4
2019104	Environmental Protection Agency		Indaver Ireland Limited	Ringaskiddy, County Cork (National Grid Ref. E179055, N064279)	Waste to Energy Facility (waste incinerator with energy recovery) for the treatment of residual household, commercial and industrial waste which includes up to 24,000 tonnes of suitable hazardous waste with an annual	51° 49' 48.3	8° 18' 12.5

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
					capacity of 240,000 tonnes per annum.		
2019118	Cork City Council		Tower Development Properties Ltd	The Custom House site at North Custom House Quay and South Custom House Quay, Custom House Street, Cork City	Refurbishment of the existing buildings on site including the Custom House and Bonded Warehouses, construction of a 34-storey tower c.140m over the Revenue Building, a distillery, remedial works to quay walls, and the provision of a new public realm.	51° 53' 56.9	8° 27' 44.9
2019127	Cork County Council	19/6082	Roadstone Ltd	Castlemore Quarry, Crookstown, Co. Cork in the townlands of Castlemore and Coolmucky.	The infill/restoration of part (c. 7.75ha) of existing permitted quarry (06/13499 and PL04.226347) using by-product soil and stone.	51° 51' 8.92	8° 48' 10.8
2019180	An Bord Pleanála		Progressive Commercial Construction Ltd	Site of Carey Tool Hire and the former Sextant bar, Albert Quay, Cork City.	A Strategic Housing Development of 201no. Build To Rent apartments in a building that ranges in height from 8 to 11 to 24 storeys over ground floor, ancillary resident & communal facilities; cafe; private rented office; public bar/restaurant; basement.	51° 53' 52.2	8° 27' 45.3
2019186	Cork County Council	19/6702	Greenvalley Transport & Land Reclamation Ltd	The site is in Tooreen South, Carrignavar, County Cork	Importation of soil & stone for the raising of an agricultural field in order to improve the agricultural output of the field. Development requires a Waste Permit.	52° 2' 29.85	8° 33' 4.03
2019192	Cork County Council	19/6815	McSweeney Bros. Quarries Ltd.	Coolaclevane townland, Kilmichael, Co. Cork	The development consists of a lateral extension and deepening of an existing quarry, permitted under Plan File Ref. no. 02/5740, to give an overall extraction footprint of c.10.9 hectares.	51° 48' 50.3	9° 2' 56.88

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
2019196	Cork County Council	19/6783	Belvelly Marino Development Company DAC	Belvelly Port Facility, Marino Point, townlands of Marino, Belvelly and Oldcourt, Cobh, Co. Cork.	Demolition, site infrastructure improvements, and utility upgrade works to stabilise the existing site and to provide capacity for future industrial development proposals.	51° 52' 41.8	8° 19' 38.0
2019216	An Bord Pleanála	ABP-306325-20	Longview Estates Ltd	Lahardane and Ballincolly (Townlands), Ballyvolane, Cork City	SHD including 753 residential units to be constructed in a series of phases, a local centre including retail, a creche, doctors' surgery and community use unit and all associated and ancillary infrastructure, services, and site development works.	51° 55' 22.4	8° 26' 58.4
2019219	Cork County Council	19/6964	Architectural and Metal Systems Limited	Wallingstown, Little Island, Co. Cork, T45 VP40	Construction of a new single-storey extension for the surface treatment (anodising) of aluminium sections, underground services, and associated site works.	51° 53' 33.4	8° 21' 59.7
2020008	Minister for Public Expenditure and Reform	DPE63-18-2018	Commissioners for Public Works	Blackpool, Cork.	Flood Relief Scheme for Blackpool, Cork involving the construction of direct flood defences and conveyance improvement measures along a stretch of the River Bride and its tributaries in Blackpool, Cork.	51° 55' 48.0	8° 28' 32.7
2020010	Minister for Public Expenditure and Reform	DPE63-9-2018	Commissioners for Public Works	Glanmire/Sallybrook, Cork.	Flood Relief Scheme for Glanmire/Sallybrook, Cork involving the construction of direct flood defences and conveyance improvement measures along the Glashaboy River and its tributaries.	51° 55' 1.99	8° 24' 4.14
2020015	Cork County Council		Roadstone Ltd	Castlemore Quarry, Crookstown, Co. Cork	Continuation of quarrying activities within the application area of existing permitted quarry (06/13499 and PL04.226347).	51° 50' 57.5	8° 48' 15.2

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
					Extension to existing excavation, continuation of stripping of overburden and its storage for use in restoration, and batching plant.		
2020044	An Bord Pleanála		Glenveagh Homes Ltd	Maryborough Ridge, Moneygurney, Douglas, Cork	Permission for a strategic housing development at Maryborough Ridge, Moneygurney, Douglas, Cork. The proposed works include 449 units including houses, apartments, duplex units and creche. An EIAR has also been prepared.	51° 51' 34.7	8° 25' 5.67
2020063	Cork County Council	20/5074	Roadstone Ltd.	Castlemore Quarry, Crookstown, Co. Cork in the townland of Castlemore	Quarrying activities within the application of an existing permitted quarry (06/13499 & PL04.226347). Extension of the existing quarry excavation area vertically and a deepening of the quarry sump, stripping & storage of overburden and rock extraction.	51° 50' 54.0	8° 48' 24.6
2020094	Cork County Council	20/350	Wingleaf Ltd	Derreendonee, Curraglass and Cappaboy Beg, Co. Cork	Wind farm development consisting of 7 no. wind turbines with an overall blade tip height of 178.5 meters, 1 no. permanent meteorological mast, 1 no. 38kV electrical substation, 4no. battery storage containers and all associated works.	51° 49' 3.10	9° 18' 51.7
2020115	Cork County Council	20/5627	Portfolio Concentrate Solutions UC ("PepsiCo Ireland")	Ballytrasna, Little Island, County Cork.	Extension to the existing Production Building, expansion of the Site Utility Services and provision of a new WWTP.	51° 53' 53.6	8° 20' 56.3
2020131	An Bord Pleanála	ABP-307939-20	Cleanrath Wind Farm Ltd	Reananerree, Cloontycarthy, Cleanrath North, Derrineanig, Cleanrath South, Milmorane,	Wind farm with 9 no. wind turbines with overall blade tip height of 150 m, underground electrical (33kV & 38kV) and communications cabling	51° 53' 13.3	9° 9' 4.53"

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
				Coombilane, Rathgaskig, Augeris, Gorteenakilla, Carrignadoura, Gurteenowen, Gurteenflugh, Lyrenageeha and Lackabaun, Co. Cork	connecting the turbines to the national electricity grid and all associated site development and ancillary works.		
2020218	An Bord Pleanála		Marina Quarter Limited	Former Ford Distribution Site, Centre Park Road, Cork.	Permission for a Strategic Housing Development at the Former Ford Distribution Site, Centre Park Road, Cork, comprising demolition of existing structures and construction of a mixed-use development including apartments, commercial and community facilities.	51° 53' 58.2	8° 26' 24.8
2020224	Cork County Council	20/6955	Goulding Chemicals Limited and Belvelly Marino Development Company DAC	Belvelly Port Facility, in the townland of Marino, Marino Point, Cobh, Co. Cork	The construction of a new agricultural fertiliser facility for use by Goulding Chemicals Limited; and additional port operational use of the jetty to facilitate cargo vessels. An EIAR, and NIS will be submitted with the application.	51° 52' 44.7	8° 19' 34.0
2021044	Cork County Council	21/4669	Roadstone Limited	The townland of Knockanemore, Ovens, County Cork	The lateral extension of the Classis South Quarry for the extraction of sand and gravel within a ca. 15.049ha application area. The extraction area will be ca. 8ha and to maximum depth of 13mOD, which is ca. 8.6 m below the winter water table.	51° 52' 45.1	8° 39' 49.1
2021050	Cork City Council		University College Cork & Tyndall National Institute	Lee Maltings, Dyke Parade, Cork T12 PX46 to North Mall Cork T23 XA50	Construction of a circa 65m long x 3.5-4.5m wide tri span bridge on two structural piers connecting the existing Tyndall National	51° 53' 55.1	8° 29' 4.27

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
					Institute campus on the south to Tyndall National Institute's New Facility on the North (subject to OPW Section 50 approval).		
2021063	Cork City Council		University College Cork & Tyndall National Institute	University College Cork, Distillery Fields, North Mall, Cork T23 XA50	Construction of a new purpose-built research facility comprising of approximately 16,325 sqm (GIA) rising from 4 storeys at the east to 7 storeys at the west accommodating mix of research laboratories, seminar rooms, offices, exhibition space, and café.	51° 53' 56.6	8° 29' 9.28
2021078	Cork County Council	21/5132	Pfizer Ireland Pharmaceuticals	Townlands of Ballintaggart and Ballybricken, Ringaskiddy, County Cork. P43 X336	The construction of a new five-storey clinical manufacturing building, associated buildings, utilities, pipe-rack, and associated site development works.	51° 50' 9.27	8° 20' 38.3
2021090	Cork County Council	21/5372	Keel Energy Limited	Derryleigh, Gortnahoughtee, Cloghar, Gurteen, Gortatanvally, Lackabaun and Carrigdangan, Co. Cork	Wind farm development consisting of 3no. wind turbines with a blade tip height of up to 176.5 meters along with all associated works.	51° 48' 43.3	9° 8' 16.33
2021105	Cork City Council		Progressive Commercial Construction Ltd	The Carey Tool Hire Site, Albert Quay, Cork City, bounded by Albert Quay East to the north, Albert Street to the west, Albert Road to the south, and Navigation Square to the east	Office building 5-12-14-16 storeys over ground floor, external terraces at Levels 2, 6, 13, & 15; two levels of basement for parking; café/deli & restaurant with outdoor seating; refurbishment 2no. Protected Structures; Demolition of Carey Tool Hire.	51° 53' 51.9	8° 27' 44.3
2021130	An Bord Pleanála	ABP-310798-21	EirGrid plc	County Cork, between the existing Knockraha	That portion of the Celtic Interconnector project to be	51° 54' 59.8	8° 13' 45.9

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
				substation in the townland of Ballynanelagh in County Cork and Claycastle Beach in Youghal in the townland of Summerfield in County Cork	constructed onshore in Ireland, to the Mean High-Water Mark (HWM), including an electricity converter station in the townland of Ballyadam east of Carrigtwohill in County Cork		
2021140	Cork County Council	21/5965	Kilsaran Concrete Unlimited Company	Barryscourt & Rossmore townlands, Carrigtohill, Co. Cork	The development will comprise continuance of use of the existing quarry development within an overall application area of c.24.7 hectares; extraction to the permitted level of 40m below Ordnance Datum, within the area permitted under P.Ref.03/4570.	51° 53' 31.8	8° 15' 41.4
2021181	Cork County Council	21/6514	Grey Ruby Limited	Tullig More (townland), Dripsey, Co. Cork	Twenty-year permission for the importation and recycling of up to 80,000 tonnes of Construction and Demolition (C&D) material per annum; the restoration of existing quarry using up to 200,000 tonnes per annum of imported inert material.	51° 56' 38.7	8° 45' 22.3
2021234	Cork County Council	21/6983	Lagan Materials Ltd	Rossmore Townland, Carrigtwohill, Co. Cork	Permission sought for deepening the existing quarry from -20mOD to -50mOD within the existing permitted quarry footprint (P. Ref. No. S/02/5476; ABP Ref. PL04.203762; & ABP Ref. PL04.QD.0010) within an application area of 12.6 ha.	51° 53' 32.2	8° 15' 26.7
2021246	Cork County Council	21/7265	Dawn Meats Ireland and EMR Projects Ltd	Lands at Water Rock, Midleton, Co Cork	Two separate residential developments on adjoining sites at Water Rock, Midleton. EMR development will consist of	51° 55' 13.0	8° 11' 49.1

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
					284no. residential units and associated buildings. Dawn Meats development will consist of 434no. residential units and associated buildings.		
2021268	An Bord Pleanála		Bluescape Limited	Lackenroe and Johnstown (townlands), Glounthaune, Co. Cork	Construction of 289 no. residential units, creche, community and commercial units. Ancillary works include the demolition of existing structures, landscaping proposals, and servicing upgrades.	51° 54' 59.9	8° 19' 50.4
2022005	An Bord Pleanála	ABP-312606-22	Ballinagree Wind DAC	Near the village of Ballinagree, County Cork	wind turbines, on-site substation, grid connection, and all related site works and ancillary development.	51° 59' 9.52	8° 55' 34.9
2022008	An Bord Pleanála	ABP-312613-22	Cloghroe Development Limited	Coolflugh, Cloghroe, Tower, Cork.	Mixed-use residential and retail development comprising of 198 no. residential units, creche, café and retail food store.	51° 55' 21.6	8° 37' 10.5
2022020	An Bord Pleanála	ABP-312866-22	Watfore Limited	Former CMP Dairy Site, known as Creamfields, Kinsale Road and Tramore Road, Cork, Co. Cork.	Demolition of existing structures, construction of 352 no. apartments, 257 no. Build to Rent apartments, creche and associated site works.	51° 52' 43.6	8° 28' 11.9
2022029	Environmental Protection Agency		Irish Water	Cork Lower Harbour Ringaskiddy, Shanbally, Co. Cork	The provision of waste water collection systems and treatment facilities in the Cork Lower Harbour area, with the waste water treatment plant treating waste from Carrigaline, Crosshaven, Shanbally, Coolmore, Ringaskiddy, Passage West, Glenbrook, Monkstown & Cobh.	51° 49' 34.6	8° 21' 44.1

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
2022042	Cork County Council		Merck Millipore Ltd	Tullagreen Carrigtwohill Co. Cork T45KD29	A two storey Utilities Building, a single Drumstore, expansion to WWTP and Tank Farm with all associated site works.	51° 54' 13.6	8° 16' 35.2
2022047	An Bord Pleanála	ABP-313206-22	Estuary View Enterprises 2020 Limited	Bessborough, Ballinure, Blackrock, Cork	the demolition of 10 no. existing agricultural buildings/sheds and log cabin residential structure and the construction of a residential development of 140 no. apartment unit's resident amenity facilities, crèche, and all ancillary site development works.	51° 53' 7.66	8° 24' 40.5
2022061	An Bord Pleanála	ABP-313277-22	Tiznow Property Company Limited (Comer Group Ireland)	Former Tedcastles Yard, Centre Park Road and the Marina, Cork	The demolition of existing structures and the construction of a strategic housing development of 823 no. apartments in 6 no. buildings ranging in height from part-1 to part-35 no. storeys over lower ground floor level.	51° 54' 2.12	8° 26' 33.2
2022073	Cork County Council	22/4839	Merck Millipore Ltd	Tullagreen Carrigtwohill Co. Cork T45KD29	The demolition of an existing switch room and an existing drum store and the construction of a new 3 storey manufacturing building, a two storey Utilities Building, a single Drumstore, expansion to WWTP and Tank Farm with all associated site works.	51° 54' 16.8	8° 16' 34.9
2022094	Cork City Council		Apple Operations Europe Ltd.	Hollyhill Industrial Estate, Tadgh Barry Road and lands adjacent to David McCarthy Road and Nash's Boreen, Hollyhill, Cork	A new office building; a single storey commute hub building; a single storey energy centre building; 2 no. single storey security huts; a new surface car park on lands to the north of the David McCarthy Road.	51° 54' 24.1	8° 30' 54.1

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
2022100	An Bord Pleanála	ABP-313720-22	Reside Investments Limited	KILMONEY ROAD, CARRIGALINE, CO. CORK	Consists of Strategic Housing Development providing 224 no. residential units, a creche/childcare facility and 3 no. retail units & all associated works.	51° 48' 45.2	8° 23' 47.3
2022108	An Bord Pleanála	ABP-313827-22	BAM Property Limited	Castlelake, Terry's-land and Carrigtohill (townlands), Carrigtwohill, Co. Cork"	A strategic housing development of 716 no. units and a 2 storey creche (224 no. houses, 284 no. duplex units and 208 no. apartments) and all ancillary site works above and below ground.	51° 54' 50.1	8° 16' 8.74
2022114	An Bord Pleanála	ABP-313919-22	Hibernia Star Limited	Jacobs Island, Ballinure, Mahon, Cork.	The development will consist of the construction of 489 no. apartments, creche and offices in 5 no. buildings ranging in height from part-1 to part-8 no. storeys over lower ground and semi-basement podium levels.	51° 52' 58.1	8° 23' 45.5
2022121	Cork City Council	ABP-313994-22	Cork County GAA Board	Cork GAA Lands, Old Whitechurch Road, Kilbarry, Cork City.	A strategic housing development of 319no. residential dwellings, a crèche facility, and a riverside amenity park. The proposed total gross floor area is 33,738.70sqm.	51° 55' 43.0	8° 28' 35.2
2022137	An Bord Pleanála	ABP-314275-22	Knocknamork Limited	the townlands of Cummeennabuddoge (Co. Kerry) and Caherdowney (Co. Cork).	110 kV electrical substation including all associated electrical plant and apparatus and all ancillary works, Underground electrical cabling (110kV), Access roads, Borrow pit, Site drainage, Forestry felling, Associated site development works and apparatus.	52° 0' 8.59	9° 6' 39.09
2022138	Cork City Council	22/5791	Knocknamork Limited	The townlands of Slieveraigh and Coomnaclohy, Ballyvourney, County Cork.	Underground electrical cabling (33kV), Access roads (new and upgrade of existing), Amendments to the Permitted Development (Ref. No. 19/4972), Site Drainage,	51° 58' 17.8	9° 11' 29.3

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
					all associated site development ancillary works and apparatus.		
2022139	Kerry County Council		Knocknamork Limited	Townlands of Cummeenavrick, Glashacormick, Clydaghroe, Cummeennabuddoge, County Kerry.	Underground electrical cabling (33kV), Upgrade of access junctions, Access roads (new and upgrade of existing), Temporary access road, Borrow pit, Site Drainage, Forestry Felling, All associated site development ancillary works and apparatus.	51° 58' 43.3	9° 12' 18.0
2022173	An Bord Pleanála	ABP-314602-22	Gortyrhilly Wind Designated Activity Company	The proposed wind farm site is located 4.3km south-west of Ballyvourney, Co. Cork in the townlands of Cahernacaha, Gortnabinna, Derryfineen, Gortyrhilly, Rath West, Derree, and Fuhiry.	Construction of a 14-turbine wind farm along with the associated related works including a 110kV grid connection and upgrade works on the local roads.	51° 53' 59.9	9° 13' 9.03
2022209	An Bord Pleanála	ABP-315087-22	Córas Iompair Éireann (CIÉ)	Traverses through the townlands of Anngrove; Ballyadam, Ballyrichard More; Broomfield East; Broomfield West; Carrigane; Carrigtohill; Harpers Island; Johnstown; Killacloyne; Killahora Co. Cork	Twin tracking of the existing single-track sections of railway between Glounthaune and Middleton, Co. Cork.	51° 55' 13.9	8° 11' 5.83
2022251	Cork City Council	22/41675	University College Cork & Tyndall National Institute	Lee Maltings, Dyke Parade, Cork T12 PX46 to North Mall, Cork T23 XA50	Construction of a circa 65m long x 3.5-4.5m wide tri span bridge on two structural piers connecting the existing Tyndall National Institute campus on the south to	51° 53' 54.1	8° 29' 12.0

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
					Tyndall National Institute's New Facility on the North (subject to OPW Section 50 approval).		
2023032	Cork County Council		Knocknamork Limited.	The townlands of Slieveragh and Coomnaclohy, Ballyvourney, County Cork.	The provision of 7 no. wind turbines with an overall ground to blade tip height of 175m (an increase of 25m, from 150m), a rotor blade length of 75m and a hub height of 100m, and all associated site development and ancillary works.	51° 58' 45.9	9° 11' 6.86
2023048	Cork County Council	23/4602	Irish Distillers Limited	Park South, Castleredmond and Park North (townlands), Middleton, Co. Cork.	A capacity expansion to distil pot still and grain whiskey, with cereal intake, brewing, fermentation, utilities, and distillation facilities. The waste water treatment plant (WWTP) on the existing site will be upgraded and expanded, with a new biogas plan.	51° 54' 53.5	8° 9' 47.21
2023096	Cork County Council	23/5145	Inchamore Wind Designated Activity Company	The proposed wind farm site is located 5.9km west of Ballyvourney, Co. Cork within the townlands of Inchamore, Mileeny and Dereenaling and borders the county boundary between Cork and Kerry.	Construction of a 5-turbine wind farm along with the associated related works including upgrade works on the existing site access tracks.	51° 57' 25.3	9° 15' 41.0
2023101	Cork County Council	23/5104	Michelle Price	ESB Aghada Generating Station, Ballincarronig, Aghada, Co. Cork Ireland P25 XE94	299MW Open cycle gas turbine (OCGT) electricity generator and associated infrastructure and buildings.	51° 50' 7.81	8° 14' 0.64
2023107	Cork City Council		Leeside Quays Limited	Goulding's Site, Centre Park Road and	The proposed Large Scale Residential Development will consist of the demolition of the	51° 53' 47.5	8° 27' 14.7

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
				Monahan Road, Cork City.	existing on-site buildings and structures and site clearance and the construction of 1325 no. residential units including apartments and duplexes in 10 no. buildings.		
2023114	Environmental Protection Agency	D0056-02 Midleton	Uisce Éireann	Midleton and Carrigtwohill Wastewater Network Agglomeration and Wastewater treatment plants, Co. Cork,	An EIAR is to be submitted to the EPA in support of a review application for the Midleton Agglomeration Wastewater Discharge licence D0056-01.	51° 54' 39.7	8° 16' 38.6
2023164	An Bord Pleanála	ABP-318077-23	Cork County Council	Over the N25 and the Cork City to Midleton Cobh railway line from Little Island train station to Eastgate Business Park within the townlands of Kilcoolishal and Castlevue at Little Island, Co. Cork.	The Proposed Development involves the construction of a 5m wide pedestrian and cycle crossing from Little Island train station and the L3004 Glounthaune Road to the Eastgate Business Park and surrounds. The crossing length is approximately 460m in total.	51° 54' 22.9	8° 21' 30.4
2024011	Cork City Council		Murnane & O'Shea Limited	Castletreasure, Moneygurney and Maryborough (townlands), Douglas, Cork.	mixed-use residential development of 580 no. residential units, 2-storey creche and a 2-storey mixed-use building.	51° 52' 4.09	8° 25' 35.8
2024029	Cork County Council	/0	Tim O'Connor	Ballyvodock East, Midleton, Co. Cork	15-year permission for the continuation and extension of an existing sand and gravel quarry. The application is accompanied by an EIAR and NIS.	51° 53' 24.2	8° 12' 12.3
2024100	Cork City Council		Clockstrike Ltd	Ringwood, Shean Upper, Blarney, Cork.	An LRD comprising 246no. dwellings, including a childcare facility, a new signalised access from Station Road with additional road improvement works, parking,	51° 56' 13.4	8° 33' 25.7

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
					public open spaces, footpaths, cycle paths, drainage, and signage.		
2024169	Cork County Council	24/05956	Hovione Ltd	Hovione Ltd., Loughbeg, Ringaskiddy, Co. Cork, Ireland P43 DY23	The construction of a single 4.3MW wind turbine at Hovione Ltd. facility in Ringaskiddy, Co. Cork, inclusive of underground connection to new on-site electrical building, and associated infrastructure.	51° 49' 15.2	8° 18' 26.3
2024187	Cork City Council		O'Flynn Construction Co. Unlimited Company	To the north of Dunkettle House (protected structure – PS1190) and associated structures (protected structures – PS1238, PS1239, PS1240, PS1170), Dunkettle (townland), Glanmire, Cork	An 8-year planning permission a Large-Scale Residential Development (LRD) comprising 550 no. units, 1 creche and 3 commercial units. Refer to public Notice for full details.	51° 54' 55.1	8° 23' 43.7
2024197	Cork City Council		Marina Quarter Ltd.	The Former Ford Distribution Site, fronting on to Centre Park Road, Ballintemple, Cork.	The proposed development will include the construction of 176 no. 1, 2 and 3 bed apartment units in 2 no. blocks, 1 no. creche, 1 no. gym, a retail/café space, and all associated ancillary development works.	51° 54' 2.46	8° 26' 19.3
2025018	An Bord Pleanála	ABP-321875-25	Port of Cork Company	Port of Cork - Ringaskiddy, Loughbeg, Ringaskiddy, Co. Cork.	This application is for an extension of the previously permitted Strategic Infrastructure Development application (PA0035) for the redevelopment of the Port of Cork, consisting of the construction of the Container Terminal 2 and deepwater berth extension.	51° 49' 57.6	8° 18' 46.6

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
2025024	Cork County Council	25/04296	Bridgewater Homes Ltd.	Mountain Road, Kilmoney (Townland), Carrigaline, Co. Cork	Large Scale Residential Development the construction of 362 no. residential units, 1 no. creche with a community room and café and all associated site development works.	51° 48' 5.28	8° 24' 43.6
2025029	Cork County Council	25/04391	Shane Ross	Knockatoor Carrigaline Co. Cork P43 TY88	Permission to construct: 1) Poultry House, 2) Manure Store, 3) 3 no. Soiled Water Tanks and 4) 3 no. feed bins. The above is to be carried out in conjunction with all associated site works at Knockatoor, Carrigaline, Co. Cork.	51° 47' 2.97	8° 23' 4.08
2025035	Cork County Council	25/04434	Lidl Ireland GmbH	E-Park, the former Mitsui Denman Site, Wallingstown and Inchera (townlands), Little Island, Co. Cork	Regional distribution centre warehouse building of approx.59,710sqm, max. height of 22.25m inc. ancillary spaces; external ancillary structures inc. substation, drivers lounge, gate house; new vehicular access and ancillary works and landscaping.	51° 53' 46.7	8° 22' 17.9
2025047	Cork County Council	25/04551	Bridgewater Homes Ltd.	Mountain Road, Kilmoney (Townland), Carrigaline, Co. Cork	Large Scale Residential Development the construction of 362 no. residential units, 1 no. creche with a community room and café and all associated site development works.	51° 48' 4.88	8° 24' 43.6
2025055	Cork County Council	25/4704	Janssen Sciences Ireland UC	Barnahely, Ringaskiddy, Co Cork, P43 FA46	The development will consist of an upgrade and extension to the existing biomedicines manufacturing facility at Barnahely, Ringaskiddy Co. Cork.	51° 49' 50.3	8° 19' 51.6
2025062	Cork City Council		Bellmount Good Shepherd Ltd.	the Former Good Shepherd Convent, Convent Avenue and Buckston Hill, Sunday's Well, Cork	Large Scale Residential Development comprising the partial demolition, conservation, and redevelopment of the Good Shepherd complex to provide 274	51° 53' 58.8	8° 29' 46.7

Portal Ref	Competent Authority	Competent Authority Ref	Applicant	Location	Description	Latitude DMS	Longitude DMS
					student accommodation apartments.		
2025075	Cork County Council	25/4899	Breedon Materials Ltd trading as Breedon Ireland	Milebush Quarry, Ballynabointra and Burgesland, County Cork. P25 NV27	The backfilling of an exhausted quarry void and the acceptance and processing of C&D waste. The quarry void will accept only inert or by-product soil and stone materials, which will either be classified as waste or as Article 27 by-products.	51° 54' 41.5	8° 13' 15.5
2025094	Cork County Council	25/5034	Stream BioEnergy Ireland Limited	Inchera, Little Island, Co. Cork	The proposed completion of the renewable biogas plant.	51° 53' 57.2	8° 22' 52.9
2025111	Cork City Council		DIE IRELAND ICAV (Deka)	Mahon Point Shopping Centre, Mahon, Cork.	Mahon Point Shopping Centre, Mahon, Cork. A mixed-use development: residential, retail, retail services, retail warehouse, office, commercial, restaurant/café, a creche and a leisure/gym facility, and associated works. 77,767sqm (gross internal floor area).	51° 53' 12.6	8° 23' 47.9
2025124	Cork City Council		Murnane & O'Shea Limited	Greenfield, Ballincollig, Cork.	Large-Scale Residential Development for the construction of a mixed-use residential development of 544 no. residential units a two storey creche facility, commercial/retail unit, and all ancillary site development works.	51° 52' 43.1	8° 36' 34.2

Appendix - 7 COMPARATIVE COORDINATES FOR SURVEY LOCATIONS

MAPPED ID	LATITUDE (WGS 84) (DECIMAL)	LONGITUDE (WGS 84) (DECIMAL)	LATITUDE (WGS 84) (DMS)	LONGITUDE (WGS 84) (DMS)
1	51.762580	-8.333786	51°45'45.29"N	8°20'1.63"W
2	51.765213	-8.334754	51°45'54.77"N	8°20'5.11"W
3	51.771329	-8.320893	51°46'16.78"N	8°19'15.21"W
4	51.772647	-8.313529	51°46'21.53"N	8°18'48.70"W
5	51.775284	-8.310653	51°46'31.02"N	8°18'38.35"W
6	51.775574	-8.310463	51°46'32.06"N	8°18'37.66"W
7	51.776209	-8.302717	51°46'34.35"N	8°18'9.78"W
8	51.809691	-8.275852	51°48'34.89"N	8°16'33.07"W
9	51.810615	-8.278563	51°48'38.21"N	8°16'42.83"W
10	51.810527	-8.284673	51°48'37.90"N	8°17'4.82"W
11	51.806886	-8.286436	51°48'24.79"N	8°17'11.17"W
12	51.805124	-8.294028	51°48'18.45"N	8°17'38.50"W
13	51.802727	-8.295105	51°48'9.82"N	8°17'42.38"W
14	51.804635	-8.298905	51°48'16.69"N	8°17'56.06"W
15	51.805568	-8.309479	51°48'20.04"N	8°18'34.12"W
16	51.813839	-8.388890	51°48'49.82"N	8°23'20.00"W
17	51.808928	-8.293141	51°48'32.14"N	8°17'35.31"W
18	51.818331	-8.313326	51°49'5.99"N	8°18'47.97"W
19	51.819262	-8.314899	51°49'9.34"N	8°18'53.64"W
20	51.817301	-8.320594	51°49'2.28"N	8°19'14.14"W
21	51.822655	-8.324938	51°49'21.56"N	8°19'29.78"W
22	51.820048	-8.309769	51°49'12.17"N	8°18'35.17"W
23	51.835370	-8.304350	51°50'7.33"N	8°18'15.66"W
24	51.834960	-8.317152	51°50'5.86"N	8°19'1.75"W
25	51.835780	-8.323210	51°50'8.81"N	8°19'23.56"W
26	51.831620	-8.322286	51°49'53.83"N	8°19'20.23"W
27	51.839430	-8.327230	51°50'21.95"N	8°19'38.03"W
28	51.837219	-8.340544	51°50'13.99"N	8°20'25.96"W
29	51.838573	-8.349198	51°50'18.86"N	8°20'57.11"W
30	51.843361	-8.337446	51°50'36.10"N	8°20'14.80"W
31	51.844614	-8.333075	51°50'40.61"N	8°19'59.07"W
32	51.846936	-8.333197	51°50'48.97"N	8°19'59.51"W
33	51.847295	-8.333225	51°50'50.26"N	8°19'59.61"W
34	51.849898	-8.331149	51°50'59.63"N	8°19'52.14"W
35	51.855441	-8.331795	51°51'19.59"N	8°19'54.46"W
36	51.859920	-8.331953	51°51'35.71"N	8°19'55.03"W
37	51.861498	-8.332791	51°51'41.39"N	8°19'58.05"W
38	51.861922	-8.332938	51°51'42.92"N	8°19'58.58"W
39	51.870702	-8.333814	51°52'14.53"N	8°20'1.73"W
40	51.871591	-8.334410	51°52'17.73"N	8°20'3.88"W
41	51.874295	-8.339460	51°52'27.46"N	8°20'22.06"W
42	51.875424	-8.341040	51°52'31.53"N	8°20'27.74"W

MAPPED ID	LATITUDE (WGS 84) (DECIMAL)	LONGITUDE (WGS 84) (DECIMAL)	LATITUDE (WGS 84) (DMS)	LONGITUDE (WGS 84) (DMS)
43	51.877327	-8.344178	51°52'38.38"N	8°20'39.04"W
44	51.879173	-8.351101	51°52'45.02"N	8°21'3.96"W
45	51.878956	-8.355114	51°52'44.24"N	8°21'18.41"W
46	51.877925	-8.373542	51°52'40.53"N	8°22'24.75"W
47	51.877853	-8.375311	51°52'40.27"N	8°22'31.12"W
48	51.879790	-8.391005	51°52'47.24"N	8°23'27.62"W
49	51.879790	-8.391005	51°52'47.24"N	8°23'27.62"W
50	51.880476	-8.393634	51°52'49.71"N	8°23'37.08"W
51	51.886190	-8.390935	51°53'10.28"N	8°23'27.37"W
52	51.891866	-8.390259	51°53'30.72"N	8°23'24.93"W
53	51.894291	-8.391288	51°53'39.45"N	8°23'28.64"W
54	51.898131	-8.394787	51°53'53.27"N	8°23'41.23"W
55	51.898639	-8.412040	51°53'55.10"N	8°24'43.34"W
56	51.902955	-8.396235	51°54'10.64"N	8°23'46.44"W
57	51.901762	-8.388156	51°54'6.34"N	8°23'17.36"W
58	51.897748	-8.383141	51°53'51.89"N	8°22'59.31"W
59	51.897460	-8.382464	51°53'50.86"N	8°22'56.87"W
60	51.896802	-8.379461	51°53'48.49"N	8°22'46.06"W
61	51.896188	-8.378049	51°53'46.28"N	8°22'40.98"W
62	51.892689	-8.370879	51°53'33.68"N	8°22'15.16"W
63	51.890864	-8.360314	51°53'27.11"N	8°21'37.13"W
64	51.888550	-8.340633	51°53'18.78"N	8°20'26.28"W
65	51.885370	-8.335532	51°53'7.33"N	8°20'7.92"W
66	51.886359	-8.333327	51°53'10.89"N	8°19'59.98"W
67	51.890796	-8.330790	51°53'26.87"N	8°19'50.84"W
68	51.891180	-8.331698	51°53'28.25"N	8°19'54.11"W
69	51.902308	-8.275134	51°54'8.31"N	8°16'30.48"W
70	51.898043	-8.318134	51°53'52.95"N	8°19'5.28"W
71	51.891788	-8.319901	51°53'30.44"N	8°19'11.64"W
72	51.888590	-8.302073	51°53'18.92"N	8°18'7.46"W
73	51.897759	-8.280126	51°53'51.93"N	8°16'48.45"W
74	51.888350	-8.272240	51°53'18.06"N	8°16'20.06"W
75	51.896083	-8.267560	51°53'45.90"N	8°16'3.22"W
76	51.892960	-8.266830	51°53'34.66"N	8°16'0.59"W
77	51.889269	-8.253025	51°53'21.37"N	8°15'10.89"W
78	51.888925	-8.253581	51°53'20.13"N	8°15'12.89"W
79	51.888393	-8.254949	51°53'18.21" N	8°15'17.82" W
80	51.883705	-8.261316	51°53'1.34" N	8°15'40.74" W
81	51.882720	-8.251110	51°52'57.79"N	8°15'4.00"W
82	51.882871	-8.243515	51°52'58.34"N	8°14'36.65"W
83	51.883855	-8.242296	51°53'1.88"N	8°14'32.27"W
84	51.884842	-8.241836	51°53'5.43" N	8°14'30.61" W
85	51.885971	-8.250513	51°53'9.50"N	8°15'1.85"W
86	51.883862	-8.228746	51°53'1.90"N	8°13'43.49"W

MAPPED ID	LATITUDE (WGS 84) (DECIMAL)	LONGITUDE (WGS 84) (DECIMAL)	LATITUDE (WGS 84) (DMS)	LONGITUDE (WGS 84) (DMS)
87	51.885653	-8.228935	51°53'8.35"N	8°13'44.17"W
88	51.887812	-8.213426	51°53'16.12"N	8°12'48.34"W
89	51.887529	-8.208402	51°53'15.10"N	8°12'30.25"W
90	51.886776	-8.207026	51°53'12.39"N	8°12'25.29"W
91	51.890296	-8.190808	51°53'25.07"N	8°11'26.91"W
92	51.895645	-8.192724	51°53'44.32"N	8°11'33.81"W
93	51.896677	-8.183770	51°53'48.04"N	8°11'1.57"W
94	51.898732	-8.174762	51°53'55.43"N	8°10'29.14"W
95	51.909210	-8.179760	51°54'33.16"N	8°10'47.14"W
96	51.910801	-8.175460	51°54'38.88"N	8°10'31.66"W
97	51.904389	-8.174415	51°54'15.80"N	8°10'27.89"W
98	51.903788	-8.173560	51°54'13.64"N	8°10'24.82"W
99	51.903624	-8.173387	51°54'13.05"N	8°10'24.19"W
100	51.903197	-8.173158	51°54'11.51"N	8°10'23.37"W
101	51.902379	-8.171457	51°54'8.56"N	8°10'17.25"W
102	51.901171	-8.171120	51°54'4.21"N	8°10'16.03"W
103	51.900261	-8.170885	51°54'0.94"N	8°10'15.19"W
104	51.899620	-8.170210	51°53'58.63"N	8°10'12.76"W
105	51.899535	-8.170309	51°53'58.33"N	8°10'13.11"W
106	51.899420	-8.170240	51°53'57.91"N	8°10'12.86"W
107	51.899100	-8.167830	51°53'56.76"N	8°10'4.19"W
108	51.898660	-8.169842	51°53'55.18"N	8°10'11.43"W
109	51.890760	-8.180550	51°53'26.74"N	8°10'49.98"W
110	51.889110	-8.178370	51°53'20.80"N	8°10'42.13"W
111	51.884350	-8.169780	51°53'3.66"N	8°10'11.21"W
112	51.884359	-8.169330	51°53'3.69"N	8°10'9.59"W
113	51.882550	-8.170620	51°52'57.18"N	8°10'14.23"W
114	51.882410	-8.173770	51°52'56.68"N	8°10'25.57"W
115	51.881810	-8.174900	51°52'54.52"N	8°10'29.64"W
116	51.881180	-8.181850	51°52'52.25"N	8°10'54.66"W
117	51.881380	-8.184770	51°52'52.97"N	8°11'5.17"W
118	51.880950	-8.185540	51°52'51.42"N	8°11'7.94"W
119	51.880600	-8.194950	51°52'50.16"N	8°11'41.82"W
120	51.879700	-8.196980	51°52'46.92"N	8°11'49.13"W
121	51.878430	-8.199590	51°52'42.35"N	8°11'58.52"W
122	51.869180	-8.204060	51°52'9.05"N	8°12'14.62"W
123	51.868512	-8.205125	51°52'6.64"N	8°12'18.45"W
124	51.868100	-8.205813	51°52'5.16"N	8°12'20.93"W
125	51.860896	-8.209675	51°51'39.23"N	8°12'34.83"W
126	51.857455	-8.195662	51°51'26.84"N	8°11'44.38"W
127	51.858028	-8.189765	51°51'28.90"N	8°11'23.15"W
128	51.858860	-8.190809	51°51'31.90"N	8°11'26.91"W
129	51.858147	-8.182571	51°51'29.33"N	8°10'57.26"W
130	51.859449	-8.181716	51°51'34.02"N	8°10'54.18"W

MAPPED ID	LATITUDE (WGS 84) (DECIMAL)	LONGITUDE (WGS 84) (DECIMAL)	LATITUDE (WGS 84) (DMS)	LONGITUDE (WGS 84) (DMS)
131	51.859985	-8.177718	51°51'35.95"N	8°10'39.78"W
132	51.860270	-8.175229	51°51'36.97"N	8°10'30.82"W
133	51.862016	-8.172143	51°51'43.26"N	8°10'19.71"W
134	51.861950	-8.171774	51°51'43.02"N	8°10'18.39"W
135	51.849283	-8.195181	51°50'57.42"N	8°11'42.65"W
136	51.844200	-8.201070	51°50'39.12"N	8°12'3.85"W
137	51.844200	-8.207350	51°50'39.12"N	8°12'26.46"W
138	51.845690	-8.209706	51°50'44.48"N	8°12'34.94"W
139	51.843860	-8.215870	51°50'37.90"N	8°12'57.13"W
140	51.843151	-8.218043	51°50'35.34"N	8°13'4.95"W
141	51.842150	-8.220460	51°50'31.74"N	8°13'13.66"W
142	51.841378	-8.223918	51°50'28.96"N	8°13'26.10"W
143	51.838440	-8.229180	51°50'18.38"N	8°13'45.05"W
144	51.837937	-8.231688	51°50'16.68"N	8°13'54.12"W
145	51.837867	-8.239105	51°50'16.32"N	8°14'20.78"W
146	51.840280	-8.243100	51°50'25.01"N	8°14'35.16"W
147	51.837169	-8.239993	51°50'13.81"N	8°14'23.97"W
148	51.833450	-8.238220	51°50'0.42"N	8°14'17.59"W
149	51.831810	-8.234350	51°49'54.52"N	8°14'3.66"W
150	51.828783	-8.235809	51°49'43.62"N	8°14'8.91"W
151	51.824510	-8.235270	51°49'28.24"N	8°14'6.97"W
152	51.823924	-8.235270	51°49'26.13"N	8°14'6.97"W
153	51.833624	-8.261155	51°50'1.05"N	8°15'40.16"W
154	51.808689	-8.251436	51°48'31.28"N	8°15'5.17"W
155	51.851643	-8.278556	51°51'5.92"N	8°16'42.80"W
156	51.851125	-8.280081	51°51'4.05"N	8°16'48.29"W
157	51.850210	-8.291405	51°51'0.76"N	8°17'29.06"W
158	51.849671	-8.293830	51°50'58.81"N	8°17'37.79"W
159	51.848920	-8.298599	51°50'56.11"N	8°17'54.96"W
160	51.848655	-8.299543	51°50'55.16"N	8°17'58.36"W
161	51.845427	-8.308396	51°50'43.54"N	8°18'30.23"W
162	51.845188	-8.311495	51°50'42.68"N	8°18'41.38"W
163	51.843734	-8.311873	51°50'37.44"N	8°18'42.74"W
164	51.842328	-8.316310	51°50'32.38"N	8°18'58.72"W
165	51.859322	-8.326275	51°51'33.56"N	8°19'34.59"W
166	51.859880	-8.326425	51°51'35.57"N	8°19'35.13"W
167	51.861733	-8.326481	51°51'42.24"N	8°19'35.33"W
168	51.873963	-8.327411	51°52'26.27"N	8°19'38.68"W
169	51.880541	-8.322680	51°52'49.95"N	8°19'21.65"W
170	51.883961	-8.269052	51°53'2.26"N	8°16'8.59"W
171	51.878960	-8.251860	51°52'44.26"N	8°15'6.70"W
172	51.878770	-8.245980	51°52'43.57"N	8°14'45.53"W
173	51.877950	-8.239640	51°52'40.62"N	8°14'22.70"W
174	51.878670	-8.237130	51°52'43.21"N	8°14'13.67"W

MAPPED ID	LATITUDE (WGS 84) (DECIMAL)	LONGITUDE (WGS 84) (DECIMAL)	LATITUDE (WGS 84) (DMS)	LONGITUDE (WGS 84) (DMS)
175	51.879129	-8.232690	51°52'44.86"N	8°13'57.68"W
176	51.878905	-8.230610	51°52'44.06"N	8°13'50.20"W
177	51.878530	-8.228090	51°52'42.71"N	8°13'41.12"W
178	51.871877	-8.205027	51°52'18.76"N	8°12'18.10"W
179	51.869791	-8.208947	51°52'11.25"N	8°12'32.21"W
180	51.867388	-8.213450	51°52'2.60"N	8°12'48.42"W
181	51.866072	-8.213225	51°51'57.86"N	8°12'47.61"W
182	51.857940	-8.237497	51°51'28.58"N	8°14'14.99"W
183	51.858506	-8.264750	51°51'30.62"N	8°15'53.10"W

Appendix - 8 SURVEY PHOTOGRAPHS

1



2

No Photograph Taken

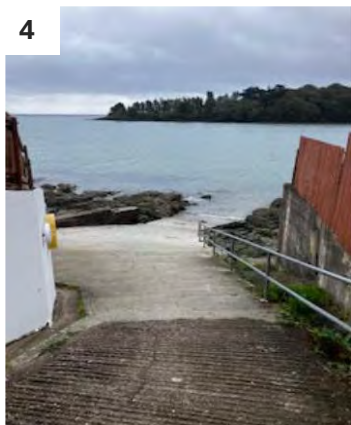
3A



3B



4



5



6A



6B



7

No Photograph taken

8

No Photograph Taken

9

No Photograph Taken

10

No Photograph Taken

11

No Photograph Taken

12



13



14

No Photograph Taken

15

No Photograph Taken

16



17



18



19



20A



20B



21A



21B



22



23



24



25A



25B



26



27A



27B



28



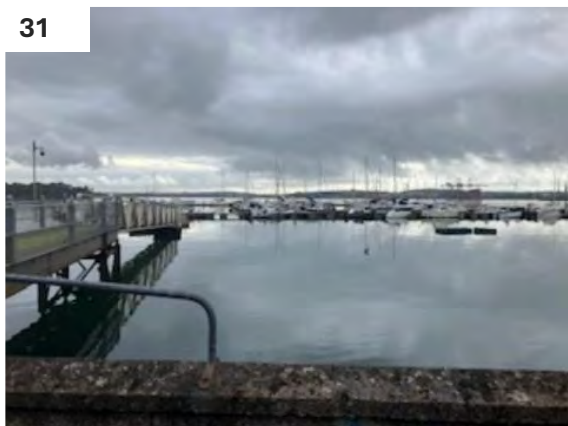
29



30



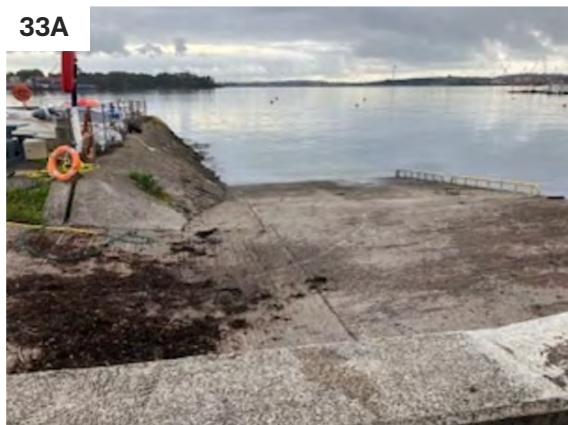
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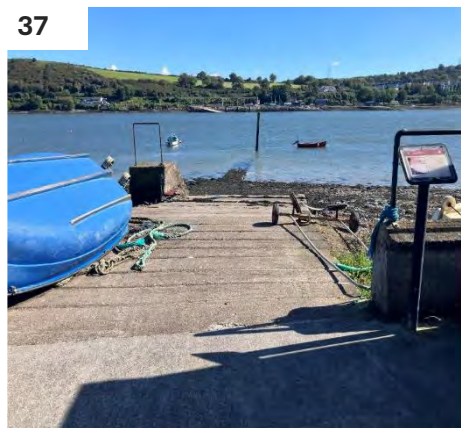
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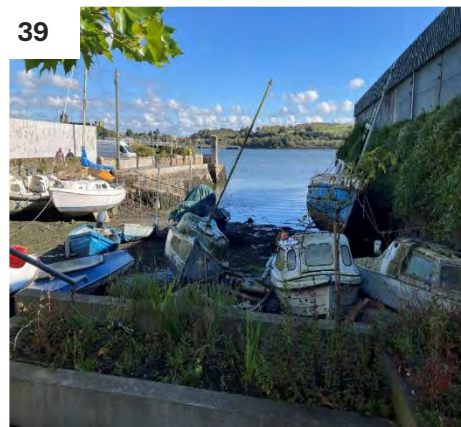
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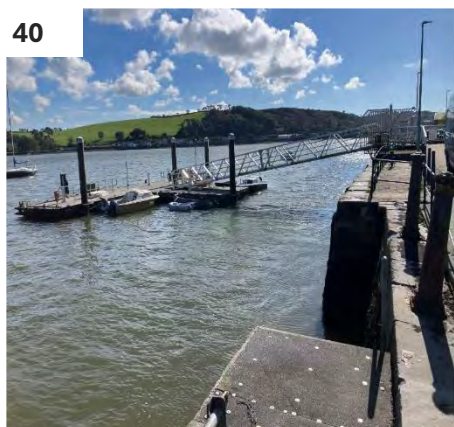
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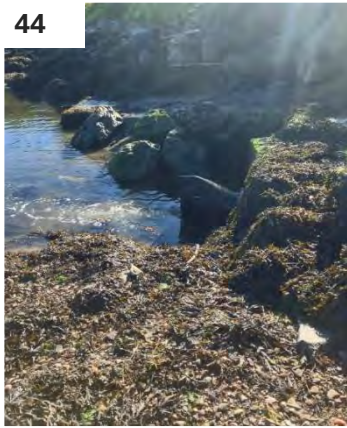
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64B



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67A



67B



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69B



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72A



72B



72D



72C



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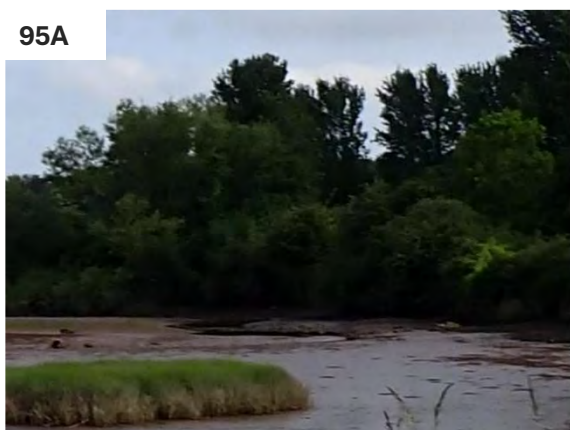
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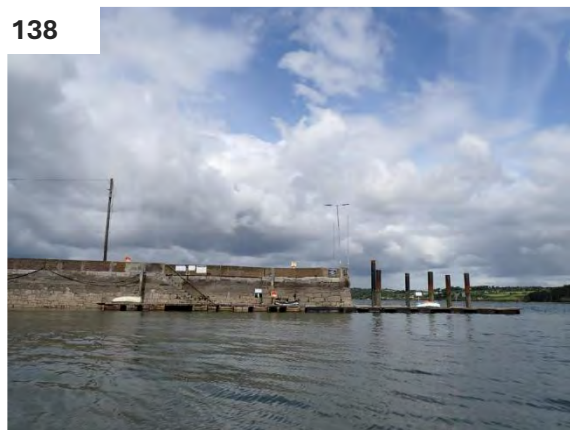
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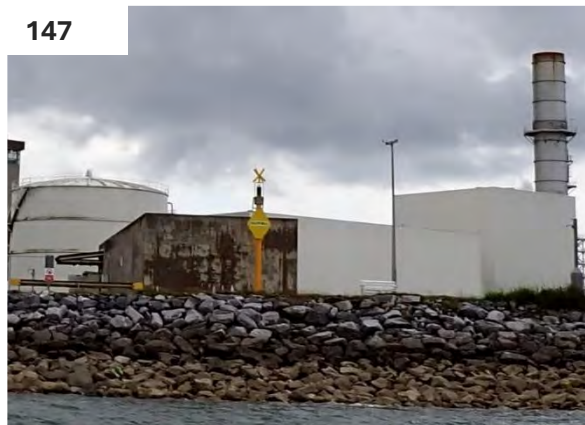
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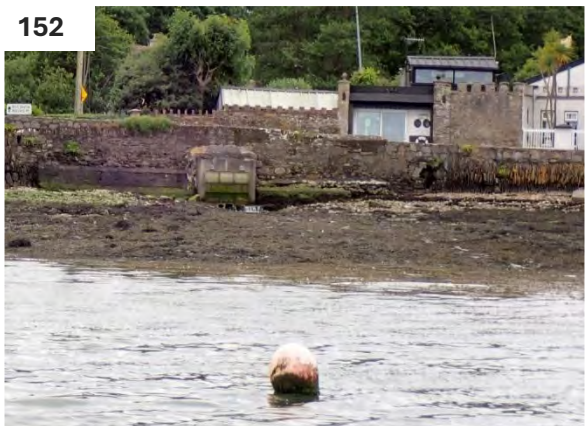
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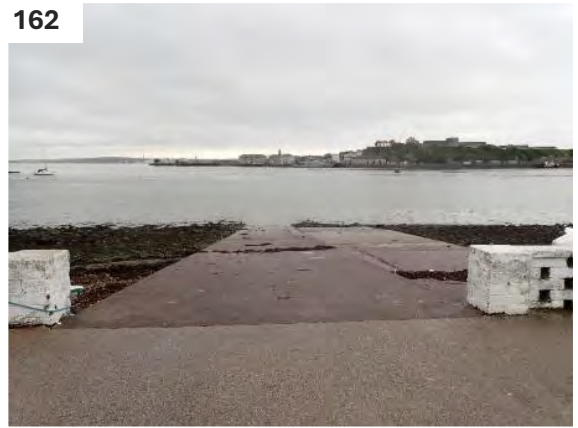
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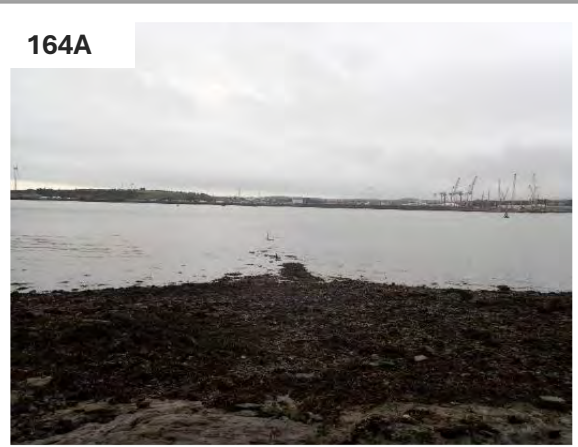
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164A



164B



165A



165B



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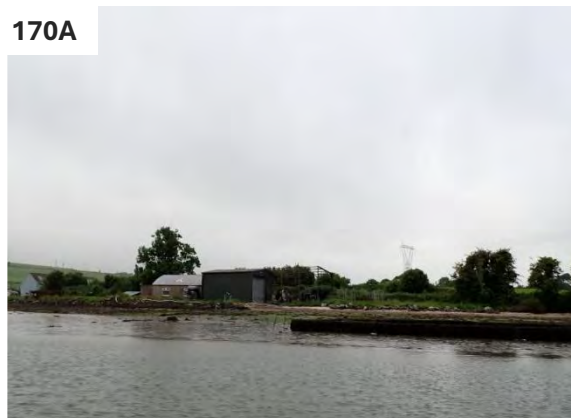
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Appendix - 9 INDUSTRY ENGAGEMENT SUMMARY (PREPARED BY SFPA)

Date of circulation of draft report: 10/02/2026

Stakeholders contacted: IFA Aquaculture, BIM, Industry

Method of engagement: Email circulation

Period for responses: 10/02/2026 – 10/03/2026

Summary of feedback received:

- * Clarification was sought in relation to page 32 and 103 in the document in order to clarify the screening out approach of EPA data for the treatment facility design capacity of below 500 PE. Feedback indicated the screening out of 500 PE may not capture the overcapacity systems contributing significantly to the localised shellfish growing areas. Example provided as Saleen primary treatment septic tank which was designed <500PE but is well documented to be over capacity given the increase in population in the area since it was authorised in 2011. Given that the bacteriological sample showed up extremely high elevated results within Saleen creek during dry weather sampling conditions, feedback indicated potential need for review of the method of screening out of primary treatment septic tanks <500PE. Feedback noted Cloyne WwTP providing secondary treatment has a design capacity for 1400PE but is also overloaded and serves a PE of 2125 with an EPA site visit in 2024 identifying operational and structural deficiencies. With both such systems flowing into Rostellan shellfish production area, feedback suggested the approach of screening out <500 PE WwTPs, particularly Saleen should be investigated further in these sensitive areas which are known to be overloaded. It was noted that this may be connected to the results of the sanitary survey bacteriological survey which provided extremely elevated *E. coli* results in the Saleen creek sample. This exceptionally high sample from Saleen Creek is noted as important as the sample was collected during dry conditions and could provide worse results following any rainfall or stormwater overflow activations.

Response: This feedback is addressed in a review of the screening process which had previously excluded WwTPs below 500 P.E., with this feedback specifically addressed in Section 2.5 and Section 4. Further detail on each of the agglomerations below 500 P.E. is now provided in the report (specifically in Appendix 2A, as well as text in Section 2.5 and Section 4). It is noted that this does not change the findings of the sanitary survey in terms of primary input pathways and RMP locations. This information's relevance is important in order to highlight specific potential bacterial input sources, particularly in the case of WwTP agglomerations designed for lower P.E. levels but operating significantly above these P.E. levels, and so may be proportionately more impactful than WwTPs operating below designed P.E. levels. References to relevance/importance of Cloyne and Saleen WwTPs are now also made in the bacteriological survey section (Section 4). The report has been amended in Sections 4 and 8 to make clear that the source of the contamination noted in the Saleen Creek sampling has not been confirmed as causatively linked to failing WwTPs and that attribution to upstream wastewater sources should be treated as a plausible pressure rather than a confirmed source.

- * Industry input on boundary of area for Rostellan oyster production highlighted importance of not reducing classified area for Rostellan oyster production.

Response: Area has not been reduced and has been maintained at established level in order to accommodate existing licensed production.

- * Detailed industry input provided on licensed production sites in both the North Channel's and Rostellan portions of Cork Harbour. Clarity was provided on all production underway and that intended to take place under licensed areas. In addition, corrections on provided mapping were provided. In addition, the use of a currently unlicensed area for storage mussels at Brick Island in the North Channel, and the scope for assignment of an RMP or RMPs for this site, were queried by local industry.

Response: All provided information on production site layout (mapping detail as well as text-based information) was incorporated into the draft report and allowed for clear refinements of the information presented in the report. The use of a currently unlicensed area for storage of blue mussels on the shore of Brick Island in the North Channel was deemed out of scope for the Cork Harbour sanitary survey in the absence of licensing for this species at this location. Designation of an area for classification of production is only carried out in response to sanitary surveying, which is in turn based on licensing of sites. Any future designation of a blue mussel RMP in the North Channel would be contingent on licensing and an updated Cork Harbour sanitary survey, prior to classification of the area for this species.

- * Feedback noted that Cork Harbour (North Channel) was previously classified C for blue mussels before this species' declassification in that area. It was noted that this was the only C classification of any species in any classified production area in Ireland to date. In addition, feedback welcomed the acknowledgement of persistent norovirus contamination as part of the characterisation of the Cork Harbour classified production area.

Response: The information on the C classification of mussels in the production area, and the unique status of this classification in an Irish context were noted in a footnote (Page 8).

- * Feedback on the specific Norovirus information available and relevant to the Cork Harbour sanitary survey were provided by the Marine Institute.

Response: Feedback received now incorporated in full on Page 8.

- * Feedback received on the importance of the North Channel's residence times in allowing a native oyster population to establish, while also exerting negative pressure on shellfish production through the increased residence of bacteria and viruses.

Response: Feedback noted and further detail included in response (see Page 27).

- * Feedback received seeking clarification of symbol on legend on mapping of Industrial Emission sites with the contributing catchment (Figure 2-14).

Response: This figure's legend was updated to clarify.

- * Industry feedback was received agreeing with the accuracy of the sanitary survey conclusions that the survey finds that the predominant sources of faecal pollution are likely attributed to failing urban wastewater treatment plants.

Response: None required.

*** Outcome:**

- * **Given the feedback, this report is recommended for publication and finalisation.**

Appendix - 10 MARINE INSTITUTE NOROVIRUS MONITORING INFORMATION

Background

Norovirus is a leading cause of viral gastroenteritis in the human population and is commonly present in municipal waste water. When shellfish production areas are contaminated by municipal waste water bivalve molluscs will become contaminated with norovirus. Generally, the peak of community infection occurs during the winter. Norovirus concentrations occurring in bivalve molluscs generally reflect this peak of community infection with highest concentration in bivalve shellfish occurring between October to March.

Currently, reliable detection and quantification of norovirus in bivalve molluscs relies on the use of an internationally standardised molecular biology method ([ISO 15216-1:2017](#)). The Marine Institute is currently the only laboratory undertaking testing of bivalve molluscs using this method and has been ISO17025 accredited for its use since 2010. This method does not distinguish between infectious and non-infectious norovirus particles. Therefore, the infection risk associated with an individual norovirus results is difficult to assess. As yet, no limit for norovirus exists in legislation although discussions regarding an acceptable limit for norovirus in bivalve molluscs are progressing at an EU level.

Assessment of norovirus monitoring data

No structured national monitoring programme for norovirus in bivalve molluscs has been conducted nationally since a two-year survey was completed in 22 production areas in October 2018. However, the Marine Institute does undertake norovirus testing for a limited number of producers to assist them to implement their existing food safety management plans. Therefore, data on the occurrence and concentration of norovirus in bivalve shellfish from production areas in Ireland is limited. Data may also exist from research projects and food safety incident investigations. Therefore, when assessing norovirus data, it should be noted that the following factors must be considered.

- Age of norovirus data available. Older data may not be relevant to the current situation
- Samples supplied by producers may originate from unknown locations within the production and potentially not in the production area that the producer is situated.
- Sampling protocols are not supervised

Despite these issues an assessment of available norovirus data during the sanitary survey for a production area may be useful for the following reasons.

- Norovirus detection in bivalve molluscs using the standardised method is indicative of human faecal contamination. Higher concentrations of norovirus may be indicative of significant inputs from waste water treatment plants.
- Norovirus data could inform producers of food safety risks associated with products harvested from their production areas.

The following assessment of data has been made by the MI considering all relevant data available. Only data obtained from samples tested using the standard ISO method is included in the assessment.

Assessment of norovirus data in Cork Harbour

This assessment is made based on a review of available data. Comprehensive norovirus monitoring has been undertaken in Cork Harbour over a number of years. Monitoring is ongoing. Recent norovirus data primarily originates from monitoring by a producer in the production area for risk management purposes. Norovirus data is available for both North Channel and Rostellan production area.

- The available data indicates that both North Channel and Rostellan production areas are impacted by a **high** level of norovirus contamination with a **high** degree of certainty.

Contamination Levels

Low level of contamination – Generally concentrations are below the limit of quantification of the method (100 norovirus genome copies per gram) and not exceeding 500 genome copies per gram throughout the year.

Moderate level of contamination – Concentrations regularly above the limit of quantification of the method (100 norovirus genome copies per gram) and generally not exceeding 1000 norovirus genome copies per gram during the high-risk winter period.

High level of contamination - Concentrations regularly exceeding 500 norovirus genome copies per gram during the high-risk winter period.

Shellfish producers are reminded that guidance on the [risk management of norovirus in oysters](#) is available.

For further information of norovirus concentrations in Cork Harbour or norovirus testing more generally the Marine Institute can be contacted directly at norovirus.testing@Marine.ie