



OFFICE OF ENVIRONMENTAL SUSTAINABILITY

INSPECTORS REPORT ON A WASTE WATER DISCHARGE LICENCE REVIEW APPLICATION

To: Tom Ryan, Director

From: Christine Murphy, Inspector
Environmental Licensing Programme

Date: 29 September 2022

RE: Application for a review of Waste Water Discharge Licence from **Irish Water**, for the agglomeration named **Castletownbere**, Reg. No. D0297-02.

Application & Agglomeration Details

Agglomeration name:	Castletownbere (Appendix 1)
Location of agglomeration:	Townlands of Cametringane, Drom North, Drom South, Derreenataggart Middle, Knockaneroe, Foildarrig, Derrymihin West, Rodeen, Co. Cork
Location of waste water treatment plant:	Drom South, Castletownbere, Co. Cork
Population equivalent to which the application relates:	2,168 (design)
Actual population equivalent:	1,880 (2021)
Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent of 2,001 to 10,000
Licence application received:	19/02/2021
Notice under Regulation 18(3)(b) issued:	07/10/2021
Information under Regulation 18(3)(b) received:	29/10/2021 & 28/01/2022
Regulation 18(2) Compliance Acknowledgement issued:	05/04/2022
Regulation 18(2) Compliance extension request issued (and consent granted):	28/07/2022 (29/07/2022)
Site notice check:	18/03/2021
Submissions received:	Two (23/03/2021 & 27/04/2021)
Environmental Impact Assessment required:	No
Stage 2 Appropriate Assessment required:	No

1. Application

Cork County Council applied to the Agency for a Waste Water Discharge Licence (WWDL) on 27/02/2009 for the Castletownbere agglomeration, Reg. No. D0297-01. The WWDL was granted on 01/03/2011 and was technically amended in 2014 and 2021. A review application for the Castletownbere WWDL was made on the following grounds:

- The relocation of the primary discharge point;
- Revised Emission Limit Values (ELVs);
- An increase in population equivalent (p.e.) to over 2,000; and
- The construction of a new Wastewater Treatment Plant (WWTP)

The p.e. of the Castletownbere agglomeration is 1,880 and the design p.e. of the proposed WWTP is 2,168.

The Castletownbere agglomeration did not meet the requirement of the Council Directive 91/271/EEC on Urban Wastewater Treatment for the provision of wastewater treatment in 2021. Untreated wastewater is currently being discharged directly into the Berehaven coastal waterbody from the agglomeration.

The existing situation is one primary discharge point and six secondary discharge points discharging untreated wastewater directly into Berehaven coastal waterbody. The proposal by Irish Water for this application includes primary treatment, the construction of a new 120m long sea outfall primary discharge point and five dual functioning stormwater overflows/emergency overflows (SWO/EOs). It is proposed that the existing primary discharge point and two existing secondary discharge points will be decommissioned while the three remaining secondary discharge points will be retained for use as SWO/EOs.

The existing WWDL (D0297-01) required a new wastewater treatment plant providing secondary treatment by 31st December 2015 which was based on the proposal pertaining at the time of licensing by Cork County Council. In addition, the licence required an impact assessment on designated shellfish waters of discharges within 18 months of grant of the licence amendment and an annual report on the status of the receiving waterbody. Despite the licence requirements, funding for the Castletownbere Sewerage Scheme was not approved by the Irish Water Board until December 2020. The new waste water treatment plant, providing primary treatment and ancillary works, are currently under construction.

2. Planning Status

Planning permission for the Castletownbere Wastewater Treatment Works was granted on 05/10/2020 (Cork County Council planning references: 19813 & 19814). A copy of the grant of planning permission and the planner's report was submitted with the application. The planning permission related to a p.e. capacity of 3,247 (30-year design) and stated that Environmental Impact Assessment (EIA) was not required.

3. EIA Preliminary Examination/Screening

The Agency made an EIA Screening Determination on 26/08/2021 and determined that an EIA is not required for the authorisation to which the application relates as there is no real likelihood of significant effects on the environment arising from the proposed development comprising or for the purposes of a waste water discharge. This determination was made having regard to the following:

1. The limited scale of the waste water discharges from the WWTP. The wastewater treatment plant serves an agglomeration with a p.e. of 2,168 which is significantly below the 10,000 p.e. mandatory threshold for EIA.
2. Residential wastewater is the largest contributor to the WWTP and is readily biodegradable.

3. Waste water is treated prior to discharge to the receiving water in settlement tanks and a sludge management system.
4. With regard to European sites, the potential effects the discharges may have on European Sites and their qualifying interests will be assessed under the Habitats Directive (Appropriate Assessment).
5. If a revised waste water discharge licence is granted for the Castletownbere agglomeration, the emission limit values (ELVs) set in the licence will be established according to the combined approach and will contribute to the achievement of the environmental objectives and environmental quality standards for the receiving waterbody.
6. The cumulative effects with other existing discharges are not likely to give rise to significant effects on the environment.

4. Discharges to waters

The following table outlines the proposed waste water discharges to waters from the waste water works serving this agglomeration.

Table 1: Waste Water Discharges

Primary discharge point (SW001)	
Type of treatment	Preliminary and primary
WWTP description	3 no. primary settlement tanks and a picket fence thickener
Receiving water name	Berehaven (IE_SW_180_0000)
Dry Weather Flow (DWF)	488m ³ /day (based on design capacity of 2,168p.e. and on 225 litres per head per day). The WWTP has a storm water storage tank which will store flows in excess of Full Flow to Treatment (FFT) for the 10-year design horizon for up to 2 hours
Overflows	
Dual functioning storm water overflows and emergency overflows	Yes (5): SW002, SW003 and SW004 (existing secondary discharges being retained as SWO/EOs) SW005 and SW006 (new SWO/EOs)
Receiving water name	Berehaven (WFD Code: IE_SW_180_0000)

The Urban Wastewater Treatment Directive (UWWTD) requires discharges to coastal waters from agglomerations with a p.e. of <10,000 to be subject to 'appropriate treatment'. Appropriate treatment is defined by the Directive as treatment of urban wastewater by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of EU Directives. This proposal relates to discharges into a coastal waterbody from an agglomeration with a p.e. of 2,001 to 10,000 and therefore secondary treatment is not required under Article 4 of the UWWTD. The licensee has requested ELVs as set out in Table 2 for the primary discharge from the Castletownbere agglomeration in line with the UWWTD. The current ELVs set in the existing WWDL (D0297-01) were based on the proposal at that time to provide secondary treatment.

Table 2: Current and Requested ELVs

Parameter	Current ELV	Requested ELV
pH	6.0-9.0	-
Carbonaceous Biochemical Oxygen Demand (cBOD)	25 mg/l	At least 20% reduction in relation to the load of the influent
Chemical Oxygen Demand (COD)	125 mg/l	-
Suspended Solids	35 mg/l	At least 50% reduction in relation to the load of the influent
Orthophosphate (as P)	10 mg/l	-
Dissolved Inorganic Nitrogen (as N)	35 mg/l	54 mg/l concentration (as modelled) and 26.35 kg/day mass flow
Total Oxidised Nitrogen	35 mg/l	-
Ammonia	35 mg/l	-

Untreated wastewater is currently being discharged to Berehaven coastal waterbody and there are recurring breaches of the current ELVs recorded. It is expected that the proposal will improve the water quality of the receiving waterbody by removing untreated wastewater from the coastal waterbody.

5. Impact of Waste Water Discharges

The following table summarises the main considerations in relation to the Berehaven coastal waterbody in the vicinity of the proposed primary discharge and discharges from dual functioning SWO/EOs.

Table 3: Receiving Waterbody

Characteristic	Classification	Comment
Receiving water name	Berehaven (WFD Code: IE_SW_180_0000)	Berehaven coastal waterbody flows into the Outer Bantry Bay waterbody (WFD Code: IE_SW_170_0000)
WFD status 2013-2018	Good	"Not At Risk" There is no significant deteriorating trend in the waterbody. The waste water discharges are not listed as significant pressures
WFD environmental objective	Good	To be maintained.

WFD protected areas	Castletownbere Shellfish Area (Shellfish Site Code: IEPA2_0017)	Proposed primary discharge is approximately 930m west of the boundary of the shellfish area. The protected shellfish area is reported to have met its water dependent objective under the 2 nd cycle WFD (as of 4 th July 2019)
Receiving water monitoring stations	BV010 - Castletownbere Harbour (Code: CW05003196BV1001) BV020 - Walter Scott Rock Buoy (Code: CW05003196BV1002) Castletownbere Ambient (Code: CW05003196BV1009)	Distance of 804m north of proposed primary discharge point Distance of 230m southeast of proposed primary discharge point Distance of 420m southwest of proposed primary discharge point
Trophic Status	Unpolluted (2018-2020)	

There are no protected Bathing Water Areas located in the vicinity of the primary discharge point. The nearest Bathing Water Area, Barley Cove (code: IESWBWC150_0000_0200), is approximately 29km south east of the primary discharge point.

Impact Assessment

The impact assessment is informed by hydrodynamic modelling and water quality modelling. The licensee carried out modelling to determine whether the discharges from the proposed Castletownbere WWTP will aim to achieve the Water Framework Directive (WFD) objective to maintain good status and to achieve the environmental quality standards (EQSs) for Berehaven coastal waterbody with regards to Dissolved Inorganic Nitrogen (DIN), E. Coli, Suspended Solids, Intestinal Enterococci (IE), Molybdate Reactive Phosphorus (MRP), Total Ammonia, Unionised Ammonia, dissolved oxygen and BOD concentrations were also modelled. The cumulative effects of all relevant WWTP outfalls in Bantry Bay, the primary rivers flowing into Bantry Bay and the open sea boundary were included in the modelling assessment. A detailed, high-resolution, 2D MIKE21 numerical model comprising hydrodynamic modelling and water quality modelling was applied.

The relevant parameter for the ecological status of the Berehaven coastal waterbody is DIN. DIN is the sum of the concentrations of nitrate (NO₃), nitrite (NO₂) and ammonia (NH₃). DIN concentration of 54 mg/l from the long sea outfall primary discharge point was modelled and modelling results demonstrated that DIN levels within and outside the immediate vicinity of the outfall were below 0.25 mg/l N ("Good" status standard at salinity level of 34.5 psu (practical salinity unit) specified in the European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended). In accordance with the combined approach, the DIN concentration limit of 54mg/l and DIN mass flow limit of 26.35 Kg/day, based on a DWF of 488m³/day, are set in the RL to ensure that the quality of the receiving water will not compromise the achievement of the objective to maintain the good status of the receiving waterbody and to ensure compliance with the EQS for DIN.

Designated Shellfish Waters

The Castletownbere Shellfish Area (IEPA2_0017) is located approximately 930m east of the proposed primary discharge point. The urchin production area in Castletownbere is classified as 'Class A' all year round for the purposes of EC Regulation 854/2004. Mussels are classified as Class A from 1st October to 1st May and for the rest of the year are classified as Class B. Oysters are classified as Class B all year round.

The 2010 Castletownbere Pollution Reduction Programme (PRP) and the European Communities (Quality of Shellfish Waters) Regulations, 2006 were considered when assessing the D0297-01 WWDL application. Condition 5.6 of the existing licence, D0297-01, required the licensee to carry out an assessment of the impact of discharges on shellfish following the commissioning of the proposed wastewater treatment plant. Condition 5.7 of the licence required disinfection where shellfish are determined to be impacted by discharges.

This review application does not propose disinfection. The protected shellfish area is reported to have met its water dependent objective under the 2nd cycle WFD. According to the Marine Institute, the WFD water dependent objective is generally considered to have been met when the shellfish samples have passed at least 75% of the Class A threshold value for E. Coli. The 2012 updated Castletownbere PRP reports that monitoring results (2012) indicate the receiving waterbody is in compliance with the guideline value of $\leq 300/100\text{ml}$ for faecal coliforms, as per the European Communities (Quality of Shellfish Waters) Regulations 2006.

The PRP lists the Castletownbere urban waste water system as a key pressure on the protected shellfish area. The actions listed in the PRP state that the Local Authority must comply with the conditions as set out in the existing WWDL D0297-01 and in particular Condition 5.6 (carry out impact assessment) and Condition 5.7 (install disinfection as required).

Modelling was carried out as part of this review application to assess impacts of discharges on shellfish waters. The E. Coli modelling presented that there is a reduction in E. Coli concentration at the western boundary of the shellfish water area as a result of the proposed wastewater treatment plant and new primary discharge point. At the Shellfish Water area boundary, the mean E. Coli concentration is 0.55cfu/100ml with the proposed WWTP and discharges in place which is below the limit of detection for E. Coli (1cfu/100ml). There is no water quality standard for E. Coli in shellfish flesh. However, an E. Coli concentration of below 1 cfu/100ml in seawater in which shellfish are harvested will equate to an E. Coli concentration of much less than 300 E. Coli/100g (guideline value) in shellfish flesh. The receiving waterbody is currently at 'Good' WFD status and is meeting its EQS. Therefore E. Coli concentrations will not have a significant impact on the Castletownbere Shellfish Area.

The proposed removal of untreated wastewater discharges and a new primary discharge point will have a positive effect on reducing E. Coli concentrations in the vicinity of the protected shellfish area.

Recommended Licence Requirements

Schedule A: Discharges & Discharge Monitoring of the RL has set ELVs of 20% reduction for cBOD and 50% reduction for suspended solids at the proposed primary discharge point. These limits are in accordance with the combined approach and the Urban Waste Water Treatment Regulations, 2001, as amended. The RL, as drafted, sets an ELV for DIN in line with the combined approach and environmental objectives, including the EQS for DIN.

The plant is already commissioned and operating and the RL requires the ELVs and discontinuation of the discharge points to take immediate effect.

For the purposes of clarity, the RL requires the discontinuation of the existing primary discharge point and two secondary discharge points that were specified in the current licence on grant of the licence. Please note another secondary discharge point, GW003, from an unlicensed package plant, is proposed for decommissioning, was not specified in the existing licence and is not referred to in this RL, as drafted.

Monitoring of the primary discharge will take place as per Schedule A.1 of the RL. The requirement for monitoring of the primary discharge point for E. Coli, Enterococci and faecal coliforms has not been carried forward from the existing licence. Only the requirement for monitoring BOD, suspended solids, pH, flow rate, visual inspection and DIN is being carried forward.

The waste water discharges from the proposed WWTP are largely residential and domestic in nature. There are no heavy industries within the agglomeration and leachate is not accepted by the WWTP. Therefore priority substance and toxicity monitoring are not required.

Impact of the Storm Water Overflows/Emergency Overflows

All five (5 no.) proposed SWO/EOs are reported in the application to be in compliance with criteria as set out in the DoECLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995.

Condition 3.4 of the RL, as drafted, requires all storm water overflows to comply with DoECLG criteria.

Population equivalent

The mass load of waste water entering a waste water works can be expressed in p.e. The licensee stated that the p.e. to which this application relates is 2,168. The assessment of the impact of waste water discharges from the waste water works corresponds to this p.e. The RL, as drafted, specifies a limit for the p.e. to make clear that which was assessed.

Unintended or accidental discharges

Discharges from emergency overflows are potential sources of environmental damage. Emergency overflows activate in the case of a pump or power failure. To deal with potential accidents and emergency situations arising at the WWTP there are five (5 no.) dual-function SWO/EOs present in the agglomeration.

In order to minimise accidents and their consequences, the licensee is required, under the existing Castletownbere WWDL (D0297-01), to provide details on measures taken to prevent environmental damage following accidents associated with the waste water works. The licensee has detailed the following measures to prevent unintended discharges discharging into the water environment and the surveillance of such measures:

- Stormwater storage is provided at each of the 4 no. pumping stations on the network in accordance with Irish Water standards.
- A total of 414m³ (minimum) stormwater storage is being provided in the agglomeration.
- The pumping stations at the Hospital, Brandyhall Bridge and Came Woods will be controlled independently from the Quays pumping station via radio links and programme logic controllers (PLCs) to maximise the storm storage volumes within the agglomeration and pumping station storm tanks.
- Chambers, V-notch weirs and ultrasonic flowmeters will be included in each of the pumping station overflows to measure any spills.
- A mobile generator is being provided as part of the scheme to cover some power failure events.

- At the WWTP, a stormwater tank will be provided to capture all flows in excess of FFT. The tank will incorporate return duty / standby pumps.
- Monitoring instrumentation will be provided at the WWTP to log any storm overflows.
- An oil interceptor will be in place at the WWTP site.
- An emergency response procedure is being developed for the future operation of the new WWTP to ensure unintended waste water discharges and potential impacts on the environment are kept to a minimum.

In order to minimise accidents associated with the WWTP and their consequences, the RL as drafted requires the licensee to:

- Maintain an operation and maintenance programme for all plant and equipment to ensure that no unauthorised waste water discharges take place (Condition 4.9).
- Identify measures to minimise any environmental damage associated with discharges from the waste water works following anticipated events or accidents/incidents (Condition 5.1.7).
- Provide details on corrective action and preventative measures taken following the occurrence of any incidents associated with the waste water works (Condition 6.1).
- Maintain an Emergency Response Procedure to minimise the effects of any emergency on the environment (Condition 6.5).

Birds Directive [2009/147/EC] & Habitats Directive [92/43/EEC]

Table 4 lists the European Sites assessed, their associated qualifying interests and conservation objectives. A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the waste water discharges, individually or in combination with other plans or projects are likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Sites at:

1. Kenmare River SAC (Site Code: 002158)
2. Glanmore Bog SAC (Site Code: 001879)
3. Beara Peninsula SPA (Site Code: 004155)
4. Sheep's Head SAC (Site Code: 000102)
5. Sheep's Head to Toe Head SPA (Site Code: 004156)
6. Caha Mountains SAC (Site Code: 000093)
7. Glengarriff Harbour and Woodland SAC (Site Code: 000090)

The waste water discharges are not directly connected with nor necessary to the management of any European Site and the Agency considered, for the reasons set out below, that it can be excluded, on the basis of objective information, that the waste water discharges, individually or in combination with other plans or projects, will have a significant effect on any European Site and accordingly determined that an Appropriate Assessment of the waste water discharges was not required.

This determination is based on the fact that there is no hydrological or hydrogeological connection between the proposed discharges and the qualifying interests of Glanmore Bay SAC, Sheep's Head SAC, Caha Mountains SAC and Glengarriff Harbour and Woodland SAC and due to the distance between these SACs and the proposed discharges. Kenmare River SAC is hydrologically connected to the proposed discharges but the discharges are too distant (22km) to affect qualifying interests of the site. This determination is also based on the fact that the proposed discharges will not affect the population trend or the productivity rate of any qualifying interest species of the Beara Peninsula SPA or the Sheep's Head to Toe Head SPA. The breeding sites and habitats of the qualifying interest species will not be disturbed due to the proposed discharges. This determination is also based on the fact that Berehaven coastal waters

(IE_SW_180_0000) into which the proposed wastewater treatment plant will discharge is currently assigned 'Good' water quality status under the WFD and the proposed discharges will result in a positive impact on the receiving water quality. This determination is also based on the small volume of proposed discharges from the agglomeration into a coastal environment with a positive dilution factor.

Table 4: European Sites assessed, their associated qualifying interests and conservation objectives

	European Site (site code)	Distance/ Direction from discharges	Qualifying interests (* denotes a priority habitat)	Conservation objectives
1	Beara Peninsula SPA (004155)	2km south of the proposed primary discharge point	Species A009 Fulmar (<i>Fulmarus glacialis</i>) A346 Chough (<i>Pyrhocorax pyrrhocorax</i>)	As per NPWS (2022) Conservation objectives for Beara Peninsula SPA [004155]. Generic Version 9.0. Department of Housing, Local Government and Heritage (dated 26/01/2022).
2	Kenmare River SAC (002158)	10km north of the proposed primary discharge point	Habitats 1160 Large shallow inlets and bays 1170 Reefs 1220 Perennial vegetation of stony banks 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) 4030 European dry heaths 5130 <i>Juniperus communis</i> formations on heaths or calcareous grasslands 6130 Calaminarian grasslands of the <i>Violetalia calaminariae</i> 8330 Submerged or partially submerged sea caves Species 1014 <i>Vertigo angustior</i> (Narrow-mouthed Whorl Snail) 1303 <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat) 1355 <i>Lutra lutra</i> (Otter) 1365 <i>Phoca vitulina</i> (Harbour Seal)	As per NPWS (2013) Conservation objectives for Kenmare River SAC [002158]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 25/04/2013).

3	Glengarriff Harbour and Woodland SAC (000090)	22km east of the proposed primary discharge point	<p>Habitats</p> <p>91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles</p> <p>91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)</p> <p>Species</p> <p>1024 Geomalacus maculosus (Kerry Slug)</p> <p>1303 Rhinolophus hipposideros (Lesser Horseshoe Bat)</p> <p>1355 Lutra lutra (Otter)</p> <p>1365 Phoca vitulina (Harbour Seal)</p>	As per NPWS (2015) Conservation Objectives: Glengarriff Harbour and Woodland SAC 000090. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
4	Glanmore Bog SAC (001879)	7.4km north of the proposed primary discharge point	<p>Habitats</p> <p>3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)</p> <p>3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation</p> <p>4010 Northern Atlantic wet heaths with Erica tetralix</p> <p>6230 Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)</p> <p>7130 Blanket bogs (* if active bog)</p> <p>Species</p> <p>1029 Margaritifera margaritifera (Freshwater Pearl Mussel)</p> <p>1421 Trichomanes speciosum (Killarney Fern)</p>	As per NPWS (2017) Conservation Objectives: Glanmore Bog SAC 001879. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
5	Sheep's Head SAC (000102)	12km southeast of the proposed primary discharge point	<p>Habitats</p> <p>4010 Northern Atlantic wet heaths with Erica tetralix</p> <p>4030 European dry heaths</p> <p>Species</p> <p>1024 Geomalacus maculosus (Kerry Slug)</p>	As per NPWS (2021) Conservation Objectives: Sheep's Head SAC 000102. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
6	Caha Mountains SAC (000093)	13.8km northeast of the proposed primary discharge point	<p>Habitat</p> <p>3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)</p> <p>3160 Natural dystrophic lakes and ponds</p>	As per NPWS (2016) Conservation Objectives: Caha Mountains SAC 000093. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

			4010 Northern Atlantic wet heaths with <i>Erica tetralix</i> 4030 European dry heaths 4060 Alpine and Boreal heaths 6230 Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) 7130 Blanket bogs (* if active bog) 8110 Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) 8210 Calcareous rocky slopes with chasmophytic vegetation 8220 Siliceous rocky slopes with chasmophytic vegetation Species 1024 <i>Geomalacus maculosus</i> (Kerry Slug) 1421 <i>Trichomanes speciosum</i> (Killarney Fern)	
7	Sheep's Head to Toe Head SPA (004156)	12km southeast of the proposed primary discharge point	Species A103 Peregrine (<i>Falco peregrinus</i>) A346 Chough (<i>Pyrrhocorax pyrrhocorax</i>)	As per NPWS (2022) Conservation objectives for Sheep's Head to Toe Head SPA [004156]. Generic Version 9.0. Department of Housing, Local Government and Heritage.

6. Ambient Monitoring

Schedule B: Ambient Monitoring of the RL specifies the locations of the three ambient monitoring points. Ambient monitoring requirements are not being carried forward from the existing licence because the proposed removal of untreated wastewater discharges will have a positive effect on the receiving coastal waterbody. However, the RL includes a requirement to allow the Agency to require ambient monitoring in the future.

7. Programme of Improvements

Condition 5.1 of the RL requires the licensee to maintain a programme of improvements to maximise the effectiveness and efficiency of the waste water works.

8. Compliance with EU Directives

In considering the application, regard was had to the requirements of Regulation 6(2) of the European Union (Waste Water Discharge) Regulations 2007 to 2020, notably:

Table 5: Compliance with EU Directives/Regulations

Compliance with Directives/Regulations	Description and Conditions in RL
Urban Waste Water Treatment Directive [91/271/EEC]	Not compliant in 2021. Compliance with the conditions of the RL will ensure the agglomeration is in compliance.
Water Framework Directive [2000/60/EC]	Schedule A.1 of the RL sets ELVs which aim to comply with WFD Objectives (Good status and no deterioration).
EC Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009) as amended	Schedule A.1 of the RL sets an ELV to maintain the environmental quality standard for DIN.
Drinking Water Abstraction Regulations	There are no drinking water abstractions within close proximity to the discharge points.
Bathing Water Directive [2006/7/EC]	There are no bathing waters present within close proximity to the discharge points.
Environmental Impact Assessment Directive [2014/52/EU]	An EIAR was not submitted for the Castletownbere WWTP and EIA has not been carried out.
Birds Directive [2009/147/EC] and Habitats Directive [92/43/EEC]	A Natura Impact Statement was not submitted for the Castletownbere WWTP and Appropriate Assessment has not been carried out.

9. Submissions

Two (2 no.) submissions were received in relation to this licence review application. The issues raised in the submissions are noted and addressed in this Inspector's Report and the submissions were taken into consideration during the preparation of the RL. The submissions are summarised and responses are provided in Table 7.

Table 6: Summary of submissions and responses

Submission 1 – HSE	Response 1
The HSE supports the proposal to end untreated discharges and acknowledges that the proposal will bring positive health impacts to the community and environment. The proposal will improve water quality in the Castletownbere Shellfish Area.	Noted.
ELVs and monitoring should be strictly adhered to.	It is a matter for Irish Water to adhere to the ELVs and monitoring requirements specified in the RL. It is a matter for the EPA to enforce these ELVs and monitoring requirements.
Water quality should be monitored to ensure compliance with European Communities (Quality of Shellfish) Regulations 2006 as amended.	The Marine Institute monitors shellfish waters to ensure compliance with the Water Framework Directive.
An inspection and maintenance programme for the pumping stations and	Condition 4.9 of the RL, as drafted, requires the licensee to maintain an operation and maintenance programme

for the outfall pipe should be put in place.	for all plant and equipment to ensure that no unauthorised waste water discharges take place.
A complaints procedure should be implemented and a member of staff should be designated to deal with complaints in relation to the WWTP. Records of complaints should be included in annual monitoring results reported to the EPA.	In line with Condition 6.2 of the RL, the licensee shall record all complaints related to the discharges to waters from the waste water works in accordance with the national environmental complaints procedure.
A system for recording and responding to odour or noise complaints from the WWTP should be developed. An Odour Management Plan should be implemented and regular unannounced odour audits of the WWTP should be undertaken.	The Waste Water Discharge (Authorisation) Regulations, 2007, as amended, relate specifically to, and are restricted to, the regulation and control of waste water discharges from the agglomeration. Therefore any odour or noise issues that may be associated with the waste water works including the treatment plant are outside the scope of licensing.
Submission 2 – Ann Murphy	Response 2
<p>Proposed Primary Treatment is inadequate treatment and should be Secondary Treatment with UV (EPA Condition 5.6 Technical Amendment A July 2014).</p> <p>Primary Treatment for PE > 2,000 has never been provided in Ireland or UK and is unproven. This proposal would not have been approved by Dept of Environment, Community & LG.</p> <p>The Urban Wastewater Directive states Secondary Treatment is the basic level of treatment, with more stringent treatment being required in sensitive areas.</p>	<p>This proposal relates to discharges into a coastal waterbody from an agglomeration with a p.e. of 2,001 to 10,000 and therefore secondary treatment is not required under Article 4 of the UWWTD. Currently untreated discharges are entering the receiving waterbody and the WFD status of the receiving waterbody is 'Good'. The proposed WWTP will result in improved water quality in the receiving waterbody, as discussed in Section 5 of this Inspector's Report.</p>
The proposed discharge of 280 BOD and 200 SS fail the EPA Discharge Licence DO297/01 limits of 25 BOD and 35 SS issued in 2011 for CT Bere.	In line with the UWWTD requirements and the combined approach, revised ELVs are included in Schedule A of the RL for BOD and suspended solids.
The Marine Institute, in its 2009 submission to EPA noted that the discharge is not directly into the designated shellfish waters and recommended that the standards for the WWT discharge must be set on the basis of the receiving waters being a designated shellfish water.	The Marine Institute made a submission on the application for the existing licence (D0297-01). This submission was considered by the Agency at the time of licensing. No submission was received from the Marine Institute for this review application. Section 5 of this Inspector's Report details considerations made in relation to designated shellfish waters.
The proposed estimated current loadings of 1961pe rising to 2,200 pe in 10 yrs,	The review application was submitted by the licensee for a design p.e. of 2,168

<p>are too low. EPA Licence DO 297 estimated the load at 1,300pe in 2011. The Irish Water provided AER for 2017 submitted to EPA noted the organic load at 1,955pe. The growth in the County Development Plan 2011 to 2022 for CTBere, 271 new houses, 309 new units is not being provided for.</p>	<p>and the application has been assessed on this basis. It is a matter for the licensee to consider projected growth. It is a matter for the licensee to apply for a licence review should the population equivalent increase above the population equivalent to which the RL, as drafted, relates.</p>
<p>EPA Technical Amendment A 2014 condition 5.6 requires carrying out assessment of impact of viruses in the Shellfish Waters, which has not been done.</p>	<p>A modelling report was submitted with this review application and a supplementary modelling report was submitted on 31/01/2022. These modelling reports assess the impacts of the proposed discharges on the protected shellfish water area and are discussed in Section 5 of this Inspector's Report. The protected shellfish area is reported to have met its water dependent objective under the 2nd cycle WFD.</p>
<p>No flow and load surveys have been provided, no survey of the existing gravity sewers, proposed to be reused, has been provided. The existing gravity sewer from Brandy Hall pumping station on the R572 connects with the main town sewer west of Blackrock Terrace, not at the junction with R571 as proposed.</p>	<p>The Waste Water Discharge (Authorisation) Regulations, 2007, as amended, are for the purpose of authorising waste water discharges from waste water works serving an agglomeration. It is a matter for the licensee to set out in their application the location, nature and extent of discharges. It is an offence for the licensee to provide false information.</p>
<p>The existing outfall from the entire West End (Drom North, Tallon Heights, Council houses, the Rock, Old Bakery, Garda Station) is located at the rear of the new Cork County Council carpark. This has been missed and will require a further pumping station. The proposed pumping station at Came Woods cannot gravitate to the Quays pumping station as proposed and should connect to the rising main to the WWTP to avoid septicity.</p>	<p>In their review application Irish Water sets out the location of waste water discharges from the agglomeration. Drawing number 03-02-001 specifies the extent of the agglomeration to which the application relates. The Agency regulates wastewater discharges and where a licence is granted, only specified discharges from the agglomeration will be allowed. Irish Water is responsible for the design and operation of the waste water works, including the location of pumping stations.</p> <p>With respect to the west end of the agglomeration, the existing secondary discharge points (GW001 and GW003) are to be decommissioned as per <i>Schedule C.2 Discharges to be Discontinued</i> of the RL as drafted. Stormwater overflows (SW004, SW005 and SW006) are located west of the agglomeration.</p>

<p>Septic sewage from 3 pumping stations in series is inevitable and the proposal to provide odour control equipment at the Sludge Holding Tank only is inadequate. All tanks should be in a building fitted with extraction filters.</p>	<p>The RL, as drafted, relates specifically to, the regulation and control of waste water discharges from the agglomeration. Any odour issue that may be associated with the waste water treatment plant is governed by the European Communities (Waste Water Treatment) (Prevention of Odours and Noise) Regulations 2005.</p>
<p>The proposed 90% reduction in E Coli from 1x10p7 (Sewage) to 1x 10p6 (Treated effluent, Table 3 Phase 1 Dispersion Modelling Report) exceeds the max 50% possible from Primary Settling tanks. The comparisons in the model from the impact of the existing load of 0.0049m3/sec at 1x10p7 to proposed load 0.0063m3/sec at 1x 10p6 are skewed by assuming proposed effluent at 10% raw sewage.</p>	<p>Note that the protected shellfish water area is meeting its environmental objective currently. It is expected that primary treatment will reduce E. Coli concentrations by a range of 0-1 order of magnitude.</p>
<p>The modelling and survey in 2018 does not take account of the €25 million large breakwaters, dredging and harbour works under construction, which will result in all discharges in the flood tide going into the inner harbour.</p>	<p>The construction of the wharf extension and associated ancillary development at Dinish Island will result in short term increases in turbidity and suspended solids concentrations. The proposed wastewater discharges associated with the Castletownbere agglomeration are long term changes and will not have significant incombination effects with the short term construction works on Dinish Island. The modelling report received on 31/01/2022 considered the Dinish Wharf Expansion Project.</p>
<p>There is good dispersion 0.2m/sec in the ebb tide to the harbour's mouth, away from the shellfish waters, which could be availed of by including a 6 hr holding tank and lunar clock.</p>	<p>Modelling which was carried out as part of the review application to assess impacts of discharges on the protected shellfish area which indicates that the proposed removal of untreated wastewater discharges and the new primary discharge point will have a positive effect on reducing E. Coli concentrations in the vicinity of the protected shellfish area. There is no proposal for a holding tank and lunar clock. Refer to Section 5 of this Inspector's Report which provides further information regarding the shellfish assessment.</p>
<p>The impacts from the 2 no. WWTPs in Dinish Island which discharge on the ebbing tide have not been considered.</p>	<p>The cumulative effects of all relevant WWTP outfalls in Bantry Bay, the primary rivers flowing into Bantry Bay and the open sea boundary were included in the modelling assessment. The methodology used for the modelling to assess the potential impacts on the receiving</p>

	waterbody due to discharges was selected by competent experts appointed by Irish Water. The results of the modelling assessment were considered in the assessment of the WWDL application. Section 4 outfalls from Dinish Island were considered in updated report.
Some of the drogue tracking defy logic. For example the release at 09:27 on 31/5/2018 drifted northeast until 12:12 in an ebbing tide (high tide 06:30 and low tide 12:30). This is not possible in an ebbing tide with large flows coming out from the inner harbour.	A drogue survey was carried out to validate the hydrodynamic model. The results of the drogue survey demonstrated that the modelled flow direction follows the same direction as the track of the drogue very well. On the spring ebb tide, Figure 36 of Attachment D.1.a Castletownbere Far Field Modelling Report of the application presents that the drogue was released at 06:31 and drifted southwest until 08:22 which corresponds with the modelled flow direction.
The Drogue survey was influenced by light WSW wind 240 deg on 24 May and light East wind 100deg on 31st May when a number ran aground in Droum.	The drogue survey was carried out to validate the hydrodynamic model and the results of the drogue survey demonstrated that the modelled flow direction follows the same direction as the track of the drogue very well.
The location of the outfall at 2.5m is too shallow and is subject to local eddies and poor dispersion. It should extend outside a line from the new breakwater to Droum Point.	The outfall will discharge at approximately -7.7mOD Malin. The lowest tide level is -2.43mOD Malin. The outfall is below this level.
The modelling shows little or no improvement (8 to 7 E Coli)(Table 23) at the Hornet Buoy which is at the centre of the Shellfish Waters. Shellfish Water in CT Bere can vary from Class A to B. The application notes that shellfish samples were found to be non compliant with FC.	Modelling which was carried out as part of the review application to assess impacts of discharges on the protected shellfish area indicates that the proposed removal of untreated wastewater discharges and the new primary discharge point will have a positive effect on reducing E. Coli concentrations in the vicinity of the protected shellfish area.
No screening has been proposed for the perimeter of the WWTP or pumping stations.	The Agency regulates wastewater discharges from the WWTP. Planning has been granted for the design of the WWTP which includes a condition addressing landscaping.

10. Cross Office Liaison

I consulted OEE Inspectors, Brian Coffey and Liam O'Suilleabhain in relation to this agglomeration. In general, the OEE has no significant concerns regarding the proposed changes. I consulted with OEA Scientific Officer Robert Wilkes in relation to coastal modelling. The Environmental Licensing Programme's Environmental Assessment team was consulted with regards to the appropriate assessment screening and the EIA screening for the Castletownbere agglomeration.

11. Charges

The RL requires that the licensee shall pay to the Agency, such sum as the Agency from time to time determines is reflective of the monitoring and enforcement regime being proposed for the agglomeration.

12. Recommendation

I recommend that a Final Licence be issued subject to the conditions and for the reasons as set out in the attached Recommended Licence.

Signed



Christine Murphy

Inspector

Environmental Licensing Programme

Appendix 1: Map showing location of Castletownbere WWTP and associated primary discharge point



Appendix 2: Acknowledgement and Attribution

This report uses maps submitted as part of the application and map imagery as set out in **Table 1** below.

Table 1: Acknowledgement and attribution of the imagery used from EPA Maps in **Appendix 1** of this report.

Map Source	Link to Source	Data Provider	Usage Licence	Attribution Statement	Location in Report
EPA Maps	https://gis.epa.ie/EPAMaps/	OpenStreetMap®	ShareAlike 2.0 Generic (CC BY-SA 2.0)	Data is available under the Open Database License	Appendix 1