



OFFICE OF CLIMATE, LICENSING, RESOURCES & RESEARCH

INSPECTORS REPORT ON A WASTE WATER DISCHARGE LICENCE APPLICATION

To:	Dara Lynott, Director	
From:	Yvonne English	Environmental Licensing Programme
Date:	24 th September 2015	
RE:	Application for a Waste Water Discharge Licence from Irish Water, for the agglomeration named Ballyvourney/Ballymakeery Reg. No. D0299-01.	

Application & Agglomeration Details

Agglomeration Name:	Ballyvourney/Ballymakeery
County:	Cork
Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent of 1,001 to 2,000.
Licence application received:	27/02/2009
Notices under Regulation 18(3)(b) ¹ issued:	31/05/2010, 30/03/2015
Information under Regulation 18(3)(b) received:	06/10/2010, 22/07/2015
Site notice check:	25/03/2009
Site Visit:	22/07/2015
Submission(s) Received:	None
Design Population Equivalent:	1400
Actual Population Equivalent:	1600
Type of treatment:	Primary
Wastewater treatment plant (WWTP) description:	The plant consists of a septic tank, fed partially via gravity, and partially via a pump station with rising main.

The original WWTP was constructed to treat the waste water from a much lower population than it currently serves resulting in the current system being overloaded. The sewer line was upgraded in 2007 to form a separated sewerage collection system. There is a further upgrade of the system planned, and Ballyvourney/Ballymakeery Sewerage Scheme is listed on the 2014-2016 Irish Water Capital Investment Programme.

¹ Waste Water Discharge (Authorisation) Regulations, 2007, as amended.

1. Discharges to waters

The following table outlines the main considerations in relation to discharges to waters from this agglomeration.

Table 1: Discharges to waters

Primary discharge point	
Receiving water name	Sullane River
Type of receiving water	Freshwater
Normal flow	495m ³ /day
Emergency overflow(s)	
Emergency overflow(s)	Yes (one)

Schedule A: Discharges & Discharge Monitoring of the recommended licence (RL) specifies the Emission Limit Values (ELVs) to which the discharge from the Ballyvourney/Ballymakeery agglomeration must conform. Monitoring of the discharges will take place as per this schedule of the RL.

2. Receiving waters and impact

The following table summarises the main considerations in relation to the Sullane River downstream of the primary discharge.

Table 2: Receiving waters

Characteristic	Classification	Comment
Receiving water name	River Sullane	(WFD Code: IE_SW_19_915)
Designations	Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>)	There are populations of Freshwater Pearl Mussel directly downstream of the discharge
Receiving water monitoring stations	First Bridge d/s Ballvourney Br (EPA RS Code: RS19S020170)	1.5 km upstream of SW001 on Sullane River
	Sullane – Br d/s Douglas R confl (EPA RS Code: RS19S020200)	1.5 km downstream of SW001 on Sullane River
Biological quality rating (Q value)	Q4-5 (2011) RS19S020170	1.5 km upstream of SW001 on Sullane River
	Q4-5 (2005) RS19S020200	1.5 km downstream of SW001 on Sullane River
WFD status	Unassigned	Protect Good Status 2009

The Upper Lee Water Management Unit Action Plan (WMUAP) identifies the WWTP in Ballyvourney/Ballymakeery as a point pressure on the Upper Lee catchment.

Mass balance calculations were carried out using the monitoring information provided by the Office of Environmental Assessment,. The mass balance calculations are based on the 95%ile flow in the receiving water, the mean background concentration of each parameter in the receiving water, the normal effluent discharge rate and the maximum permitted concentration of the parameter in the effluent (Table 3).

The 95%ile flow in the river at the primary discharge point is 0.25 m³/s.

Table 3: Mass Balance Calculations.

Parameter	Background Concentration (mg/l)	Proposed ELVs for discharge (mg/l)	Contribution from discharge (mg/l)	Predicted downstream concentration (mg/l)	Relevant standard (mg/l)
BOD	0.585	25	0.545	1.13	2.2 ^{Note 1}
Orthophosphate	0.013	0.8	0.017	0.03	0.045 ^{Note 1}
Total Ammonia	0.017	1.5	0.033	0.05	0.09 ^{Note 1}

Note 1: European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

The European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended, set environmental quality objectives for the receiving water for orthophosphate, ammonia and BOD.

The presence of the Freshwater Pearl Mussel (*Margaritifera margaritifera*) is noted upstream and downstream of the WWTP discharge point. Following consultation with the National Parks & Wildlife Service (NPWS), high status water quality standards were used in the mass balance calculations.

It is further noted that this part of the River Sullane is not a designated Freshwater Pearl Mussel habitat under the Environmental Objectives (Freshwater Pearl Mussel) Regulations, S.I. No. 296 of 2009. There is no Freshwater Pearl Mussel Sub Basin Management Plan for the River Sullane catchment, however, NPWS have indicated that it is an important population.

Accordingly, the ELVs in the RL, as drafted, are based on the high status standards as laid down in the European Communities Environmental Objectives (Surface Water) Regulations, 2009 (orthophosphate - 0.045mg/l, ammonia - 0.09mg/l and BOD - 2.2mg/l).

The population equivalent of the agglomeration is below the 2,000 p.e. threshold at which the ELVs specified in Part 1 of the second schedule of the Urban Wastewater Treatment Regulations, 2001, as amended, apply.

For agglomerations under this threshold, "appropriate treatment" is required.

Article 7 of Directive 91/271/EC² requires that urban waste water entering collection systems shall, before discharge, be subject to appropriate treatment, as defined in Article 2(9), for discharges to freshwater and estuaries from agglomerations of less than 2,000 p.e.. The term 'appropriate treatment' is defined in the Directive as 'treatment of urban waste water 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 the Directive and of other Community Directives'.

Given the requirement of the Sullane River to achieve high status and due to the presence of the Freshwater Pearl Mussel it is considered that the treatment currently provided in this agglomeration is not appropriate. There is an upgrade of Ballyvourney/Ballymakeery Sewerage Scheme listed on the 2014-2016 Irish Water Capital Investment Programme.

As there is only primary treatment at the existing WWTP, the RL, as drafted, specifies interim percentage reduction criteria for the Ballyvourney/Ballymakeery primary discharge, in accordance with the definition of primary treatment specified under Article 2 of Council Directive 91/271/EEC.

² Council Directive of 21 May 1991 concerning urban waste water treatment.

Schedule A: Discharges and Discharge Monitoring specifies that the BOD of the incoming waste waters at the wastewater treatment plants is reduced by at least 20% before discharge and the total suspended solids of the incoming waste waters are reduced by at least 50% before discharge. These interim percentage reduction values shall apply from the date of grant of licence and are achievable with primary treatment.

Recommended emission limit values of 0.8 mg/l for orthophosphate, 1.5 mg/l for ammonia and 25 mg/l for BOD are proposed in the RL to ensure compliance with the high status standards set in European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended.

The limits are set based on the mass balance calculations having regard to the presence of the Freshwater Pearl Mussel (*Margaritifera margaritifera*) upstream and downstream of the discharge in the River Sullane. The current WWTP cannot achieve these standards and therefore improvement works are necessary to achieve the ELVs. The ELVs for BOD, orthophosphate and ammonia will apply from 31/12/2015. This is to ensure that the Sullane River achieves High status by 2015.

The proposed limits are necessary in order to achieve the requirements of the European Communities Objectives (Surface Water) Regulations, 2009, as amended and are unlikely to be achieved utilising existing infrastructure.

Schedule C: Specified Improvement Programme of the RL requires the provision of appropriate treatment to ensure compliance with the emission limit values as set out in *Schedule A: Discharges & Discharge Monitoring* of the RL by 31/12/2015.

3. Ambient Monitoring

Schedule B: Ambient Monitoring of the RL specifies the parameters, analysis method and frequency for which ambient monitoring of the primary discharge shall be carried out. The requirements for ambient monitoring in *Schedule B: Ambient Monitoring* are sufficient to ensure that there will be no deterioration in the status of the receiving water as a result of the discharge.

4. Combined Approach

The Waste Water Discharge (Authorisation) Regulations, 2007, as amended, specify that a 'combined approach' in relation to licensing of waste water works must be taken, whereby the emission limits for the discharge are established on the basis of the stricter of either or both, the limits and controls required under the Urban Waste Water Treatment Regulations, 2001, as amended, and the limits determined under statute or Directive for the purpose of achieving the environmental objectives established for surface waters, groundwater or protected areas for the water body into which the discharge is made. The RL as drafted gives effect to the principle of the Combined Approach as defined in Waste Water Discharge (Authorisation) Regulations, 2007, as amended.

5. Programme of Improvements

The WWTP in Ballyvourney/Ballymakeery provides primary treatment for wastewater from the Ballyvourney/Ballymakeery agglomeration. There is a programme of improvements in place for the agglomeration. The works to be carried out include an upgrade of the WWTP serving the agglomeration. The RL, as drafted, requires that appropriate works be completed by 31/12/2015 in order to ensure compliance with the emission limit values as set out in *Schedule A: Discharges & Discharge Monitoring* of the RL.

Condition 5.1 of the RL requires the licensee to prepare and submit to the Agency a programme of infrastructural improvements to maximise the effectiveness and efficiency of the waste water works. The conditions and emission limit values specified in the RL will ensure no deterioration in the quality of the receiving waters as a result of the discharge.

6. Compliance with EU Directives

In considering the application, regard was had to the requirements of Regulation 6(2) of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended, notably:

Table 4: 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 2013
Water Framework Directive [2000/60/EC]	Good status to be protected by 2009
EC Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009), as amended	Schedule A of RL sets ELVs to contribute towards achieving the environmental quality objectives.
Drinking Water Abstraction Regulations	Condition 4 requires risk assessment for the protection of downstream abstraction points.
Bathing Water Directive [2006/7/EC]	No bathing waters present
Dangerous Substances Directive [2006/11/EC]	Condition 4 requires screening for priority substances.
Environmental Impact Assessment Directive [85/337/EEC]	An EIS was not required for Ballyvourney/Ballymakeery WWTP.

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

The Ballyvourney/Ballymakeery WWTP does not discharge directly into any SAC³ or SPA⁴. However, the Cork Harbour SPA Site Code: 004030 is located approximately 68 km downstream of the discharge point. This site is designated as a SPA under the Birds Directive for the conservation of wild birds. St Gobnet's Wood SAC (Site Code: 000106) and Mullaghanish to Musheramore Mountains SPA (Site Code: 004162) are located 1.5km to the northwest, and 1.3 northeast of the discharge point respectively. The WWTP has no hydrological connectivity with these two sites.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects, is likely to have a significant effect on a European Site(s). In this context, particular attention was paid to the European site(s) at Cork Harbour SPA, St Gobnet's Wood SAC and Mullaghanish to Musheramore Mountains SPA.

The Agency considered, for the reasons set out below, that the activity is not directly connected with or necessary to the management of the site as a European site and that it can be excluded, on the basis of objective information, that the activity, individually or in combination with other plans or projects will have a significant

³ SAC: Special Area of Conservation designated under the *Habitats Directive*, Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

⁴ SPA: Special Protection Area designated under the *Birds Directive*, Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.

effect on a European site, and accordingly the Agency determined that an Appropriate Assessment of the activity was not required.

This determination is based on the following reasons:

- The absence of hydrological connectivity between the discharges from the agglomeration and the St. Gobnet's Wood SAC and Mullaghanish to Musheramore Mountains SPA;
- The high water quality status assigned to the receiving water (Sullane River IE_SW_19_915) both upstream and downstream of the primary discharge point under the Water Framework Directive;
- The distance of the Cork Harbour SPA downstream of the primary discharge (approximately 68 km); and
- Agency monitoring in the Sullane River indicates that the discharge is not impacting on the ecological status of the Sullane River.

7. Cross Office Liaison

Advice and guidance issued by the Waste Water Technical Working Group (WWTWG) was followed in the assessment of this application. Advice and guidance issued by the WWTWG is prepared through a detailed cross-office co-operative process, with the concerns of all sides taken into account. The Board of the Agency has endorsed the advice and guidance issued by the WWTWG for use by licensing inspectors in the assessment of wastewater discharge licence applications.

8. Submissions

No submissions were received in relation to this application.

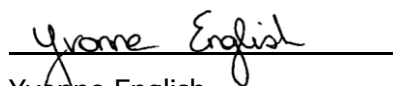
9. Charges

The RL sets an annual charge for the agglomeration at €4,395.00 and is reflective of the monitoring and enforcement regime being proposed for the agglomeration.

10. 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


Yvonne English

Environmental Licensing Programme

Appendix 1: Map showing location of Ballyvourney/Ballymakeery WWTP and associated primary discharge point.

