NOTICE OF APPEAL UNDER SECTION 40(1) OF
FISHERIES (AMENDMENT) ACT 1997 (NO. 23)

Appeal Form

Please note that this form will only be accepted by REGISTERED POST or handed in to the ALAB offices

Name of Appellant (block letters)	John Harrington
Address of Appellant	Templenoe Oysters
No 3 The Pier	
Greenane	
Killarney	
County Kerry	
Phone:	Email:
Mobile:	Fax:

Fees

Fees must be received by the closing date for receipt of appeals	Amount	Tick
Appeal by licence applicant	€380.92	√
Appeal by any other individual or organisation	€152.37	
Request for an Oral Hearing * (fee payable in addition to appeal fee) * In the event that the Board decides not to hold an Oral Hearing the fee will not be refunded.	€76.18	

(Cheques Payable to the Aquaculture Licences Appeals Board in accordance with the Aquaculture Licensing Appeals (Fees) Regulations, 1998 (S.I. No. 449 of 1998))

Electronic Funds Transfer Details	IBAN: IE89AIBK93104704051067	BIC: AIBKIE2D

Subject Matter of the Appeal

Appeal against the renewal of licence for growing oysters at Templenoe, County Kerry, in Decision dated 24 September 2019.

RECEIVED
- 1 NOV 2019
APPEALS BOARD
AQUACULTURE LICENCES

by hand.

Site Reference Number:- (as allocated by the Department of Agriculture, Food and the Marine)	T06/295A and corresponding Aquaculture licence.

Appellant's particular interest in the outcome of the appeal:
Existing licence holder and mussel farmer.
Outline the grounds of appeal (and, if necessary, on additional page(s) give full grounds of the appeal and the reasons, considerations and arguments on which they are based):
1. The decision of the Minister was incorrect in law. 2. The correct procedures were not followed. 3. The decision was based on faulty grounds (namely that there is a risk to public health), which statement is contradicted by available evidence. Please see attached letter from Staines Law, the solicitor acting for us in this matter, and attachments, which include the arguments advanced in support of these grounds.
Signed by appellant: John O'Leary & Co Date: 31/10/2019
Please note that this form will only be accepted by REGISTERED POST or handed in to the ALAB offices
Fees must be received by the closing date for receipt of appeals

This notice should be completed under each heading and duly signed by the appellant and be accompanied by such documents, particulars or information relating to the appeal as the appellant considers necessary or appropriate and specifies in the Notice.

DATA PROTECTION – the data collected for this purpose will be held by ALAB only as long as there is a business need to do so and may include publication on the ALAB website

Extracts from Act

40.—(1) A person aggrieved by a decision of the Minister on an application for an aquaculture licence or by the revocation or amendment of an aquaculture licence may, before the expiration of a period of one month beginning on the date of publication in accordance with this Act of that decision, or the notification to the person of the revocation or amendment, appeal to the Board against the decision, revocation or amendment, by serving on the Board a notice of appeal.

(2) A notice of appeal shall be served—

(*a*) by sending it by **registered post** to the Board,

(*b*) **by leaving it at the office of the Board**, during normal office hours, with a person who is apparently an employee of the Board, or

(*c*) by such other means as may be prescribed.

(3) The Board shall not consider an appeal notice of which is received by it later than the expiration of the period referred to in subsection (1)

41.—(1) For an appeal under *section 40* to be valid, the notice of appeal shall—

(*a*) be in writing,

(*b*) state the name and address of the appellant,

(*c*) state the subject matter of the appeal,

(*d*) state the appellant's particular interest in the outcome of the appeal,

(*e*) state in full the grounds of the appeal and the reasons, considerations and arguments on which they are based, and

(*f*) **be accompanied by such fee**, if any, as may be payable in respect of such an appeal in accordance with regulations under *section 63*, and

shall be accompanied by such documents, particulars or other information relating to the appeal as the appellant considers necessary or appropriate.

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell
KENMARE BAY	19398	TEMPLENOE	31-Jan-07	POY	0.2
KENMARE BAY	19549	TEMPLENOE	27-Feb-07	POY	2
KENMARE BAY	19661	TEMPLENOE	27-Mar-07	POY	0.2
KENMARE BAY	19799	TEMPLENOE	30-Apr-07	POY	2
KENMARE BAY	**19926**	**TEMPLENOE**	**29-May-07**	**POY**	**9.5**
KENMARE BAY	20005	TEMPLENOE	27-Jun-07	POY	1.1
KENMARE BAY	20127	TEMPLENOE	24-Jul-07	POY	2.2
KENMARE BAY	20240	TEMPLENOE	27-Aug-07	POY	1.1
KENMARE BAY	20361	TEMPLENOE	12-Sep-07	POY	1.6
KENMARE BAY	20544	TEMPLENOE	17-Oct-07	POY	2.2
KENMARE BAY	20663	TEMPLENOE	14-Nov-07	POY	0.9
KENMARE BAY	**20791**	**TEMPLENOE**	**10-Dec-07**	**POY**	**5**
KENMARE BAY	20952	TEMPLENOE	9-Jan-08	POY	2
KENMARE BAY	**21067**	**TEMPLENOE**	**7-Feb-08**	**POY**	**3.1**
KENMARE BAY	21268	TEMPLENOE	25-Mar-08	POY	0.2
KENMARE BAY	**21320**	**TEMPLENOE**	**1-Apr-08**	**POY**	**3.1**
KENMARE BAY	**21584**	**TEMPLENOE**	**27-May-08**	**POY**	**3.1**
KENMARE BAY	21692	TEMPLENOE	16-Jun-08	POY	0.2
KENMARE BAY	21921	TEMPLENOE	29-Jul-08	POY	1.6
KENMARE BAY	**22043**	**TEMPLENOE**	**27-Aug-08**	**POY**	**3.1**
KENMARE BAY	22199	TEMPLENOE	30-Sep-08	POY	0.9
KENMARE BAY	22366	TEMPLENOE	29-Oct-08	POY	2.2
KENMARE BAY	22507	TEMPLENOE	26-Nov-08	POY	0.5
KENMARE BAY	**22535**	**TEMPLENOE**	**11-Dec-08**	**POY**	**3.1**
KENMARE BAY	22817	TEMPLENOE	27-Jan-09	POY	0.9
KENMARE BAY	22910	TEMPLENOE	25-Feb-09	POY	0.5
KENMARE BAY	23096	TEMPLENOE	26-Mar-09	POY	0.2
KENMARE BAY	23186	TEMPLENOE	20-Apr-09	POY	0.5
KENMARE BAY	**23380**	**TEMPLENOE**	**25-May-09**	**POY**	**22**
KENMARE BAY	23516	TEMPLENOE	30-Jun-09	POY	0.5
KENMARE BAY	**23572**	**TEMPLENOE**	**21-Jul-09**	**POY**	**4.9**
KENMARE BAY	**23699**	**TEMPLENOE**	**12-Aug-09**	**POY**	**4.6**
KENMARE BAY	23853	TEMPLENOE	16-Sep-09	POY	1.3
KENMARE BAY	23950	TEMPLENOE	19-Oct-09	POY	2.2
KENMARE BAY	24150	TEMPLENOE	26-Nov-09	POY	1.3
KENMARE BAY	24269	TEMPLENOE	14-Dec-09	POY	0.5
KENMARE BAY	**24399**	**TEMPLENOE**	**21-Jan-10**	**POY**	**4.9**
KENMARE BAY	24605	TEMPLENOE	25-Feb-10	POY	0.2
KENMARE BAY	24700	TEMPLENOE	22-Mar-10	POY	0.8
KENMARE BAY	24822	TEMPLENOE	15-Apr-10	POY	0.8
KENMARE BAY	25005	TEMPLENOE	31-May-10	POY	0.8
KENMARE BAY	25075	TEMPLENOE	10-Jun-10	POY	2.3
KENMARE BAY	25171	TEMPLENOE	8-Jul-10	POY	0.5
KENMARE BAY	25398	TEMPLENOE	24-Aug-10	POY	0.5
KENMARE BAY	25519	TEMPLENOE	22-Sep-10	POY	0.4
KENMARE BAY	25708	TEMPLENOE	27-Oct-10	POY	2.3

KENMARE BAY	25847	TEMPLENOE	30-Nov-10	POY	0.8
KENMARE BAY	25961	TEMPLENOE	16-Dec-10	POY	0.8
KENMARE BAY	26101	TEMPLENOE	31-Jan-11	POY	0.5
KENMARE BAY	26212	TEMPLENOE	16-Feb-11	POY	2.3
KENMARE BAY	26384	TEMPLENOE	30-Mar-11	POY	0.2
KENMARE BAY	26507	TEMPLENOE	27-Apr-11	POY	0.2
KENMARE BAY	26649	TEMPLENOE	30-May-11	POY	0.2
KENMARE BAY	26743	TEMPLENOE	27-Jun-11	POY	54
KENMARE BAY	26891	TEMPLENOE	27-Jul-11	POY	0.5
KENMARE BAY	27032	TEMPLENOE	30-Aug-11	POY	1.3
KENMARE BAY	27156	TEMPLENOE	26-Sep-11	POY	54
KENMARE BAY	27172	TEMPLENOE	11-Oct-11	POY	0.8
KENMARE BAY	**27387**	**TEMPLENOE**	**24-Nov-11**	**POY**	**4.9**
KENMARE BAY	27547	TEMPLENOE	20-Dec-11	POY	2.3
KENMARE BAY	27609	TEMPLENOE	18-Jan-12	POY	1.7
KENMARE BAY	27746	TEMPLENOE	21-Feb-12	POY	1.3
KENMARE BAY	27930	TEMPLENOE	22-Mar-12	POY	0.2
KENMARE BAY	28071	TEMPLENOE	26-Apr-12	POY	1.7
KENMARE BAY	28212	TEMPLENOE	31-May-12	POY	0.2
KENMARE BAY	28241	TEMPLENOE	14-Jun-12	POY	0.2
KENMARE BAY	**28473**	**TEMPLENOE**	**19-Jul-12**	**POY**	**17**
KENMARE BAY	28495	TEMPLENOE	15-Aug-12	POY	180
KENMARE BAY	**28651**	**TEMPLENOE**	**27-Sep-12**	**POY**	**17**
KENMARE BAY	28799	TEMPLENOE	8-Oct-12	POY	0.4
KENMARE BAY	**29018**	**TEMPLENOE**	**26-Nov-12**	**POY**	**7.9**
KENMARE BAY	**29169**	**TEMPLENOE**	**17-Dec-12**	**POY**	**3.3**
KENMARE BAY	29298	TEMPLENOE	30-Jan-13	POY	0.9
KENMARE BAY	29419	TEMPLENOE	27-Feb-13	POY	0.2
KENMARE BAY	29470	TEMPLENOE	13-Mar-13	POY	0.2
KENMARE BAY	29684	TEMPLENOE	10-Apr-13	POY	2.2
KENMARE BAY	29756	TEMPLENOE	28-May-13	POY	2.3
KENMARE BAY	29892	TEMPLENOE	25-Jun-13	POY	0.2
KENMARE BAY	**30026**	**TEMPLENOE**	**23-Jul-13**	**POY**	**35**
KENMARE BAY	30182	TEMPLENOE	21-Aug-13	POY	0.7
KENMARE BAY	30359	TEMPLENOE	25-Sep-13	POY	0.2
KENMARE BAY	30458	TEMPLENOE	17-Oct-13	POY	160
KENMARE BAY	**30484**	**TEMPLENOE**	**31-Oct-13**	**POY**	**4.9**
KENMARE BAY	**30566**	**TEMPLENOE**	**14-Nov-13**	**POY**	**7.9**
KENMARE BAY	30656	TEMPLENOE	3-Dec-13	POY	0.2
KENMARE BAY	30833	TEMPLENOE	21-Jan-14	POY	1.1
KENMARE BAY	30996	TEMPLENOE	26-Feb-14	POY	0.2
KENMARE BAY	**31264**	**TEMPLENOE**	**29-Apr-14**	**POY**	**17**
KENMARE BAY	31363	TEMPLENOE	27-May-14	POY	1.7
KENMARE BAY	31544	TEMPLENOE	26-Jun-14	POY	0.2
KENMARE BAY	31679	TEMPLENOE	28-Jul-14	POY	1.1
KENMARE BAY	**31825**	**TEMPLENOE**	**28-Aug-14**	**POY**	**7.9**

KENMARE BAY	31854	TEMPLENOE	9-Sep-14	POY	1.3
KENMARE BAY	**32109**	**TEMPLENOE**	**10-Nov-14**	**POY**	**3.3**
KENMARE BAY	32326	TEMPLENOE	9-Dec-14	POY	2.3
KENMARE BAY	32424	TEMPLENOE	20-Jan-15	POY	0.78
KENMARE BAY	32540	TEMPLENOE	17-Feb-15	POY	0.2
KENMARE BAY	32732	TEMPLENOE	24-Mar-15	POY	0.18
KENMARE BAY	32881	TEMPLENOE	29-Apr-15	POY	0.2
KENMARE BAY	**32964**	**TEMPLENOE**	**19-May-15**	**POY**	**3.3**
KENMARE BAY	33037	TEMPLENOE	3-Jun-15	POY	92
KENMARE BAY	**33256**	**TEMPLENOE**	**15-Jul-15**	**POY**	**13**
KENMARE BAY	**33411**	**TEMPLENOE**	**25-Aug-15**	**POY**	**24**
KENMARE BAY	33567	TEMPLENOE	29-Sep-15	POY	1.3
KENMARE BAY	33623	TEMPLENOE	12-Oct-15	POY	0.68
KENMARE BAY	**33802**	**TEMPLENOE**	**17-Nov-15**	**POY**	**3.3**
KENMARE BAY	**33978**	**TEMPLENOE**	**16-Dec-15**	**POY**	**7.9**
KENMARE BAY	34097	TEMPLENOE	26-Jan-16	POY	1.7
KENMARE BAY	34172	TEMPLENOE	22-Feb-16	POY	0.68
KENMARE BAY	34370	TEMPLENOE	24-Mar-16	POY	1.1
KENMARE BAY	34517	TEMPLENOE	27-Apr-16	POY	0.18
KENMARE BAY	34597	TEMPLENOE	18-May-16	POY	0.18
KENMARE BAY	**34756**	**TEMPLENOE**	**23-Jun-16**	**POY**	**4.9**
KENMARE BAY	**34846**	**TEMPLENOE**	**19-Jul-16**	**POY**	**13**
KENMARE BAY	34975	TEMPLENOE	16-Aug-16	POY	1.4
KENMARE BAY	**35170**	**TEMPLENOE**	**20-Sep-16**	**POY**	**14**
KENMARE BAY	**35268**	**TEMPLENOE**	**19-Oct-16**	**POY**	**35**
KENMARE BAY	35474	TEMPLENOE	28-Nov-16	POY	0.18
KENMARE BAY	35565	TEMPLENOE	12-Dec-16	POY	0.45
KENMARE BAY	**35746**	**TEMPLENOE**	**31-Jan-17**	**POY**	**3.1**
KENMARE BAY	35863	TEMPLENOE	23-Feb-17	POY	0.78
KENMARE BAY	35982	TEMPLENOE	21-Mar-17	POY	1.3
KENMARE BAY	36135	TEMPLENOE	24-Apr-17	POY	0.18
KENMARE BAY	36263	TEMPLENOE	15-May-17	POY	0.2
KENMARE BAY	**36395**	**TEMPLENOE**	**21-Jun-17**	**POY**	**13**
KENMARE BAY	36602	TEMPLENOE	25-Jul-17	POY	2.3
KENMARE BAY	36747	TEMPLENOE	29-Aug-17	POY	1.3
KENMARE BAY	36784	TEMPLENOE	5-Sep-17	POY	180
KENMARE BAY	**36914**	**TEMPLENOE**	**4-Oct-17**	**POY**	**7.9**
KENMARE BAY	**37173**	**TEMPLENOE**	**21-Nov-17**	**POY**	**4.6**
KENMARE BAY	37288	TEMPLENOE	18-Dec-17	POY	2.3
KENMARE BAY	37393	TEMPLENOE	18-Jan-18	POY	2.3
KENMARE BAY	37565	TEMPLENOE	27-Feb-18	POY	0.2
KENMARE BAY	37732	TEMPLENOE	28-Mar-18	POY	0.78
KENMARE BAY	**37873**	**TEMPLENOE**	**25-Apr-18**	**POY**	**13**
KENMARE BAY	37887	TEMPLENOE	9-May-18	POY	0.2
KENMARE BAY	38144	TEMPLENOE	26-Jun-18	POY	0.2
KENMARE BAY	38217	TEMPLENOE	10-Jul-18	POY	1.3

KENMARE BAY	38413	TEMPLENOE	28-Aug-18	POY	2.3
KENMARE BAY	38541	TEMPLENOE	26-Sep-18	POY	0.45
KENMARE BAY	**38615**	**TEMPLENOE**	**15-Oct-18**	**POY**	**13**
KENMARE BAY	**38846**	**TEMPLENOE**	**6-Dec-18**	**POY**	**4.6**
KENMARE BAY	38986	TEMPLENOE	8-Jan-19	POY	0.78
KENMARE BAY	39216	TEMPLENOE	25-Feb-19	POY	0.61
KENMARE BAY	**39291**	**TEMPLENOE**	**19-Mar-19**	**POY**	**13**
KENMARE BAY	39428	TEMPLENOE	9-Apr-19	POY	0.68
KENMARE BAY	39586	TEMPLENOE	16-May-19	POY	0.2
KENMARE BAY	39695	TEMPLENOE	19-Jun-19	POY	0.78
KENMARE BAY	39838	TEMPLENOE	16-Jul-19	POY	0.78
KENMARE BAY	**40055**	**TEMPLENOE**	**29-Aug-19**	**POY**	**13**
KENMARE BAY	40200	TEMPLENOE	30-Sep-19	POY	1.3

STAINES
LAW

Your ref:
Our ref: I103900886

31.10.19

The Secretary
Aquaculture Licences Appeals Boards
Kilminchy Court
Dublin Road
Portlaoise
County Laois
R32 DTWS

Re: Our Client – Templenoe Oysters Limited
Department Reference No T06/295A
Appeal under Section 41 of the Fisheries (Amendment) Act 1997

Dear Sirs,

We refer to the above and confirm we act on behalf of the above Appellant.

This is an appeal in accordance with Section 41 of the Fisheries (Amendment) Act 1997 against the decision of the Minister for Agriculture, Food and the Marine ('the Minister') to refuse to grant an application for renewal of an Aquaculture Licence ('the Licence')for the cultivation of oysters using bags and trestles on site T06/179B (hereinafter 'The Decision").

The Appellant also appeals against the associated Foreshore Licence.

This Decision was given on behalf of the Minister by the Aquaculture and Foreshore Managing Division of the Department by way of letter dated 24 September 2019. The Decision was published in the.

The purported reason for the Decision to grant a renewal of the Licence were as follows:

> *"The Minister for Agriculture, Food and the Marine has determined that it is in public interest to refuse the licence sought. In making his determination the Minister considered those matters which by virtue of the Fisheries (Amendment) Act 1997, and other relevant legislation, he is required to have regard. Such matters include any submissions and observations received in accordance with the statutory provisions. The following are the reasons and considerations for the Minister's determination to refuse the licence sought:*
>
> *The waters are not suitable due to the site's close proximity to the Kenmare waste water treatment plant. In the circumstances it would not be appropriate for the Minister to licence this aquaculture site at this time due to the potential issues emerging in relation to food safety. Decision dated 19 September 2019."*

Principal: James Staines
Senior Associate: Majella Ellis
Consultants: Jennifer Maher Mary Tunney
Suite 126, Capel Building, Mary's Abbey, Dublin 7.
Phone: +353 1 872 0888 | **Email**: info@staineslaw.ie **DX**: 200 126 Capel Building | **Web**: www.staineslaw.ie

Background

The Appellant has been engaged in the cultivation of oysters based on trestles and bags for a considerable number of years. The Appellant had sought a renewal of an existing Licence that has been in place for some considerable time. At no stage has any issue been taken with the Appellant's operation of its licence and it has fully complied with its conditions.
The water quality at the Site is classed as Class B water. Shellfish that has been produced in water classified as Class B may be placed on the market for human consumption only after treatment in purification so as to meet the required health standards. It should be noted that the shellfish produced by the Appellant are not sold directly to consumers. Nor does it directly enter the food chain. The Appellant's produce is sold on to other producers where it is further cultivated in waters and processed accordingly.

The Appellant has invested significant human and financial resources over the years in the development of its oyster cultivation business. It provides the primary basis for the Appellants livelihood and provides employment for up to 8 time part time employees whose livelihood is now in jeopardy as a result of the Decision of the Department to refuse to renew the licence.
The basis of the within appeal are as follows:

1. **Breach of Statutory Duty and Failure to follow fair procedure and adhere to natural and constitutional justice:**

   The Department in making the Decision to refuse the Licence acted in breach of fair procedures and natural and constitutional justice. More specifically it failed to comply with its obligations under S.I. number 236/1998 - Aquaculture (Licence Obligation) Regulations 1998 (SI number 236/1998) ('the Regulations'). There are two aspects to this failure. The first pertains to s.9 of the Regulations;

   Section 9:

   Section 9(1) states that within four weeks after the date of publication in accordance with Regulation 8, of a Notice of Application, any person may make submissions or observations to the Minister concerning the proposed aquaculture:

   (a) by sending by post to the address specified for the purpose of that Notice; or

   (b) by it leaving with an officer at that address during office hours;

   in written submission or observation which complies with paragraph 2.

   The second breach of the Regulations pertains to section 10(1) of the Regulations. Section 10(1) imposes an obligation on the Department to give notice to certain bodies of receipt of application and their right to make submissions.

Section 10(1) as amended by SI number 240 of 2018 provides a number of state bodies including the Sea Fisheries Protection Agency are to be notified.

Regulation 14 of Regulations provides s:

> *"The Minister shall send to the applicant a copy of any submissions or observations received under Regulation 9(1), 10(3), 11(2) or 12(4) concerning an application."*

Regulation 14(2) states:

> *"Within three weeks after the date the submissions or observations are sent to the applicant, the applicant may submit to the Minister the applicant's written comments on the submissions or observations."*

By way of letter dated 22 May 2019 the Department forwarded the submissions to the Appellant.

The letter states *inter alia*:

> *"In accordance with regulation 14(1) and (2) of the Aquaculture (Licence Application) Regulations, 1988 (SI 236/1998), I am attaching submissions and observations received as a result of the public and statutory consultation stage of the application process."*

It further sates that if the Applicant "*choses to respond, any written comments must be submitted to this department within three weeks of the date of this letter*".

It transpired that subsequent to the issuing of the Decision by the Department that submissions had been sought by the Department from the Seafood Protection Agency (SFPA). Two responses have been received from the SFPA.

The Department failed to furnish copies of the correspondence or the submissions or observations of the SFPA to the Appellant in accordance with Regulation 14 of SI 236/1998.

The Appellant was denied an opportunity to review and make observations on these submissions in accordance with Regulation 14(2). Such submissions or observations were not before the Department and could not and were not considered by it when it made the Decision.

This is of particular importance given that it now appears that the Department based the granting of the Decision to refuse the application to renew the Appellant's Licence solely on comments made by SFPA in their submission/observation. These are the very submissions which the Appellant was unlawfully denied an opportunity to respond.

The Minister failed to adhere to his statutory obligations as imposed by Section 14(1) of the Regulations .

The Minister's actions in failing to comply with his obligations under the Regulations denied the Appellant the right to make further submissions and observations in accordance with Regulation 14(2) in clear breach of statutory duty.

Further, and in the alternative wee submit that the failure of the Minister to comply with his obligations on foot of the Regulations was a breach of fair procedures and natural and constitutional justice which rendered the Decision invalid and on this grounds alone the appeal should be allowed.

2. **The Minister acted *ultra vires* his powers as provided for under the Fisheries (Amendment) Act 1997 ('the 1997 Act').**

Section 10 of the 1997 Act allows a person in accordance with the Regulations to apply to the Minister for an Aquaculture Licence or Trial Licence.

The Appellant made an application for renewal of their existing Aquaculture Licence in accordance with s.10 of the 1997 Act and the Regulations.

Section 10(2) of the 1997 Act allows the Minister to make Regulations provided for procedures in relation to the making of applications Aquaculture or Trial Licences and the consideration of such applications.

Section 10(3) *inter alia* provides for consultation with such bodies including statutory bodies as may be prescribed for that purpose.

The purpose of the 1997 Act and the Regulations as made under the 1997 Act is to provide for the granting of Aquaculture Licences, subject to conditions.

It is submitted that the Minister when granting his licence must only consider and have regard to matters that clearly fall within the scope and purpose of the 1997 Acts and the Regulations which provide the basis for the Minister to grant such Licences.

The Seafood Protection Agency ('SFPA') is a statutory authority amongst matters has as part of its remit a role oin determining seafood safety for the consumer.

It is submitted that the Minister in making the Decision acted *ultra vires* his powers under the 1997 Act and the Regulations by taking into account impermissible matters namely food safety. Furthermore, food safety and the protection of consumers of shellfish is a matter that is specifically dealt with under separate legislation and which provides for consumer protection under that legislation has exceeded the powers granted to the Minister for granting of an Aquaculture Licence.

As is apparent it appears from the Decision that the primary if not the sole basis for refusing the Licence was the submission from the SFPA expressing concerns relating to food safety. Whilst in no way diminishing the importance of the role of the SFPA it is submitted that the Minister in determining the application should deal solely with issues pertaining to the production of oysters within the scope of the 1997 Act and the Regulations.

Concerns if any regarding food safety are within the remit of the SFPA and is a separate legislative matter.

The Minister should look solely at the facts of the granting of the Licence within the constraints of the 1997 Act and Regulations and limited to the criteria contained therein. In the event that there was to be subsequent issue for whatever reason relating to food safety from selfish produced pursuant to the licence then this matter can be address by SFPA, acting under its statutory provisions, which is the appropriate body to determine at that stage whether or not there is a risk to the public.

3. Lack of evidence.

It is submitted that the Decision made by the Department is invalid and should be overturned in that it was made on a basis and on grounds for which there was no evidence or no adequate evidence.

In addressing this matter is important to review the correspondence between the Department and the SFPA which the Applicant was only furnished with upon request **subsequent** to the Decision

The first correspondence the Appellant has been furnished with in relation to this matter refers to a letter dated 10 June 2018 from a Mr. John Falvey, Senior Port Officer of the SFPA to Bernie McDonald in the Department.

This letter states:

> *"The issuing of an agriculture and fisheries licence in the area identified as (T6/295) for the cultivation of specific oysters would have* ***no negative impact*** *on local sea fishing operations. The SFPA is aware of recent significant water quality issues in Kenmare Bay/Templenoe area and understands that this matter has been examined the EPA. The SFPA* ***cannot comment in full*** *on this application until such as the outcome of any EPA investigation in this matter is made known."* [1]

To be clear the Appellant has not been aware of any prior correspondence between the Department and the SFPA prior to this letter of 10 June 2018. As previously highlighted (this is in breach of the Minister's obligations to furnish information on foot of Section 10(2) of the Regulations.

In further correspondence dated 21 December 2018 from the SFPA to the Department dated 21 September 2018 it states SFPA comments are as follows:

> *"The SFPA is aware of ongoing issues with the WWT plant in Kenmare. It appears that the plant does not have sufficient capacity and breakdowns at the plant have caused periodic contamination of the inner Kenmare Bay and Templenoe areas, the latter of which is immediately adjacent to this site. The presence of sewerage effluent in a water body makes it unsuitable for the production of oysters from a food safety perspective."*

On 19 July 2019 by way of e-mail, a Therese O'Keeffe of the Department communicated further with John Falvey of the SFPA.

---

[1] Emphases is added.

Miss O'Keeffe in this email correspondence referred to water quality issues in the Kenmare Bay/Templenoe area and the fact that the matter was still being examined by the EPA and that Mr Falvey was awaiting the outcome of this investigation.

Miss O'Keeffe asked that the SFPA would elaborate further on the details of the reports concerning the current situation in the inner Kenmare Bay and Templenoe areas.

She states:

> *"In circumstances where the applicants are already licensed to produce oysters, can you advise on what necessary conditions the SFPA would require to be included in any potential aquaculture licence granted to effectively safeguard against any SPFA concerns."*

This was regarded as very important information for the making of Miss O'Keeffe's final recommendations to the Minister for his Decision to to refuse the Licence.

Mr Falvey then replied by way of e-mail of 25 July 2019. He made reference to the fact that his understanding from the EPA is that the Kenmare plant is not scheduled to have an appropriate capacity until 2022.

Mr Falvey states that:

> *"Under the circumstances the SFPA advice in connection with new licence applications remains that oyster cultivation in the locations indicated is not appropriate on* ***food safety grounds***[2] *until the capacity issues of the nearby Kenmare WWT plant have been addressed."*

However, Mr Falvey goes on to state:

> *"The existing oyster beds have a "B" classification which they have generally (3% "C" results for the last review) maintained over the last number of years. In the event that licences are re-issued the SFPA will continue to monitor these beds in the normal way (monthly intervals) however the proximity to the plant would remain a significant concern pending increases in capacity mentioned above."*

It is clear from the Decision this e-mail and the statement therein materially influenced the decision of the Minister to refuse the renewal of the existing Licence.

The following comments arise in relation to Mr Falvey is incorrect by his reference to "new licence application". As was very clear from the Appellant's application for the renewal of the Licence at all times this was a renewal of an existing Licence.

It is clear from the correspondence that Mr Falvey was referring to incidents that took place in August 2018 at the Kenmare WWT plant.

---

[2] Emphases is added.

However, while reference was made to overloading of the Kenmare WWT plant there was no evidence furnished by the SFPA that any issues at the WWT plant in any way adversely affected the water quality in the area of the site the subject matter of the renewal application.

Furthermore between Mr Falvey's response of 28 September 2018 and his e-mail of the letter of 25 July 2019 no further evidence was given to support the contentions advanced therein.

In this regard we refer you to the test results of the water quality in the area the subject matter of the Licence. This information comes from the sampling carried out by the SFPA itself.

It is very clear that the water quality for a considerable period of time is Class B. Indeed on occasion it becomes Class A. There are very few occasions over a 12 month period where it becomes Class C.

Furthermore, it is implicitly acknowledged by the SFPA that they are happy to continue the sampling process going forward. The SFPA specifically state in response to the Department's request that if the Licence is to be granted it would be on the basis that the SFPA would continue to monitor these beds ***in the normal way*** (added for emphasis).

Therefore, it is clear from the SFPA's own records of the sampling process that the water has consistently maintained the Class of water required for the production of oysters as heretofore.

Furthermore, there is nothing in any of the test results furnished by the SFPA that indicate that any changes in the samples of the water quality relate directly to discharges from the Kenmare WWT. Indeed, it appears that in August 2018 there had been an overloading of the plant due to an engineering failure and there was a discharge of effluent into the Kenmare Bay. However, it is of note there is no change in the water quality at the Site from Class B during this period of time. This will be clear evidence so we would submit that this is a clear indication that the discharge from the Kenmare WWT did not adversely impact upon the water quality at the Site.
In addition we refer to the Annual Environmental Report prepared by Irish Water in relation to the Kenmare Bay area. (copy attached)

In particular we refer to section 5.3 dealing with the shellfish impact assessment. It also refers to section 7 (page 11) of this document in relation to the interpretation of monitoring results.

This clearly shows that based upon the SFPA testing the concentrations are reflective of Class B production classification. Therefore not impacting on water quality such as to affect the quality of the standards required under the Shellfish Regulations and the Water Framework Directive .

In addition he decision of the Department to rely upon the generalised and unproven statement from the SFPA to the effect that there are concerns regarding discharges from the Kenmare WWT plant are cast in a different light when one considers that a similar application to grant a new Licence under reference T6/388 which is nearer to the outfall point of the Kenmare WWT plant has been granted.

The Appellant has been engaged in the cultivation of oysters based on trestles and bags for a considerable number of years. The Appellant had sought a renewal of an existing Licence, and this too has been in place for some considerable time. At no stage has any issue been taken with the Appellant's operation of the current licence and the Licence holder has fully complied with licence conditions.

The water quality at the site generally tests as Class B (sometimes class A, and rarely as Class C). These levels have always been regarded as acceptable for shellfish farming and do not indicate a particular problem with the Kenmare Treatment Plant (it should be noted that the Plant is some 4km from the site. The river is tidal and subject to regular flushing with salt and fresh water).

The Regulations state that shellfish grown in Class A water can be sold directly to the public for their consumption with no pre-treatment. Class B requires purification in Class A water for 48 hours, while Class C is the lowest category and requires the shellfish to be kept in clean water for two months. The spreadsheet showing actually recorded water test results (by the SPFA) over a substantial period shows that the water is always within treatable limits for shellfish.

The importance of a clean and safe product is of course are well understood by the Appellant and regular independent monitoring by the SPFA is already undertaken to determine water quality as a matter of normal production methods. On the occasions where water quality drops below class A, then the shellfish are automatically treated as required before consumption.

There is therefore no actual risk that contaminated shellfish will be produced at the site and sold directly to consumers. Either they will be treated first to reach the required status, or they will already be clean if the river at that time tests class A.

While the concern regarding the waste water treatment plant is understood, the actual evidence, based on independent testing, shows quite clearly that there is no risk to consumers due both to the generally acceptable water cleanliness at the site and the testing and treatment protocols in place.

4. Refusal of Renewal of licence unreasonable, irrational and dis-proportionate in the circumstances

The Decision of the Minister to refuse the Applicant's application for renewal of the Licence was unreasonable, irrational and dis-proportionate in the circumstances.

The Regulations expressly permit and envisage that when a Licence is renewed it may be subject to conditions. Such conditions could be imposed to address any legitimate concerns expressed in the course of the consultation process amongst other matters. It is entirely reasonable and legitimate for an applicant to expect that a Licence will be renewed in circumstances where any concerns highlighted in the course of the application process can be addressed by way of the impositions of condition as anticipated by the Regulations.

In the event that the Minister when considering the Appellant's application to review the existing licence, had identified concerns, there was an obligation to grant the Licence subject to certain

conditions that might deal with any concerns raised by any of the submissions made by any party including the statutory notice parties.

In this case the Minister clearly failed to adhere to this obligation. The Minister rather than looking at ways in which the application for renewal could be dealt with sought to effectively revoke the Licence (itself in breach of the procedures provided for in the legislation). In acting in tis manner the Minister acted unreasonably, irrationally and dis-proportionately in all the circumstances. The Minister has the obligation to see what conditions could be imposed on the Appellant to ensure that the concerns of any notice parties are dealt with.

It is clear that the SFPA itself acknowledged that if the Licence was to be granted it would be subject to a condition that the existing statutory provisions which the SFPA has to continue monitoring of the site would continue. The Appellant has no objection to the imposition of such a condition in the Licence.

It is important to note that the Department had sought from the SFPA an indication as to what conditions it might require if the Minister was minded to grant the Licence. The SFPA did not in fact respond to this request which it could have and should have.

However, the Minister failed to take this position of the SFPA into account by refusing to grant the Appellant's application subject to certain conditions. Indeed, the sampling of the water is an existing statutory provision in any event and any planning application would be subject to (even without it being specifically mentioned to him).

For the foregoing reasons it is submitted the Minister erred in fact and in law in refusing to renew the associated Foreshore Licence. The within appeal in respect of the Foreshore Licence should be allowed and the Foreshore Licence renewed subject to appropriate conditions.

Conclusion

The Decision by the Minister to refuse to renew the Licence was incorrect as a matter of law and fact and should be overturned. We submit that in all the circumstances there is no basis in law or fact as to why the Appellants application to renew the Licence should not be granted with appropriate conditions attached.

We request that the Aquaculture Licences Appeals Board having reviewed this information makes a decision granting the renewal of the Appellant's Licence subject to appropriate conditions. Without prejudice to the Boards powers in this regard we respectfully submit it would be appropriate to grant the Licence subject to a condition which requires that the Appellant continues to monitor the site in accordance with the SFPA's requirements and the Water Directive Framework. Such a condition would ensure that the concerns expressed by the SFPA are addressed.

For the foregoing reasons with submit the appeal in respect of the associated Foreshore Licence should be renewed.

Yours faithfully,

Staines Law

Received by John Houghton
on Behalf of
John Houghton
Tempest Rose Oysters
Cheque endorsed
€ 457.10

AQUACULTURE LICENCES
APPEALS BOARD
- 1 NOV 2019
RECEIVED

3g
V
Hard

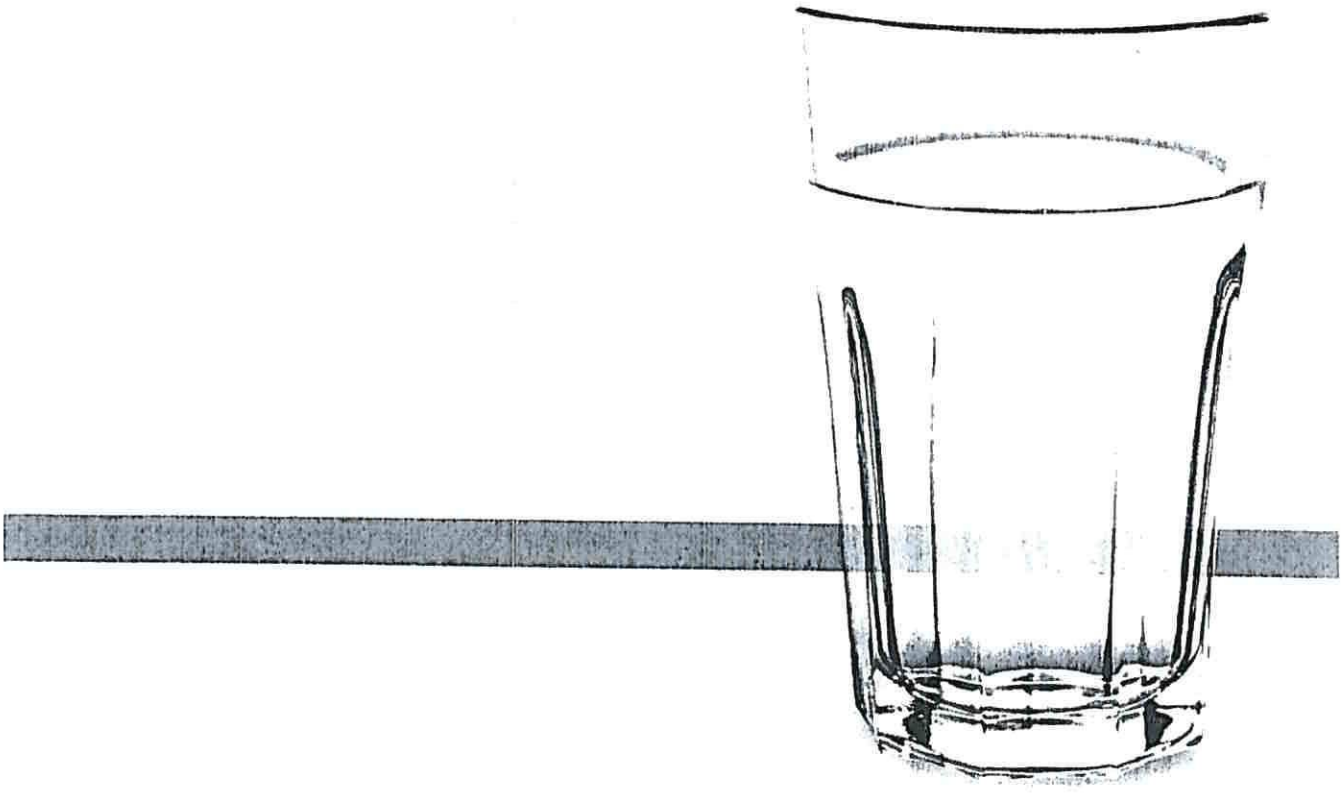
Aquaculture Licence Appeals Board

re

Tempest Oysters LTD

Annual Environmental Report 2016

Agglomeration Name:	**Kenmare**
Licence Register No.	**D0184-01**



Contents

Section 1. Executive Summary and Introduction to the 2016 AER **2**
1.1 Summary Report on 2016 3
Section 2. Monitoring Reports Summary **4**
2.1 Summary report on monthly influent monitoring 4
2.2 Discharges from the agglomeration 5
2.3.1. Ambient Monitoring Summary 6
2.4 Data collection and reporting requirements under the UWWTD 6
2.5 Pollutant Release and Transfer Register (PRTR) - report for previous year 6
Section 3. Operational Reports Summary **7**
3.1 Treatment Efficiency Report 7
3.2 Treatment Capacity Report 7
3.3 Extent of Agglomeration Summary Report 7
3.4 Complaints Summary 8
3.5 Reported Incidents Summary 9
3.6 Sludge / Other inputs to the WWTP 10
Section 4. Infrastructure Assessments and Programme of Improvements **11**
4.1 Storm water overflow identification and inspection report 11
4.2 Report on progress made and proposals being developed to meet the improvement programme requirements. 13
Section 5. Licence Specific Reports **15**
5.1 Priority Substances Assessment 16
5.3 Shellfish Impact Assessment Report 17
Section 6. Certification and Sign Off **18**
Section 7. Appendices **19**

Section 1. Executive Summary and Introduction to the 2016 AER

1.1 Summary Report on 2016

This Annual Environmental Report has been prepared for **D0184-01, Kenmare,** in County **Kerry**, in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified assessments are included as an appendix to the AER as follows:

- Storm water overflow assessment
- Priority substances assessment
- Shellfish water assessment

The agglomeration is served by a wastewater treatment plant with a Plant Capacity PE of 5833. The treatment process includes the following:-

- Preliminary Treatment (Preliminary Screening)
- Primary Treatment (Diffused Aeration)
- Secondary Treatment (Final settlement)

The final effluent from the Primary Discharge Point was compliant with the Emission Limit Values in 2016.

436,120kgs of dry solids of dewatered sludge cake and 65,418kg of dried pellets were removed from the wastewater treatment plant in 2016. Sludge was transferred to Cremin Composting Co. Limerick.

There were no major capital or operational changes undertaken in 2016

An Annual Statement of Measures is included in **Appendix 7.1.**

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 Influent Monitoring Summary

2.1.1 Monthly Influent Monitoring	BOD (mg / l)	COD (mg / l)	SS (mg / l)	TP (mg / l)	TN (mg / l)	Hydraulic Loading (m3/d)	Organic Loading (PE/Day)
Number of Samples	12	12	12	0	0		
Annual Max.	289	715	203	0	0	1676	5,274
Annual Mean	160.49	330.73	113.36			1289.54	3157.85

Other inputs in the form of sludge/leachate are added to the WWTP after the influent monitoring point and are therefore not represented by influent monitoring. Other inputs, where relevant, are detailed in Section 3.6.

Significance of results

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2

The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliant with Emission Limit Values

The annual mean organic loading is less than the Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum organic loading is less than the Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring

2.2.1 Effluent Monitoring Summary	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	pH
WWDL ELV (Schedule A) where applicable	25.00	125.00	35.00	6 to 9
ELV with Condition 2 Interpretation included	50.00	250.00	87.50	6 to 9
Number of sample results	12	12	12	12
Number of sample results above WWDL ELV	0	0	0	0
Number of sample results above ELV with Condition 2 Interpretation	0	0	0	0
Overall Compliance (Pass/Fail)	Pass	Pass	Pass	Pass

Significance of results

The WWTP was compliant with the ELV's set in the wastewater discharge licence.

2.3.1. Ambient Monitoring Summary

Table 2.3. Ambient Monitoring Report Summary Table

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Bathing Water	Drinking Water	FWPM	Shellfish	Current WFD Status
Upstream Monitoring Point	E:90912 N:70992	RS21F010510					Good
Downstream Monitoring Point	E:89408 N:69831	TW13003200KN1006	No	No	No	Yes	Good

The results for the upstream and downstream monitoring from Southern Scientific are included in the Appendix 7.2.

Significance of results

- The WWTP was compliant with the ELV's set in the wastewater discharge licence as detailed in Section 2.2.
- The receiving waters do not meet the EQS for Shellfish
- The discharge from the wastewater treatment plant does not have an observable negative impact on the water quality.
- The discharge from the WWTP doesn't have an observable negative impact on the Water Framework Directive status.

2.4 Data collection and reporting requirements under the UWWTD

The electronic submission of data was completed on 28/02/2017

2.5 Pollutant Release and Transfer Register (PRTR) - report for previous year

A PRTR is not required as the PE is < 100000

Section 3. Operational Reports Summary

3.1 Treatment Efficiency Report

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)
Influent mass loading (kg/year)	69,157	142,514	48,850
Effluent mass emission (kg/year)	1,045	9,167	2,503
% Efficiency (% reduction of influent load)	98%	94%	95%

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/day)	806
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/day)	2,419
Hydraulic Capacity – Current loading (m3/day)	1,290
Hydraulic Capacity – Remaining (m3/day)	1,129
Organic Capacity - Design / As Constructed (PE)	5,833
Organic Capacity - Current loading (PE)	3,158
Organic Capacity – Remaining (PE)	2,675
Will the capacity be exceeded in the next three years? (Yes / No)	Yes
Is an upgrade or expansion of the WWTP proposed? (i.e. If on Minor Programme or CIP) (Yes/No)	Yes

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and created in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended).

Table 3.3 - Extent of Agglomeration Summary Report

	% of P.E. load generated in the agglomeration	Estimated / Measured
Load generated in the agglomeration that is collected in the sewer network	100	Estimated
Load collected in the agglomerations that enters treatment plant	Unknown	Estimated
Load collected in the sewer network but discharges without treatment (includes SWO, EO, and any discharges that are not treated)	Unknown	Estimated

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant.

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment.

3.4 Complaints Summary

A summary of complaints of an environmental nature is included below.

Table 3.4 - Complaints Summary Table

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
0	N/A	0	0

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

3.5.1 Incident Type (e.g. Non-compliance, Emission, spillage, pollution incident)	Incident Description	Cause	No. of Incidents	Recurring Incident (Yes/No)	Corrective Action	Authorities Contacted. Note 1	Reported to EPA (Yes/No)	Closed (Yes/No)
N/a	N/A	N/A	0		N/A	N/A		

Note 1: For shellfish waters notify the Marine Institute (MI) Sea Fisheries Protection Authority (SFPA) Food Safety Authority (FSAI) and An Bord Iascaigh Mhara (BIM). This should also include any other authorities that should be contacted arising from the findings of any Licence Specific Reports also e.g. Drinking Water Abstraction Impact Risk Assessment, Fresh Water Pearl Mussel Impact Assessments etc.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2016	0
Number of Incidents reported to the EPA via EDEN in 2016	0
Explanation of any discrepancies between the two numbers above	N/A

3.6 Sludge / Other inputs to the WWTP

Other inputs to the waste water treatment plant are summarised in Table 3.6 below.

Table 3.6 - Other Inputs

Input Type	m3/year	P.E.	% of load to WWTP	Included in Influent Monitoring? (Y/N)	Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Domestic /Septic Tank Sludge						
Industrial / Commercial Sludge	600			Yes	No	No
Landfill Leachate (delivered by tanker)						
Landfill Leachate (delivered by sewer network)						
Other (specify)						

Section 4. Infrastructure Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

The Storm Water Overflow Identification & Inspection report is included in Appendix 7.4 . A summary of the significance and operation is included below.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High/Med/ Low)	Compliance with DoEHLG criteria	No. of times activated in 2016 (No. of events)	Total volume discharged in 2016 (m3)	Total volume discharged in 2016 (P.E.)	Estimated / Measured data
TPEFF1300D 01845W002 (Cromwells Bridge Main Pump Station)	E:90786 N:70837	Yes	Low	Compliant	Unknown	Unknown	Unknown	Estimated
Scarteen Park Pmping Station	E:91198 N:71073	No	Low	Compliant	Unknown	Unknown	Unknown	Estimated
Riversdale Pumping Station	E:91192 N:69837	No	Low	Compliant	Unknown	Unknown	Unknown	Estimated
Pier Road Pumping Station	E:90899 N:70204	No	Low	Compliant	Unknown	Unknown	Unknown	Estimated
Killowen Road Pumping Station	E:91456 N:70917	No	Low	Compliant	Unknown	Unknown	Unknown	Estimated

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?	Unknown	
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Unknown	
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2016?	Unknown	
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	N/A	
The SWO assessment includes the requirements of relevant WWDL Schedules (Yes/No)	No	
Have the EPA been advised of any additional SWOs / changes to Schedules A/C under Condition 1 ?	No	

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

The Improvement Programme report addresses the **Specified Improvement Programmes** as detailed in Schedules A3 and C of the WWDL. It should detail other improvements identified through assessments required under the licence.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes	Licence Schedule	Licence Completion Date	Date Expired	Status of Works	% Construction Work Completed	Licensee Timeframe for Completing the Work	Comments
Any improvement works required to ensure compliance with the emission limit values set out in Schedule A: Discharges and Discharge Monitoring.	C	31/12/2019	No	Not started	0%		Consultants appointed by IW to carry out an Assessment of Needs brief in Kenmare.

A summary of the status of any improvements identified by under Condition 5.2 is included below.

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier / Name	Improvement Description	Improvement Source	Progress (% complete)	Expected Completion Date	Comments
n/a					

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	Risk Assessment Rating (High, Medium, Low)	Risk Assessment Score	Reference to relevant section of AER (e.g. Appendix 2 Section 4.	Specified Improvements	Comment
Hydraulic Risk Assessment Score	High	145	N/A	N/A	N/A
Environmental Risk Assessment Score	Medium	305	N/A	N/A	N/A
Structural Risk Assessment Score	High	150	N/A	N/A	N/A
Operation & Maintenance Risk Assessment Score	Low	14	N/A	N/A	N/A
Overall Risk Score for the agglomeration	High	614	N/A	N/A	N/A

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Never required by condition 5 in Licence	Required in this AER or outstanding from previous AER	Included in this AER / Remains outstanding	Reference to previous AER containing report or relevant section of this AER
Priority Substances Assessment	Required	No	Yes	AER 2015
Drinking Water Abstraction Point Risk Assessment	Not Required	No	No	N/A
Shellfish Impact Assessment	Required	No	Yes	AER 2015
Pearl Mussel Report	Not Required	No	No	N/A
Toxicity/Leachate Management	Not Required	No	No	N/A
Toxicity of Final Effluent Report	Not Required	No	No	N/A
Small Stream Risk Score Assessment	Not Required	No	No	N/A
Habitats Impact Assessment	Not Required	No	No	N/A

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	Yes	Yes
Drinking Water Abstraction Point Risk Assessment	N/A	N/A
Shellfish Impact Assessment	Yes	Further Assessment Required
Pearl Mussel Report	N/A	N/A
Toxicity/Leachate Management	N/A	N/A
Toxicity of Final Effluent Report	N/A	N/A
Small Stream Risk Score Assessment	N/A	N/A
Habitats Impact Assessment	N/A	N/A

5.1 Priority Substances Assessment

The Priority Overflow Assessment was submitted previously in AER 2015. A summary of the findings of this report is included below.

Table 5.1 - Priority Substance Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Desk Top Study
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	Yes
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	Yes
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	No

5.3 Shellfish Impact Assessment Report

The Shellfish Impact Assessment Report was submitted previously in AER 2015. A summary of the findings of this report is included below.

Table 5.3 - Preferred format for Shellfish Impact Assessment Summary

Is a Shellfish Impact assessment required in the AER (or outstanding from a previous AER)?	No
List prescribed organisations consulted when preparing the assessment (BIM, SFPA, MI)	BIM, FSAI, SFPA, MI
Does the assessment consider the impact of all discharges from the works?	Yes
Does the assessment identify that any of the discharges from the works are impacting on the microbiological quality of the shellfish?	No
Does the assessment recommend that there is a requirement to install UV/other disinfection equipment on any of the discharges?	No
Provide details on disinfection system to be employed	N/A
Has this been completed?	N/A
If not yet complete what is the expected date for completion?	N/A
Where disinfection is required, is there a programme in place to demonstrate the efficiency of any disinfection system in place?	N/A
What is the demonstrated efficiency of the disinfection system?	**N/A**
Is there a shellfish monitoring programme in place?	Yes
Does the shellfish or shellfish water monitoring programme include results generated by other organisations	Yes
List organisations contributing data to the assessment	**SFPA**
Does the Improvement Programme for the agglomeration include the findings and recommendations of the shellfish impact risk assessment?	Yes

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

Does the AER include an executive summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a technical amendment / review of the licence?	No
List reason e.g. additional SWO identified	n/a
Is there a need to request/advise the EPA of any modifications to the existing WWDL? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	no
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements	n/a
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	Yes
Ensure the following reports are included	Storm water overflow assessment
	Priority substances assessment
	Shellfish water assessment

Declaration by Irish Water

The AER contains the following:

- Introduction and background to 2016 AER.
- Monitoring Reports Summary.
- Operational Reports Summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports
- Certification and Sign Off
- Appendices

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed:..... Date:.....21 February 2017.....

Elizabeth Arnett
Head of Corporate Affairs and Environmental Regulation

Section 7. Appendices

Section 7 - Appendices

Appendix 7.1 – Annual Statement of Measures

Annual Statement of Measures

No additional measures have been taken in 2016 in relation to prevention of environmental damage. The need for measures to prevent environmental damage will be reviewed on an annual basis.

Appendix 7.2 – Ambient Monitoring Summary

Sampling Point Description	EDEN Code	Monitoring Location Easting/Northing	Upstream/ Downstream	Sampling Method	Sample Date	Sample ID No.	Visual Inspection	pH	BOD (mg/l)	COD (mg/l)	SS (mg/l)	Ortho P as P (mg/l)	NH3-N (mg/l)	Temperature (degree C)	Dissolved Oxygen (mg/l)
Upstream	RS21F010510	E:90912 N:70992	Upstream	GRAB	27/03/2015	C15-Mar-541	clear	7.5	1	18	2	0.01	0.03	6.7	11.69
Downstream	TW13003200KN1006	E:89408 N:69831	Downstream	GRAB	27/03/2015	C15-Mar-542	clear	8.1	1	321	2	0.01	0.44	8.8	11.64
Upstream	RS21F010510	E:90912 N:70992	Upstream	GRAB	12/06/2015	C15-Jun-449	clear	7.8	1	<10	<2	<0.01	0.04	14.4	8.01
Downstream	TW13003200KN1006	E:89408 N:69831	Downstream	GRAB	12/06/2015	C15-Jun-450	clear	8.2	1.2	976	2	<0.01		14.2	7.37
Upstream	RS21F010510	E:90912 N:70992	Upstream	GRAB	28/09/2015	C15-Sep-631	clear	7.9	<1	<10	<2	<0.01	<0.02	15.1	10.45
Downstream	TW13003200KN1006	E:89408 N:69831	Downstream	GRAB	28/09/2015	C15-Sep-632	clear	8.1	<1	65	<2	0.02		15.7	8.8
Upstream	RS21F010510	E:90912 N:70992	Upstream	GRAB	18/12/2015	C15-Dec-1312	clear	7.3	<1	22	<2	<0.01	<0.02	12.42	10.24
Downstream	TW13003200KN1006	E:89408 N:69831	Downstream	GRAB	18/12/2015	C15-Dec-1313	clear	7.4	<1	21	14	0.01	<0.02	12.5	10.5

Appendix 7.3 – Pollutant Release and Transfer Register (PRTR) Summary Sheets

Pollutant Release and Transfer Register (PRTR) Summary Sheets are not a requirement of the Waste Water Discharge Licence for 2015.
Agglomerations greater than 2,000 p.e. and less than 100,000 p.e. have no reporting requirement for 2015. These agglomerations are required to report their mass emissions to Air and Water, and their Waste Transfers using the AER/PRTR Emissions Reporting Workbook every 2 years with the next report due for 2016 i.e. by 28th February 2017.

Appendix 7.4 – Storm Water Overflow Identification and Inspection Report

Storm Water Overflow Assessment

Agglomeration Name:	Kenmare
Licence Register No.	D0184-01

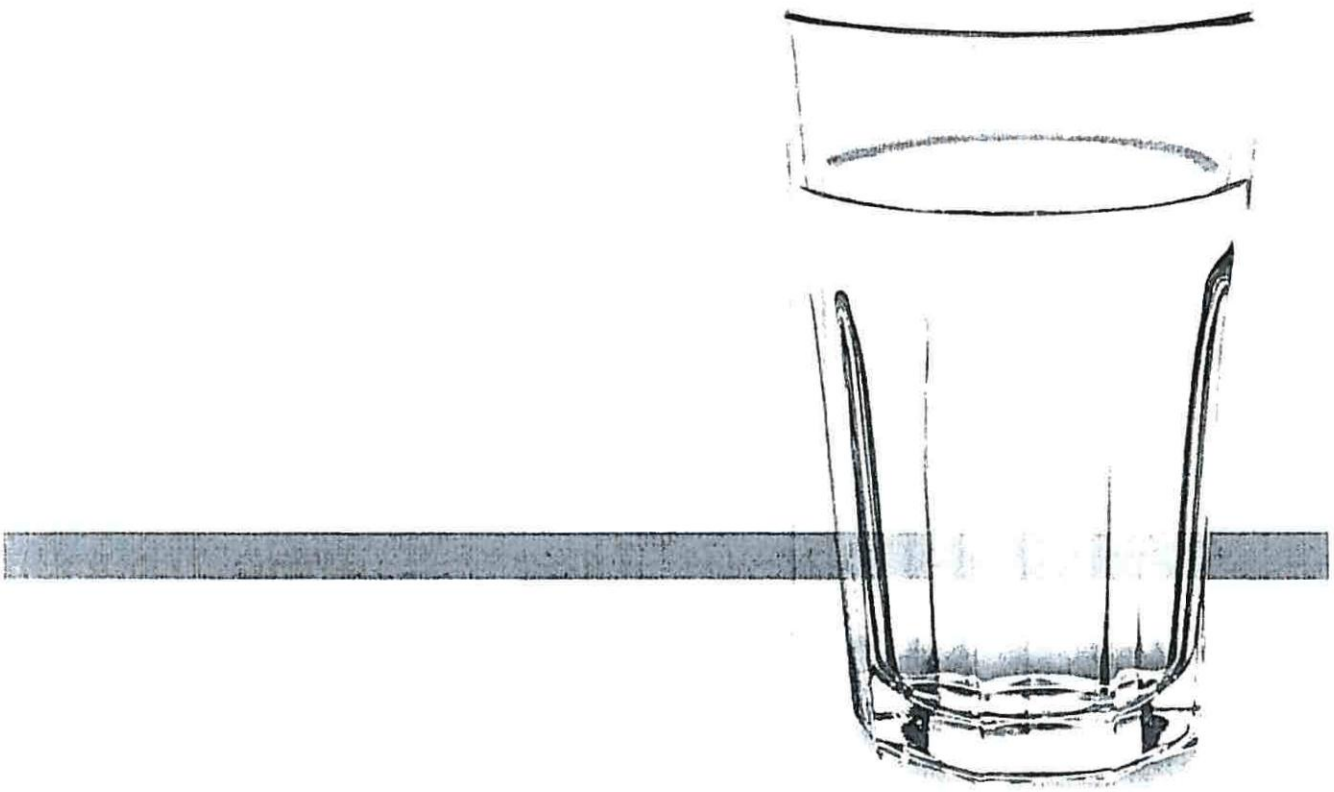


Table of Contents

1	**Introduction**		**7**
2	**Storm Water Overflow Assessment**		**8**
2.1	Description of SWOs		8
2.2	Assessment of Operating Criteria of SWOs		8
2.3	Assessment of Design Criteria of SWOs		10
	2.3.1 Compliance with Formula A	10	
	2.3.2 Significance of Spill	14	
2.4	Assessment of Requirement for Storage		15
3	**Remedial Measures to Ensure Compliance**		**16**
3.1	Specified Improvement and Improvement Programme Works		16
3.2	Additional Measures		16

1 Introduction

This report has been prepared for D0184-01, Kenmare, in County Kerry in accordance with the requirements of Condition 4.12 of the wastewater discharge licence for the agglomeration. This report identifies storm water overflows within the agglomeration and assesses the compliance of the storm water overflows with the criteria set out in the DoEHLG document on *'Procedures and Criteria in Relation to Storm Water Overflows', 1995.*

There are 5Nr. SWOs within the agglomeration. These are listed in Table 1.

Table 1: Storm Water Overflows in the Agglomeration

Licence Code	Discharge Location		Receiving Water Name and WFD Code	WFD Status of Receiving Water	Other designation of receiving water
	Easting	Northing			
TPEFF1300D0184SW002 Main Pump Station	90767.16	70899.40	River Finnihy IW_SW_21_2495	Good	Kenmare River SAC. Flows into Kenmare River / Sneem / Ardgroom Shellfish area
SW003 (Interim code as none listed in Licence)	90888.90	70169.53	Inner Kenmare River IE_SW_190_0300	Good	Kenmare River SAC. Flows into Kenmare River / Sneem / Ardgroom Shellfish area
SW004 (Interim code as none listed in Licence)	91152.10	71085.02	Tributary of River Finnihy (Kealnagower Stream) IW_SW_21_2495	Good	Kenmare River SAC. Flows into Kenmare River / Sneem / Ardgroom Shellfish area
SW005 (Interim code as none listed in Licence)	91568.84	70641.98	Inner Kenmare River IE_SW_190_0300	Good	Kenmare River SAC. Flows into Kenmare River / Sneem / Ardgroom

					Shellfish area
SW006 (Interim code as none listed in Licence)	91162.39	69888.05	Inner Kenmare River IE_SW_190_0300	Good	Kenmare River SAC. Flows into Kenmare River / Sneem / Ardgroom Shellfish area

A storm water overflow assessment is required to comply with the requirements of the wastewater discharge licence condition as detailed below.

Condition 4.12 - Storm Water Overflows

4.12.1 *The licensee shall, prior to the date for submission of the second AER (required under Condition 6.8), carry out an investigation for the identification and assessment of storm water overflows. A report on the storm water overflows shall be submitted to the Agency as part of the second AER. All storm water overflows shall be in compliance with the criteria for storm water overflows, as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995, and any other guidance as may be specified by the Agency.*

4.12.2 *The licensee shall carry out an assessment of storm water overflows at least once every three years thereafter and report to the Agency on each occasion as part of the AER. The assessment shall include a determination of compliance with the criteria for storm water overflows, as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows' and any other guidance as may be specified by the Agency. The licensee shall maintain a written record of all assessments and remedial measures arising from the assessment.*

2 Storm Water Overflow Assessment

2.1 Description of SWOs

There are five SWOs located within the Kenmare agglomeration, all of which are located at pumping stations (PS). None of the SWOs are screened except for the SWO at the Main PS which has a 6" automatic screen. There is some storage at each of the SWOs as follows:

- Main – 200m^3
- Pier PS – 10m^3
- Scarteen Park PS – 5.67m^3
- Golf Links PS – 10.5m^3
- Riversdale PS – 8.77m^3

2.2 Assessment of Operating Criteria of SWOs

The following criteria for each SWO on the network have been examined in accordance with the assessment criteria set out in *Procedures and Criteria in Relation to Storm Water Overflows* in order to determine possible capacity constraints.

1. Does the SWO cause significant visual or aesthetic impact and public complaints

2. Does the SWO cause deterioration in water quality in the receiving water (i.e. is there a deterioration in ecological quality status attributable to the SWO)
3. Does the SWO gives rise to failure in meeting the requirements of national regulations on foot of EU Directives (e.g. bathing water quality standards, shellfish water quality standards, Water Framework Directive status etc.),
4. Does the SWO operate in dry weather.

Table 2: Assessment of Operating Criteria

CSO Ref	Causes significant visual or aesthetic impact and public complaints.	Causes deterioration in water quality in the receiving water	Gives rise to failure in meeting the requirements of national Regulations on foot of EU Directives.	Operates in dry weather	Compliant / Non-Compliant
TPEFF1300D0184SW002 Main Pump Station	No	No. Upstream River Water Quality is Q4 - Good Status. Downstream Transitional Water Quality is Unpolluted.	No	No	Compliant
SW003 (Interim code as none listed in Licence)	No	No. Upstream River Water Quality is Q4 - Good Status. Downstream Transitional Water Quality is Unpolluted.	No	No	Compliant
SW004 (Interim code as none listed in Licence)	No	No. Upstream River Water Quality is Q4 - Good Status. Downstream Transitional Water Quality is Unpolluted.	No	No	Compliant
SW005 (Interim code as none listed in Licence)	No	No. Upstream River Water Quality is Q4 - Good Status. Downstream Transitional Water Quality is Unpolluted.	No	No	Compliant
SW006 (Interim code as none listed in Licence)	No	No. Upstream River Water Quality is Q4 - Good Status. Downstream Transitional Water Quality is Unpolluted.	No	No	Compliant

2.3 Assessment of Design Criteria of SWOs

2.3.1 Compliance with Formula A

Formula A is used in the *Procedures and Criteria in Relation to Storm Water Overflows* as follows:-

Formula A = DWF + 1.36P + 2E (m3/day)

P = design domestic population contributing to SWO (estimated)

E = design industrial effluent flow (estimated to be 2% of domestic PE based on review of industrial activity in the agglomeration)

*DWF = Dry weather flow m^3/day (dry weather flow of total PE, based on **0.175m^3**/PE/day)*

The maximum sewer flowrate prior to overflow to be estimated based on information available. This will include an assessment of the PE contributing to the SWO. This may be undertaken using the geodirectory or other appropriate means. Assessment to state where any assumptions have been made.

TPEFF1300D0184SW002 Main Pump Station

Formula A (DWF + 1.36P + 2E)

DWF = PG + E

- P = Design population = 4397.2 (obtained directly from Kerry County Council personnel who calculated this from geodirectory and the following occupancy rates: Residential Property – 2.3; Commercial Property – 2; and Holiday Property - 5)
- G = 0.175m^3/PE/day for DWF
- PG = 769.51m^3/day
- E = Industrial effluent, 2% of PG = 15.39m^3/day
- DWF = 769.51m^3/day + 15.39m^3/day = 784.90m^3/day

P = 4397.2*0.225 = 989.37m^3/day

Note: Average water consumption per head per day = 0.225m^3/head/day)

E = 989.37*2% = 19.79m^3/day

Formula A = 784.90 + 1.36(989.37) + 2(19.79) = **2170.02m^3/day**

Dilution Factor

Dilution Factor = 95%ile flow / SWO DWF = (0.03m^3/s, From EPA Hydrotool) / (0.0090845m^3/s) = 3.3

Pier Pump Station (SW003)

Formula A (DWF + 1.36P + 2E)

DWF = PG + E

- P = Design population = 133.10 (obtained directly from Kerry County Council personnel who calculated this from geodirectory and the following occupancy rates: Residential Property – 2.3; Commercial Property – 2; and Holiday Property - 5)

- G = 0.175m^3/PE/day for DWF
- PG = 23.29m^3/day
- E = Industrial effluent, 2% of PG = 0.46585m^3/day
- DWF = 23.29m^3/day + 0.46585m^3/day = 23.76m^3/day

P = 133.10*0.225 = 29.95m^3/day

Note: Average water consumption per head per day = 0.225m^3/head/day)

E = 29.95*2% = 0.60m^3/day

Formula A = 23.76 + 1.36(29.95) + 2(0.60) = **65.68m^3/day**

Dilution Factor

Dilution Factor for Transitional Waters = Q_d / SWO DWF

Q_d is the flow of available dilution water which is calculated using the EPA Guidance Document "EO Regulations Review – Simple assimilative capacity model for transitional waters", which gives the following formula:

$Q_d = (Q_e+Q_f)S_o/(S_o-S)$ where,

Q_e = flow rate of licensed discharge = 4,000 m^3/day = 0.0463m^3/s [1]

Q_f = flow rate of the river = 0.5 m^3/s[2]

S_o = salinity of the open water = 31.68 p.s.u.[3]

S = salinity of the water in the vicinity of the discharge = 29.5p.s.u.[4]

Therefore, Q_d = 7.939 m^3/s

Dilution Factor = Q_d / SWO DWF where,

SWO DWF = 23.76m^3/day = 0.0002750 m^3/s

Therefore, Dilution Factor = 28,870

Scarteen Park Pump Station (SW004)

Formula A (DWF + 1.36P + 2E)

DWF = PG + E

- P = Design population = 96.60 (obtained directly from Kerry County Council personnel who calculated this from geodirectory and the following occupancy rates: Residential Property – 2.3; Commercial Property – 2; and Holiday Property - 5)
- G = 0.175m^3/PE/day for DWF
- PG = 16.91m^3/day
- E = Industrial effluent, 2% of PG = 0.34m^3/day
- DWF = 16.91m^3/day + 0.34m^3/day = 17.25m^3/day

[1] Taken from EPA Inspectors Report (14 January 2015)

[2] 95%ile flow in River Roughty from Station Number 21016

[3] From monitoring station KN040

[4] From monitoring station KN030

P = 96.60*0.225 = 21.74m^3/day

Note: Average water consumption per head per day = 0.225m^3/head/day)

E = 21.74*2% = 0.43m^3/day

Formula A = 17.25 + 1.36(21.74) + 2(0.43) = **47.67m^3/day**

Dilution Factor

Dilution Factor = 95%ile flow / SWO DWF = (0.0004m^3/s, From EPA Hydrotool) / (0.0001996m^3/s) = 2.0

Golflinks Pump Station (SW005)

Formula A (DWF + 1.36P + 2E)

DWF = PG + E

- P = Design population = 854.60 (obtained directly from Kerry County Council personnel who calculated this from geodirectory and the following occupancy rates: Residential Property – 2.3; Commercial Property – 2; and Holiday Property - 5)
- G = 0.175m^3/PE/day for DWF
- PG = 149.56m^3/day
- E = Industrial effluent, 2% of PG = 2.99m^3/day
- DWF = 149.56m^3/day + 2.99m^3/day = 152.55m^3/day

P = 854.60*0.225 = 192.29m^3/day

Note: Average water consumption per head per day = 0.225m^3/head/day)

E = 192.29*2% = 3.85m^3/day

Formula A = 152.55 + 1.36(192.29) + 2(3.85) = **421.75m^3/day**

Dilution Factor

Dilution Factor for Transitional Waters = Q_d / SWO DWF

Q_d is the flow of available dilution water which is calculated using the EPA Guidance Document "EO Regulations Review – Simple assimilative capacity model for transitional waters", which gives the following formula:

$$Q_d = (Q_e+Q_f)S_o/(S_o-S) \text{ where,}$$

Q_e = flow rate of licensed discharge = 4,000 m^3/day = 0.0463m^3/s [5]

Q_f = flow rate of the river = 0.5 m^3/s[6]

[5] Taken from EPA Inspectors Report (14 January 2015)

[6] 95%ile flow in River Roughty from Station Number 21016

S_o = salinity of the open water = 31.68 p.s.u.[7]

S = salinity of the water in the vicinity of the discharge = 29.5p.s.u.[8]

Therefore, Q_d = 7.939 m^3/s

Dilution Factor = Q_d / SWO DWF where,

SWO DWF = 152.55m^3/day = 0.0017656 m^3/s

Therefore, Dilution Factor = 4,496

Riversdale Pump Station (SW006)

Formula A (DWF + 1.36P + 2E)

DWF = PG + E

- P = Design population = 401.60 (obtained directly from Kerry County Council personnel who calculated this from geodirectory and the following occupancy rates: Residential Property – 2.3; Commercial Property – 2; and Holiday Property - 5)
- G = 0.175m^3/PE/day for DWF
- PG = 70.28m^3/day
- E = Industrial effluent, 2% of PG = 1.41m^3/day
- DWF = 70.28m^3/day + 1.41m^3/day = 71.69m^3/day

P = 401.60*0.225 = 90.36m^3/day

Note: Average water consumption per head per day = 0.225m^3/head/day)

E = 90.36*2% = 1.81m^3/day

Formula A = 71.69 + 1.36(90.36) + 2(1.81) = **198.19m^3/day**

Dilution Factor

Dilution Factor for Transitional Waters = Q_d / SWO DWF

Q_d is the flow of available dilution water which is calculated using the EPA Guidance Document "EO Regulations Review – Simple assimilative capacity model for transitional waters", which gives the following formula:

$Q_d = (Q_e+Q_f)S_o/(S_o-S)$ where,

Q_e = flow rate of licensed discharge = 4,000 m^3/day = 0.0463m^3/s [9]

Q_f = flow rate of the river = 0.5 m^3/s[10]

S_o = salinity of the open water = 31.68 p.s.u.[11]

S = salinity of the water in the vicinity of the discharge = 29.5p.s.u.[12]

---

[7] From monitoring station KN040

[8] From monitoring station KN030

[9] Taken from EPA Inspectors Report (14 January 2015)

[10] 95%ile flow in River Roughty from Station Number 21016

[11] From monitoring station KN040

[12] From monitoring station KN030

Therefore, $Q_d = 7.939\ m^3/s$

Dilution Factor = Q_d / SWO DWF where,

SWO DWF = $71.69 m^3/day = 0.0008297\ m^3/s$

Therefore, Dilution Factor = 9,568

2.3.2 Significance of Spill

Monitoring information in relation to frequency and duration of overflows is not available. The significance of overflows to inland freshwaters has been assessed as follows:

Low Significance: >8:1 Dilutions in Receiving water (average SWO DWF / 95%ile river flow) No interaction with other discharges
Medium Significance - only if all these criteria apply. Dilution < 8 : 1 Limited or no interaction with other discharges > 2,000 population equivalent Cyprinid fishery
High Significance - only if all these criteria apply. Dilution < 2 : 1 Interaction with other discharges > 10,000 population equivalent Cyprinid or salmonid fishery

The significance of overflows to transitional and coastal waters has been assessed as follows:

Low Significance: Estuarial and coastal waters not containing EC identified bathing waters or shellfish waters
Medium Significance - only if all these criteria apply. Population equivalent 2,000 - 10,000 Affects identified in bathing waters or shellfish waters
High Significance - only if all these criteria apply. Population equivalent > 10,000 Affects identified in bathing waters or shellfish waters

Table 3: Assessment of Significance

CSO Ref	Dilution	PE Range	Designation of Receiving Water	Significance
SW002	3.3	2,000 – 10,000	Kenmare River SAC. Flows into Kenmare River / Sneem / Ardgroom Shellfish area	Low
SW003	28870.5	< 2,000	Kenmare River SAC. Flows into Kenmare River / Sneem / Ardgroom Shellfish area	Low
SW004	2.0	< 2,000	Kenmare River SAC. Flows into Kenmare River / Sneem / Ardgroom Shellfish area	Low
SW005	4496.4	< 2,000	Kenmare River SAC. Flows into Kenmare River / Sneem / Ardgroom Shellfish area	Low
SW006	9568.4	< 2,000	Kenmare River SAC. Flows into Kenmare River / Sneem / Ardgroom Shellfish area	Low

2.4 *Assessment of Requirement for Storage*

The necessity for a storm tank within the sewer network has been assessed based on available dilution as detailed in Table 3 (from Procedures and Criteria in Relation to Storm Water Overflows) included as Table 4 below. The requirement for a storm tank at a wastewater treatment plant shall be based on an overflow setting of 3 DWF.

Table 4 – SDD Method Recommended Storage at Overflows[1]

Dilution Factor[2]	Overflow Setting	Storage Tank
> 8	Formula A	None
> 6	Formula A + 455 P or Formula A	None 40 l/PE
> 4	Formula A	40 l/PE
> 2	Formula A	80 l/PE
> 1	Formula A	120 l/PE

1. Table 3 extracted from Procedures and Criteria in Relation to Storm Water Overflows
2. Dilution factor = average DWF / 95%ile river flow

Table 5 – Stormwater Storage within Agglomeration

CSO Ref	Dilution Factor[1]	Required Overflow Setting (l/s)	Actual Overflow Setting (l/s)	Required Storage Tank Volume (m^3)	Actual Storage Tank Volume (m^3)	Compliant / Non-Compliant
SW002	3.3	25.116	27.6	352	200	Non-compliant
SW003	28870.5	0.760	9.7	None	10	Compliant
SW004	2.0	0.552	5.3	7.73	5.67	Non-compliant
SW005	4496.4	4.881	Unknown	None	10.5	Unknown
SW006	9568.4	2.294	8.9	None	8.77	Compliant

2. Dilution factor = average DWF / 95%ile river flow

3 Remedial Measures to Ensure Compliance

3.1 Specified Improvement and Improvement Programme Works

There are no specified improvement works or improvement programmes relating to stormwater overflows.

3.2 Additional Measures

The additional measures required, identified in this report are as follows:
Further investigation to determine the operation of SW005 and investigation into the need to provide increased storage for SW002 and SW004 as these have been assessed as non-compliant.

Appendix 7.5 – Specified Improvement Programme

A Specified Improvement Programme will be required as part of the Second AER.

Appendix 7.6 – Sewer Integrity Tool Output

Project Title	Guideline Document for Assessment of Sewers
Project Element	Assessment Matrix

Revisions

Revision No.	Date	Changed by	Checker	Revision
H	26/06/2012	BJD	MMcD	Amendments following feedback from Roscrea Workshop of 15/03/12
I	Not Used	N/A	N/A	"I" not used to avoid confusion with Number 1
J	18/12/2014	CK	MMcD	Amendments to allow Licensee to add rows in Agglomeration Details and correct default entries in Environmental Risk
K	07/01/2015	CK	MMcD	Ammendment to dates in Agglomeration Details
L	03/03/2015	CK	MMcD	Update editing rights of particular cells and drop down menus

	Section 1.1 Agglomeration Details					
	Name		Kenmare WWTP			
	Licence Number		D0184-01			
	Insert Name of Catchment if the Risk Assessment is for part of an agglomeration (only divide agglomeration where p.e. >5,000p.e. and where such division is warranted)		Kenmare			
	Date Licence Issued		16th January 2015			
	Current Date		26th January 2016			
			Year	Year	Year	Year
	Waste Water Works - Wastewater Treatment Plant Details	Unit	2015	2016	2017	2018
1.1	Is there an existing WWTP in operation?		Yes	Yes	Yes	Yes
	Section 1.2 BOD Loading & Population Equivalent					
1.2	Average Daily Influent Flow or Average Total Flow in system (if no measured data exists, insert estimated figure)	l/day, measured	1358235			
1.3	Average Daily Influent BOD or Average BOD Load from area served (if no measured data exists, insert estimated figure)	mg/l, measured	179.6			
1.4	Total BOD Load	kg/day	244.116606	0	0	0
1.5	Average Population Equivalent (@0.06kg/person/day)	p.e.	4069	0	0	0
1.6	Estimated (existing) Non-Domestic Load	p.e.	380			
1.7	Estimated Domestic Load	p.e.	3689	0	0	0
1.8	Occupancy Rate for the Agglomeration	pop/house	2.67			
1.9	Estimated Number of Connected Properties	houses	1382	0	0	0
1.10	Number of properties within the agglomeration when compared with CSO Data or An Post Geodirectory	houses	1876			
	Section 1.3 Hydraulic Details					
1.11	Average Dry Weather Flow arriving at WWTP OR Total Average DWF in system (if no measured data exists insert estimated figure)	l/s, measured	7.38			
1.12	Estimated 3DWF	l/sec	22.14	0.00	0.00	0.00
1.13	Annual Average Peak Flow to WWTP or discharging from whole system if there is no existing WWTP	l/s, measured	15.73			
1.14	This Annual Average Peak as Multiples of Dry Weather Flow (Peaking Factor)	Nr	3.00	0.00	0.00	0.00
1.15	Highest Peak Flow Recorded (Insert UNKNOWN if no records exist)	l/s	25.268			
1.16	Does this Peak Flow (multiple of DWF) cause hydraulic capacity problems within the network ?	---	Yes	Yes	Yes	Yes
1.17	Total Rainfall for Previous Year	mm	1736.1			
1.18	Comparison - Mean Annual Rainfall for the agglomeration	mm				
1.18.1	Define the Weather Station Used		Valentia			
1.19	If Storm Water Storage is available at the Wastewater Treatment plant, what is the volume of the storm tank ?	m^3	None			
1.20	Is the capacity of the storm tank sufficient to capture and retain all overflows to the tank ?	---	No	No	No	No
1.21	Total monthly average volume of Storm Water Stored or Returned for Treatment within the Waste Water Treatment Plant	m^3 per month				
1.22	If the answer to 1.20 above is No, What is the estimated frequency of Overflows from the Storm Tank ? (N/A if no overflow)		N/A	< 1 per month	1 to 2 times per month	< 1 per month
	Waste Water Works - Sewer Network Details	Unit	2015	2016	2017	2018
	Section 1.4 Waste Water Works - Gravity Sewer Details					
1.23	What database is used to maintain records of the sewer network		SUS 2001	SUS 2001	SUS 2002	SUS 2003
1.23.1	If other or combination of the above please describe	Describe	SUS2000 & AutoCad			
1.24	Total length of sewers (use drop down menus to define whether these figures are estimated or measured)	km Estimated	16.19	0.00	0.00	0.00
1.24.1	Total length of sewers > 450mm Diameter	km Measured	0.928800008			
1.24.2	Total length of sewers > 300mm but ≤ 450mm in Diameter	km Measured	2.008399983			
1.24.3	Total length of sewers > 225mm but ≤ 300mm in Diameter	km Measured	13.14650004			
1.24.4	Total length of sewers ≤ 225mm in Diameter	km Measured	0.1076			
1.24.5	Other	km Measured				
1.25	Pipeline Material					
1.25.1	What portion of the sewer network consists of Concrete Pipes	km Measured	75%	20%	5%	0%
1.25.2	What portion of the sewer network consists of Plastic Pipes	km Measured	20%			
1.25.3	What portion of the sewer network consists of Clay materials	km Measured	5%			
1.25.4	What portion of the sewer network consists of Brick Type Sewers	km Measured	0%			
1.25.5	What portion of the sewer network consists of Other Materials	km Measured	0%			
1.26	Total number of Storm Water Overflows	Nr	5			
1.27	What Screening or other mechanical devices are employed at the storm water overflows					
		Describe				
	SWO No 1 Located at Main Pump Station Cromwells Bridge	6mm mechanical screen	1			
	SWO No 2 Located at Scarteen Park Pumping Station	None	1			
	SWO No 3 Located at Riversdale Pumping	None	1			
	SWO No 4 located at Pier Road	None	1			
	SWO No 5 located at Killowen Pump Station	None	1			
	SWO No located at					
1.28	Water Quality of the receiving waters					
1.28.1	Where the receiving water is a river - Indicate the EPA Biological Rating of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)		Good			
	SWO No 1 Located at Main Pump Station Cromwells Bridge	SWO to Finnihy river	Q4			
	SWO No 2 Located at Scarteen Park Pumping Station	SWO to Kealnagower stream	N/A			
	SWO No 3 Located at Riversdale Pumping	SWO to Kenmare river	N/A			
	SWO No 4 located at Pier Road	SWO to Kenmare river				
	SWO No 5 located at Killowen Pump Station	SWO to The Sound				
	SWO No located at					
	SWO No located at					
			Select level	Select level	Select level	Select level
1.28.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)		High			
	SWO No located at	Describe				
	SWO No located at	Describe				
			Sensitive			
1.28.3	With reference to the SWO's detailed above define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.		Sensitive			
	SWO No located at	Describe				
	SWO No located at	Describe				
			Sensitive			
1.28.4	With reference to the SWO's detailed above define are the receiving waters Protected Areas (designated or awaiting designation)					
	SWO No located at	Designation				
	SWO No located at	Designation				
			Sensitive			
1.28.5	With reference to the SWO's detailed above define do the receiving waters have any other designations					
	SWO No located at		Sensitive			
	SWO No located at					

	Section 1.5 Waste Water Works - Pumping Stations					
1.29	Number of Pumping Stations (operated by the Local Authority)		6			
1.30	Total Length of Rising Mains (operated by the Local Authority)		1.308Km			
1.31	Rising Main Material	AC & DI				
1.31.1	What portion of the rising mains consists of ductile iron pipes	% Measured	50.00			
1.31.2	What portion of the rising mains consists of plastic pipes	% Measured	50.00			
1.31.3	What portion of the rising mains consists of other materials	% Estimated				
1.32	Discharge Capacity of the Pump Set (s) at normal duty point					
	At Pump Station 1 at Main Pump Station Cromwells Bridge	27.6 l/s				
	At Pump Station 2 at at Scarteen Park Pumping Station	5.3 l/s				
	At Pump Station 3 at at Riversdale Pumping	8.8 l/s				
	At Pump Station 4 at Pier Road	9.7 l/s				
	At Pump Station 5 at Killowen Pump Station	8.9 l/s				
	At Pump Stesion 6 at Creamery Car Park	10.1 l/s				
	At Pump Stesion at _____					
	What percentage of the pumping stations have recorded flow data (i e if all pumping stations have flow meters on the rising mains then this would read 100%)	%				
1.33	Available Storage Capacity at Pump Stations (include pump sump and any storm water/emergency overflow tanks)					
1.34		m3				
	At Pump Station 1 at Main Pump Station Cromwells Bridge	>200m3				
	At Pump Station 2 at at Scarteen Park Pumping Station	5.67m3				
	At Pump Station 3 at at Riversdale Pumping	8.77m3				
	At Pump Station 4 at Pier Road	10m3				
	At Pump Station 5 at Killowen Pump Station	10.5m3				
	At Pump Stesion 6 at Creamery Car Park	8.37m3				
	Total Number of *"Licenced Secondary Discharge Points and Stormwater Overflows"* at pumping stations	Nr	0			
1.35	Total Number of *"Emergency Overflow Points"* at pumping stations	Nr	6			
1.36	What Screening or other mechanical devices are employed at the secondary discharge points or emergency overflows ?	Nr	0			
1.37	At Pump Station 1 at Main Pump Station Cromwells Bridge	6mm screen				
	At Pump Station 2 at at Scarteen Park Pumping Station	None				
	At Pump Station 3 at at Riversdale Pumping	None				
	At Pump Stesion 4 at Pier Road	none				
	At Pump Station 5 at Killowen Pump Station	None				
	At Pump Station 6 at Creamery Car Park	None				
	Water Quality at the receiving waters at each pumping station location					
1.38	Where the receiving water is a river - Indicate the EPA Biological Rating of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)		N/A			
1.38.1	At Pump Station at _____	Describe				
	At Pump Station 1 at Main Pump Station Cromwells Bridge	SWD to Finnihy river	Good			
	At Pump Station 2 at at Scarteen Park Pumping Station	SWD to Kealnagower stream	Unassigned			
	At Pump Station 3 at at Riversdale Pumping	SWD to Kenmare river	Unassigned			
	At Pump Stesion 4 at Pier Road	SWD to Kenmare river	Unassigned			
	At Pump Station 5 at Killowen Pump Station	SWD to The Sound	Unassigned			
			Enter Status			
	Where the receiving water is a coastal water ind cate the Status of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)		Enter Status			
1.38.2	At Pump Station at _____	Describe				
	At Pump Station at	Describe				
			Not Listed			
	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.		Sensitive			
1.38.3	At Pump Station at _____					
	At Pump Station at					
	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, are the receiving waters Protected Areas (designated or awaiting designation) .					
1.38.4	At Pump Station at _____	Designation				
	At Pump Station at	Designation				
	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, do the receiving waters have any other designations					
1.38.5	At Pump Station at _____	Designation				
	At Pump Station at	Designation				
	Estimated Number of Private Pumping Stations within the agglomeration (not operated by the Local Authority)	Nr	9			
1.39	**Section 1.6 Reporting**					
	Section 1.6.1 Reported Number of Sewer Related Complaints ('Complaint' as defined in the Discharge Licence)					
	Number of Reported Complaints	Nr	0			
1.40	Number of Reported Complaints which have been rectified	Nr	0			
1.41						
	Section 1.6.2 Reported/Recorded/Estimated Number of Secondary Discharges					
	Number of Reported Secondary Discharges	Nr	0	0	0	0
1.42	Number of Recorded Secondary Discharges	Nr	0			
1.43	Estimated Total Number of Secondary Discharges	Nr	0			
1.44						
	Section 1.6.3 Reported/Recorded/Estimated Number of Emergency Overflow Discharges from Pumping Stations					
	Number of Reported Emergency Overflow Discharges	Nr	0	0	0	0
1.45	Number of Recorded Emergency Overflow Discharges	Nr	0			
1.46	Estimated Total Number of Emergency Overflow Discharges	Nr	6			
1.47						
	Section 1.7 Operational Staff					
	In the four boxes below, describe the extent of operation staff employed by the Local Authority to maintain and operate the sewer network and pumping stations *(The individual personnel shall not be named, only grade and level of training needs to be provided)*					
1.48	1 number full time technician based at the WWTP Operating WWTP and surrounding smaller village WWTP's					
1.48.1	Full time GO					
1.48.2						
1.48.3						

1.48.4	Waste Water Works - Investment Details	Unit	2016	2016	2017	2018
	Section 1.8 Capital investment works carried out since most recent report (including works not included on WSIP Programme or not WSIP funded)					
	Sewers Upgraded or Replaced	m	0			
1.49	Sewers Rehabilitated	m	0			
1.50	Manholes Rehabilitated	Nr				
1.51	Local Repairs	Nr	0			
1.52	Total Length of sewers Upgraded, Replaced or Rehabilitated	m	0	0	0	0
1.53	Pumping Stations Operated by Local Authority Upgraded or Repaired	Nr	0			
1.54	WWTW operated by Local Authority Upgraded or Replaced	Nr	0			
1.55	In the following two cells describe the actual Capital Investment undertaken in the reporting period.					
1.56	For example : Sewer Rehabilitation Contract Works being undertaken under the WSIP					
1.56.1						
1.56.2	**Section 1.9 Licence Specified Improvements Works**					
	The Local Authority is required to report on the extent of Improvement Works which have been specified under the Licence as issued by the EPA. Reference which AER contains this information					
1.57	**Section 1.10 Other Updates Since Last Report**					
	For example : 30% of the sewer network is currently being upgraded under the WSIP with an investment of €1.5m in 2010.					
1.58	*For example : 2% of the sewer network is currently being replaced under the Local Authorities Annual Maintenance Fund*					
1.59						
1.60						

Section 2.1 Hydraulic Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
2.1	Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?	No	40		If the answer is **No** assess the need and cost benefit of developing a computer model or engineering design assessment of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Queries 2.1.1 to 2.1.4 Inclusive
2.1.1	If Answer to Query 2.1 is Yes, what % of the Network is covered by the Hydraulic Assessment ?	N/A	0		The % coverage of the Network by the Hydraulic Assessment can be estimated by the area assessed against the area served by the Network. ENTER "N/A" IF COMPUTER MODEL or DESIGN DOES NOT EXIST. DO NOT LEAVE BLANK OR ENTER "0".
2.1.2	How many years has it been since the completion of the hydraulic assessment ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	No	0		Select N/A response if no design assessment or design exists.
2.1.4	How many years has it been since the outcomes of the hydraulic assessment have been implemented ?	more than 10	0		Select N/A response if no hydraulic performance assessment or design exists. For ongoing works select "less than 5".
2.2	Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?	No	10		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Maps" ?	No	10		If the answer is **No** assess the need and cost benefit of undertaking a Manhole Survey and complete Query 2.12. If the answer is **Yes** proceed to Query 2.2.1
2.3.1	If yes, how many years has it been since a survey was undertaken or updated?	more than 10	0		Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
2.4	Has a Flow Survey been undertaken in accordance with WRc Documentation "A Guide to Short Term Flow Surveys of Sewer Systems" and "Contract	No	20		If the answer is **No** assess the need and cost benefit of undertaking a Flow Monitoring Survey and complete Query 2.12. If answer is **Yes** Proceed to Query 2.5
2.5	What was this Flow Survey Information Used for ?				
2.5.1	To Determine the extent of Problematic Sewer Catchments	No	0		Select N/A if no Flow Survey has been undertaken.
2.5.2	To Verify a Computer or Mathematical Model of the Network	No	0		Select N/A if no Flow Survey has been undertaken.
2.6	Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?	No	10		If the answer is **No** assess the Future Needs of the Sewer Network and complete Query 2.12. if the answer is **Yes** proceed to Query 2.8
2.7	How many flood events resulting from surcharge in the network have occurred in the past 3 years?	1 to 3	5		Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	Are there deficiencies in performance criteria within the sewer network ?	Yes	20		If the answer is **No**, Proceed to Query 2.10 and complete Query 2.12. If the answer is **Yes** proceed to Query 2.9
2.9	Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?	No	10		If the answer is **No**, consider further examination of the hydraulic model (if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.10
2.10	Can the Hydraulic Assessment (defined in Query 2.1 above) be used to determine the benefit of reducing the contributory Impermeable Areas or extent of surface water contributions	No	10		If the answer is **No**, consider further development of the Hydraulic Assessment (or model if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.11
2.11	Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?	No	10		If the answer is **No**, consider the need and cost benefit of undertaking an Impermeable Survey for parts of the agglomeration which are under hydraulic pressure and complete Query 2.12
	Total Risk Assessment Score (RAS)		145		
2.12	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to improve hydraulic efficiency				

Section 3.1 Environmental Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
3.1	What Environmental or Discharge Quality Data is available with regard to the sewer network?	electronic or paper records exist but are >10 years old.	10		Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
3.1.1	Do trade effluents discharge to the sewer network?	No	0		If the answer is **No**, proceed to Query 3.1.2. If the answer is **Yes**, Proceed to Query 3.2
3.1.2	Are there Storm Water Overflows within the network ?	Yes	20		If the answer is **No**, proceed to Query 3.1.3. If the answer is **Yes**, Proceed to Query 3.3
3.1.3	Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?	Yes	20		If the answer is **No**, proceed to Query 3.1.4.
3.1.4	Is there any evidence that exfiltration is occurring from the network ?	Unknown	20		If the answer is **No**, does all wastewater enter a wastewater treatment plant (insert summary details in the AER)? If **Yes**, Proceed to Query 3.6
3.2	If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?	0 - 10%	40		Select N/A if answer to Query 3.1.1 is **No**. If not all trade effluents are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	Are all licenced trade Discharges compliant with their relevant licence and associated conditions.	No	10		Answer N/A if none of the trade effluents are licenced. Answer No if this information is unknown. If the answer is **Unknown** or **No**, consider issuing a direction to the relevant Licencee. If the answer is **Yes**, no further action is needed.
3.2.2	If Answer to Query 3.2.1 is "No", state what % of Trade Discharges are NOT compliant with their relevant licence and associated conditions (where	51 - 75%	30		Select N/A if answer to Query 3.2.1 is Yes. If N/A is selected as answer to Query 3.2.2
3.3	In accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?	<25%	50		If the answer is **No**, consider a review of each discharge within the sewer network complete and Query 3.11. If the answer is **Yes**, proceed to Query 3. 6
3.4	Have samples from any Secondary Discharges within the system been analysed ?	No	30		Select N/A if no secondary discharges in system. If the answer to Query 3.4 is **No**, consider examining the quality of each secondary discharge within the sewer network complete Query 3.11. If the answer is **Yes**, proceed to Query
3.5	What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?	None	0		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?	No	20		Select N/A if answer to Query 3.1.4 is NO. If the answer is **No**, consider undertaking ground water risk analysis and complete Query 3.12
3.6.1	If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?	No	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.6.2	If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?	N/A	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.6.3	In relation to Query 3.6.1, is the aquifer used as a source for Public, Private or Group Water Supply Schemes?	No	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.7	Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows" including setting	No	40		If the answer is **No**, consider assessing the risk category of the receiving waters. If the answer is **Yes**, proceed to Query 3.8 and provide summary details of the assessment in the AER.
3.8	What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?	N/A	0		Select N/A if answer to Query 3.7 is **No** or if there are no SWOs in system. **(Risk Score is locked at 0 if no SWOs in system is stated in Agglomeration Details)**
3.9	Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?	No	15		Select N/A if answer to Query 3.7 is NO or if there are no SWOs in system. If the answer to Query 3.9 is No, consider further examination of the environmental
		Total Risk Assessment Score (RAS)	305		
3.10	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			

3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with regard to Environmental Performance of the network. These details can be included as part of the AER submitted for the agglomeration.

Section 4.1 Structural Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
4.1	Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of	No	10		If the answer is **No** assess the need and benefit of undertaking CCTV Survey. If **Yes** Proceed to Query 4.2
4.1.1	How many years has it or an area the completion of the CCTV Survey	more than 10	0		If no CCTV has been undertaken, select "N/A" response
4.2	What was this CCTV Survey Information Used for?	N/A	10		Select N/A if answer to Query 4.1 is NO
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	No	5		If no CCTV has been undertaken, select "No" response If the answer is **No** assess the need and benefit of undertaking an assessment of the Structural Condition of the Sewer Network. If the answer is **Yes** proceed to Q
4.4	Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?	No	5		If the answer is **No**, enter "unknown" in response to Queries 4.4.1 to 4.4.5; consider assessing the Future Needs of the Sewer Network. If the answer is **Yes** proceed to Queries 4
4.4.1	What % of the Total Sewer Length contains Collapsed, Imminent Collapse or Super 5 (Grade5)	unknown	30		Insert Percentage of Overall Network Length. If a sewer length contains a Grade 5 collapse, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.2	What % of Total Sewer Length contains Sewer with Poor Structural Condition (Grade 4)	unknown	25		Insert Percentage of Overall Network Length. If a sewer length contains a Grade 4 condition, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.3	What % of the Total Sewer Length contains Sewers with Poor Structural Defects (Grade 3)	unknown	10		Insert Percentage of Overall Network Length. If a sewer length contains a Grade 3 deterioration, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.4	What % of Total Sewer Length contains Sewers with Minor Structural Defects (Grade 2)	unknown	5		Insert Percentage of Overall Network Length. If a sewer length contains a Grade 2 feature, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.5	What % of Total Sewer Length contains Sewers of Acceptable Structural Condition (Grade 1)	unknown	5		Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
If all % lengths are known, Check Total Length = 100%			**75**		If answers to Queries 4.4.1, 4.4.2 or 4.4.3 are above a set level, the RAS for Query 4 is automtically set at the maximum of 140.
4.5	What % of the deficiencies, as detailed in Items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?	N/A	35		Select N/A if answer to Query 4.4 is **No**. If the answer is **No**, Proceed to Query 4.6 If the answer is **Yes**, what monitoring is in place to ensure continued acceptance of structural condition? Proceed to Query 4.7
4.6	Have the causes of the Structural Deficiencies (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?	No	10		If the answer is **No**, consider further examination of the sewer network, the structural loading conditions gradients and possible H_2S Formation. If Yes completed Query 4.7
		Total Risk Assessment Score (RAS)	150		

4.7	Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents

Section 5.1 O&M Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
5.1	Are complaints of an environmental nature recorded and held in a central database?	Yes	0		Consider setting up Central Database for Complaints
5.2	Is there an emergency response procedure in place?	Yes	0		Consider setting up target response times for dealing with Complaints
5.3	What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?	Twice/yr	8		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.4	What has been the highest frequency of flooding in the network due to operational causes over the	None	0		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.5	What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?	Once/yr	2		Select the highest number of events in any 12 month period.
5.6	What has been the highest frequency of reportable incidents in the network, over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
5.7	What has been the highest frequency of reportable incidents due to discharges, for whatever reason, from Pumping Station Emergency Overflows in the network, over the past 5 years?	None	0		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	What has been the highest frequency of blockages in sewers in the network over the past 5 years?	0 -0.01/km/yr	4		Select the highest number of events per km of sewer network in any 12 month period.
5.9	What has been the highest frequency of collapses in sewers in the network over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
5.10	What has been the highest frequency of bursts in rising mains in the network over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
	Total Risk Assessment Score (RAS)		14		
5.11	Prepare Up Dated Operational and Maintenance Plan				

Section 6.1 Summary of Risk Assessment Scores

Element	Risk Assessment Score	Risk Category	% Risk Scor	Maximum Risk Scor
Section 2.1	145	High Risk	97%	150
Section 3.1	305	Medium	61%	500
Section 4.1	150	High Risk	100%	150
Section 5.1	14	Low Risk	7%	200
Total RAS for	614	High Risk	61%	1000

If the total RAS is greater than 750, or if any of the individual RASs are greater than 75% of the Maximum Available Score, the Risk category for the Network is graded "High Risk"

Appendix 7.7 – Priority Substances Assessment

Priority Substances Assessment

Agglomeration Name:	Kenmare
Licence Register No.	D0184-01

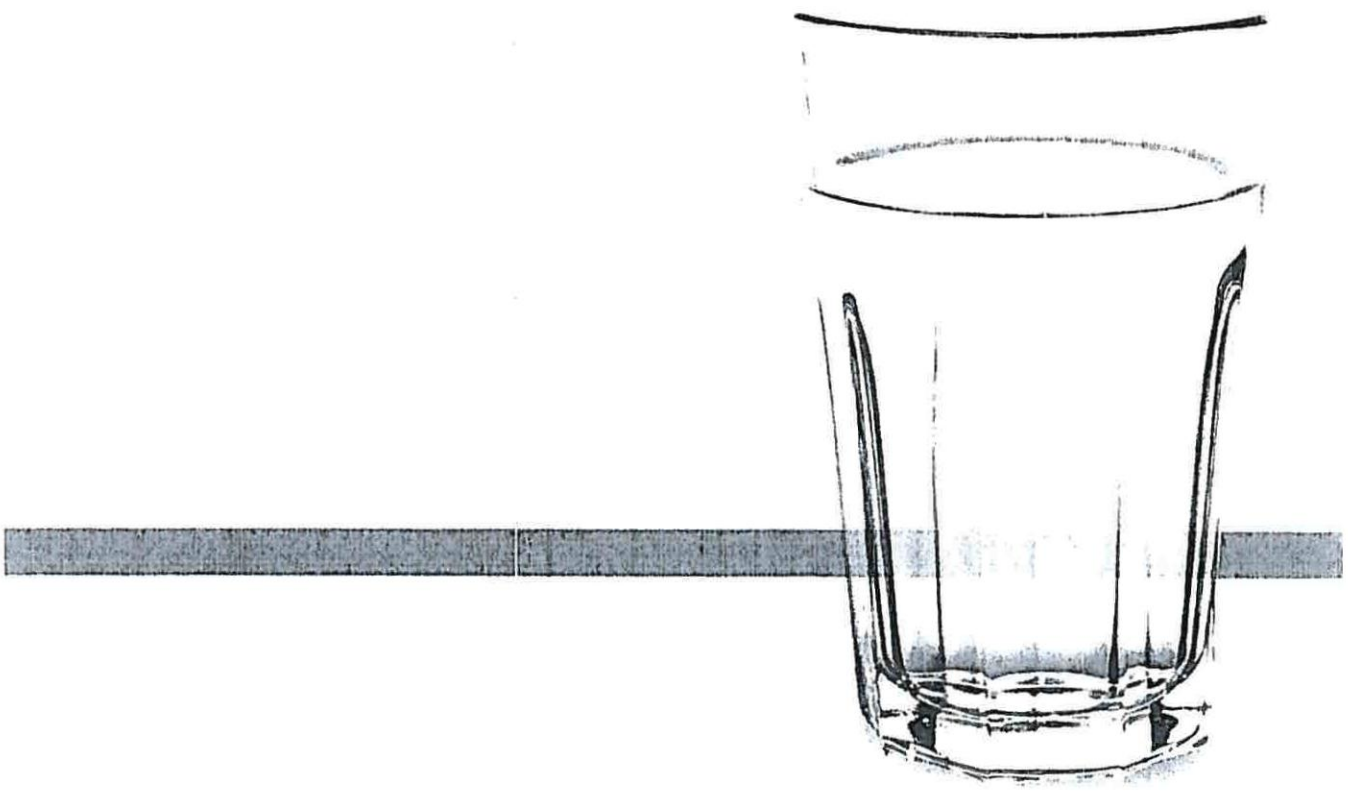


Table of Contents

1	**Introduction**	**1**
2	**Desktop Study**	**1**
2.1	Assessment of Analysis Required	1
2.2	Review outcome of Desktop study	2
3	**Assessment of Significance and Recommendations**	**2**

Appendix 1 6
Appendix 2 – Priority Substance Screening Flowchart
Appendix 3 – Receiving Waters Priority Substance Data

4 Introduction

This report has been prepared for D0184-01, Kenmare Agglomeration, in County Kerry in accordance with the requirements of Condition 4.11 of the wastewater discharge licence for the agglomeration.

This desk top study has been undertaken to determine the necessity, if any, for analysis of the discharge to comply with the condition in the wastewater discharge licence based on the *Guidance on the Screening for Priority Substances for Waste Water Discharge Licences*, issued by the EPA. Relevant inputs to the waste water works and estimates of emissions from the discharge point have been taken into account in the preparation of this report. Relevant inputs to the waste water works, any relevant measurements / calculations / estimates of emissions from the discharge point and any relevant measurements undertaken at representative downstream monitoring locations have been taken into account in the preparation of this report. Details of the emissions concentration for the primary discharge and impact on the receiving water are included in Appendix 1.

5 Desktop Study

5.1 Assessment of Analysis Required

A. Review of all industrial inputs into WWTP

A list of all licensed and unlicensed industrial or trade effluent discharges, leachate discharges and other imports is included in Table 2.1 below.

Table 2.1 – List of Non-Domestic Discharges to WWTP

Licensee Name / Landfill Name /Other Imports	Type of Industry	Type of Licence (IED / IPPC / Section 16 / Unlicensed)	Potential Source of Dangerous / Priority Substances (Yes / No)	Dangerous / Priority Substances Monitoring Undertaken (Yes / No)
Esso N71	Filling Station	Unlicensed	Yes	No
Snip Ahead	Hairdresser	Unlicensed	Yes	No
Morgans Hair Salon	Hairdresser	Unlicensed	Yes	No
Self Service Laundrette	Laundrette	Unlicensed	Yes	No

Where the answer to **"Potential Source of Dangerous Substances (Yes / No)"** is Yes, **Table 2.2** below has been completed for each industry/landfill/other import source.

Table 2.2 – List of Dangerous or Priority Substances in Non-Domestic Discharges to WWTP

Licensee Name	List Anticipated Dangerous Substances or state if unknown	Monitoring Undertaken (Yes / No)
Esso N71	Benzene, Toluene, Xylene. DEHP, Naphthalene, Lead, Mercury, Nickel, Cadmium, Chromium, Copper and Zinc	No

Snip Ahead	Nickel and its compounds, Cadmium and its compounds	No
Morgans Hair Salon	Nickel and its compounds, Cadmium and its compounds	No
Self Service Laundrette	Di (2-ethylhexyl) phthalate (DEHP)	No

B. Discharge monitoring

The primary discharge has not been analysed for priority substances.

C. Downstream monitoring location's participation in relevant monitoring programme

Any analysis data available for a representative downstream monitoring location from the discharge point for the relevant parameters is included in Appendix 3 with details of the sample data and/or source of the data.

D. Participation in PRTR reporting

The emissions of specific organic compounds and metals (priority substances) have been estimated for the discharge utilising the EPA's urban WWTP calculation tool for PRTR reporting. It is noted from the EPA's report, *An Inventory of Emissions to Waters in Ireland,* that extensive assessment of emission factors was undertaken during 2011 / 2012 that focussed on the evaluation of inputs / output concentrations and removal efficiency using a variety of different sized plants and wastewater treatment options. This has led to the significant refinement of the electronic templates toolkit used for WWTP assessment using the PRTR tool. The estimated emission data relevant to the Kenmare Agglomeration pertains to a WWTP with a p.e. of less than 10,000, with secondary treatment including an activated sludge process, with no nutrient removal.

All parameters listed in Appendix 1 have emissions data available for the discharge from the PRTR tool. The Total Halogenated Organic Compound Value from the PRTR reporting has been used to give a conservative estimate for Trichloromethane.

5.2 Review outcome of Desktop study

Following the desktop study, all parameters in Appendix 1 have been assessed to establish any potential impact on the receiving waters. A review of all non-domestic loads to the wastewater treatment plant is underway by Irish Water. A review of the national monitoring programme for priority substances in wastewater is proposed to be undertaken by Irish Water in 2016 in consultation with the EPA. It is proposed that this review, in consultation with the EPA, will determine the scope of future Priority Substances monitoring at Irish Water WWTP's.

Priority substance concentrations in the primary discharge were available for all parameters based on either analysis or the EPA PRTR toolkit. This desktop study is considered to provide full characterisation of the wastewater.

6 Assessment of Significance and Recommendations

An assessment of the potential for impacts on receiving waters from priority substances in the primary discharge has been carried out. The assessment considers the primary discharge relevant to Environmental Quality Standards (EQS) for priority substances in surface waters, as set out in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

One parameter has been identified as potentially being higher than the required EQS, following dilution, as follows:-

- Benzo[a]pyrene

There is a potential for some impact on the receiving waters based on the assessment carried out. Further analysis / investigation is considered necessary to establish the impact, if any, on the receiving waters.

The EPA have prepared a report on priority substances, *An Inventory of Emissions to Waters in Ireland.* This document states that Ireland appears to have relatively few problems associated with the presence of Priority / Priority Hazardous substances in its surface waters. It identifies that wastewater discharges are a potential source of metals in receiving waters with lead being the main metal identified as associated with wastewater discharges. However, metals exceedances, in particular those for cadmium, lead, and nickel are primarily associated with areas of historic mining activity. Similarly PAH's have been identified in stormwater overflows but the most significant source is considered to be rainfall.

A consultation process with the EPA is proposed to be undertaken by Irish Water in 2016 to establish appropriate levels of monitoring for priority and dangerous substances, taking into account the particular requirements of the Water Framework Directive. This will allow a targeted monitoring programme to be undertaken in areas where priority substances have been identified or industrial discharges or imports provide a potential source, and where there is a shortfall of existing monitoring data.

Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Desk Top Study
Does the assessment include a review of licensed / authorised inputs to the works?	Yes
Does the assessment include a review of other (unauthorised) inputs to the works?	Yes
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	Yes
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	No

Appendix 1 – Screening of Parameters for Priority Substances

AA: Annual Average

MAC: Maximum Allowable Concentration

EQS: Environmental Quality Standards

Dilution factor in receiving water: 2.44 (based on normal flow rate of 1,794 m^3/day from Inspectors Report, and 95%ile flow rate of 0.03 m^3/s in receiving water based on data from station 21008)

No.	Compound	Group of compounds	AA-EQS Inland SW (µg/l)	AA-EQS Other SW (µg/l)	Measured /Estimated Conc. (µg/l)[1]	Data Source [Sample / PRTR / Other (state)]	Sample Date (if applicable)	Effluent Concentration above AA concentration (Yes/No)	Effluent Concentration above AA concentration after dilution (Yes/No)
1	Benzene	VOCs	10	8	0.016818	PRTR	N/A	No	No
2	Carbon tetrachloride	VOCs	12	12	0	PRTR	N/A	No	No
3	1,2-Dichloroethane	VOCs	10	10	0	PRTR	N/A	No	No
4	Dichloromethane	VOCs	20	20	0.045455	PRTR	N/A	No	No
5	Tetrachloroethylene	VOCs	10	10	0.059091	PRTR	N/A	No	No
6	Trichloroethylene	VOCs	10	10	0	PRTR	N/A	No	No
7	Trichlorobenzenes	VOCs	0.4	0.4	0	PRTR	N/A	No	No
8	Trichloromethane	VOCs	2.5	2.5	2.386849	PRTR	N/A	No	No
9	Xylenes (all isomers)	VOCs	10	10	0.115909	PRTR	N/A	No	No
10	Ethyl Benzene	VOCs	n/a	n/a	0.016591	PRTR	N/A	No	No
11	Toluene	VOCs	10	10	0.49325	PRTR	N/A	No	No
12	Naphthlene[13]	PAHs	2	2	0.004	PRTR	N/A	No	No
13	Fluoranthene[1]	PAHs	0.0063	0.0063	0.002341	PRTR	N/A	No	No

[13] The EQS for these substances shall take effect from 22 December 2015

No.	Compound	Group of compounds	AA-EQS Inland SW (µg/l)	AA-EQS Other SW (µg/l)	Measured /Estimated Conc. (µg/l)[1]	Data Source [Sample / PRTR / Other (state)]	Sample Date (if applicable)	Effluent Concentration above AA concentration (Yes/No)	Effluent Concentration above AA concentration after dilution (Yes/No)
14	Benzo[k]fluoranthene[14]	PAHs	MAC of 0.017	MAC of 0.017	0.002	PRTR	N/A	No	No
15	Benzo[ghi]perylene[2]	PAHs	MAC of 8.2×10^{-3}	MAC of 8.2×10^{-4}	0.002	PRTR	N/A	No	No
16	Indeno[1,2,3-c,d]pyrene[2]	PAHs			0.002205	PRTR	N/A	No	No
17	Benzo[b]fluoranthene[2]	PAHs	MAC of 0.017	MAC of 0.017	0.002	PRTR	N/A	No	No
18	Benzo[a]pyrene	PAHs	1.7×10^{-4}	1.7×10^{-4}	0.002	PRTR	N/A	Yes	Yes
19	Di(2-ethylhexyl)phthalate (DEHP)	Plasticiser	1.3	1.3	0.917273	PRTR	N/A	No	No
20	Isodrin[15]	Pesticides	∑=0.01	∑=0.005	0	PRTR	N/A	No	No
21	Dieldrin[3]	Pesticides			0	PRTR	N/A	No	No
22	Diuron	Pesticides	0.2	0.2	0.026364	PRTR	N/A	No	No
23	Isoproturon	Pesticides	0.3	0.3	0.0075	PRTR	N/A	No	No
24	Atrazine	Pesticides	0.6	0.6	0.010455	PRTR	N/A	No	No

[14] No indicative parameter is provided for this group of substances
[15] ∑ of Aldrin, Dieldrin, Endrin and Isodrin.

No.	Compound	Group of compounds	AA-EQS Inland SW (µg/l)	AA-EQS Other SW (µg/l)	Measured /Estimated Conc. (µg/l)[1]	Data Source [Sample / PRTR / Other (state)]	Sample Date (if applicable)	Effluent Concentration above AA concentration (Yes/No)	Effluent Concentration above AA concentration after dilution (Yes/No)
25	Simazine	Pesticides	1	1	0.014091	PRTR	N/A	No	No
26	Glyphosate	Pesticides	60	-	1.532727	PRTR	N/A	No	No
27	Mecoprop	Pesticides	n/a	n/a	0.107045	PRTR	N/A	No	No
28	2,4-D	Pesticides	n/a	n/a	0.051023	PRTR	N/A	No	No
29	MCPA	Pesticides	n/a	n/a	0.088636	PRTR	N/A	No	No
30	Linuron	Pesticides	0.7	0.7	0	PRTR	N/A	No	No
31	Dichlobenil	Pesticides	n/a	n/a	0.004295	PRTR	N/A	No	No
32	2,6-Dichlorobenzamide	Pesticides	n/a	n/a	0.080455	PRTR	N/A	No	No
33	PCBs	PCBs	n/a	n/a	0	PRTR	N/A	No	No
34	Phenols (as Total C)	Phenols	8	8	0.90978	PRTR	N/A	No	No
35	Lead	Metals	1.2	1.3	3.039394	PRTR	N/A	Yes	No
36	Arsenic	Metals	25	20	0.566667	PRTR	N/A	No	No
37	Copper	Metals	5 or 30[2]	5	3	PRTR	N/A	No	No
38	Zinc	Metals	8 or 50 or 100[3]	40	49.36364	PRTR	N/A	No	No
39	Cadmium	Metals	0.08 or 0.09 or 0.15 or 0.25[4]	0.2	0.266667	PRTR	N/A	Yes	No
40	Mercury	Metals	MAC of 0.07	MAC of 0.07	0	PRTR	N/A	No	No

No.	Compound	Group of compounds	AA-EQS Inland SW (µg/l)	AA-EQS Other SW (µg/l)	Measured /Estimated Conc. (µg/l)[1]	Data Source [Sample / PRTR / Other (state)]	Sample Date (if applicable)	Effluent Concentration above AA concentration (Yes/No)	Effluent Concentration above AA concentration after dilution (Yes/No)
41	Chromium VI	Metals	3.4	0.6	0.8	PRTR	N/A	No	No
42	Selenium	Metals	n/a	n/a	0	PRTR	N/A	No	No
43	Antimony	Metals	n/a	n/a	0.154545	PRTR	N/A	No	No
44	Molybdenum	Metals	n/a	n/a	0	PRTR	N/A	No	No
45	Tin	Metals	n/a	n/a	0.144444	PRTR	N/A	No	No
46	Barium	Metals	n/a	n/a	13.24444	PRTR	N/A	No	No
47	Boron	Metals	n/a	n/a	61.11111	PRTR	N/A	No	No
48	Cobalt	Metals	n/a	n/a	0.175758	PRTR	N/A	No	No
49	Vanadium	Metals	n/a	n/a	2.727273	PRTR	N/A	No	No
50	Nickel	Metals	4	8.6	4.257576	PRTR	N/A	Yes	No
51	Fluoride	General	500	1,500	235	PRTR	N/A	No	No
52	Chloride	General	n/a	n/a	878000	PRTR	N/A	No	No
53	TOC	General	n/a	n/a	9219.773	PRTR	N/A	No	No
54	Cyanide	General	10	10	2.931818	PRTR	N/A	No	No
	Conductivity	General	n/a	n/a	#N/A	PRTR	N/A	#N/A	#N/A
	Hardness (mg/l $CaCO_3$)	General	n/a	n/a	#N/A	PRTR	N/A	#N/A	#N/A
	pH	General	n/a	n/a	#N/A	PRTR	N/A	#N/A	#N/A

Notes:

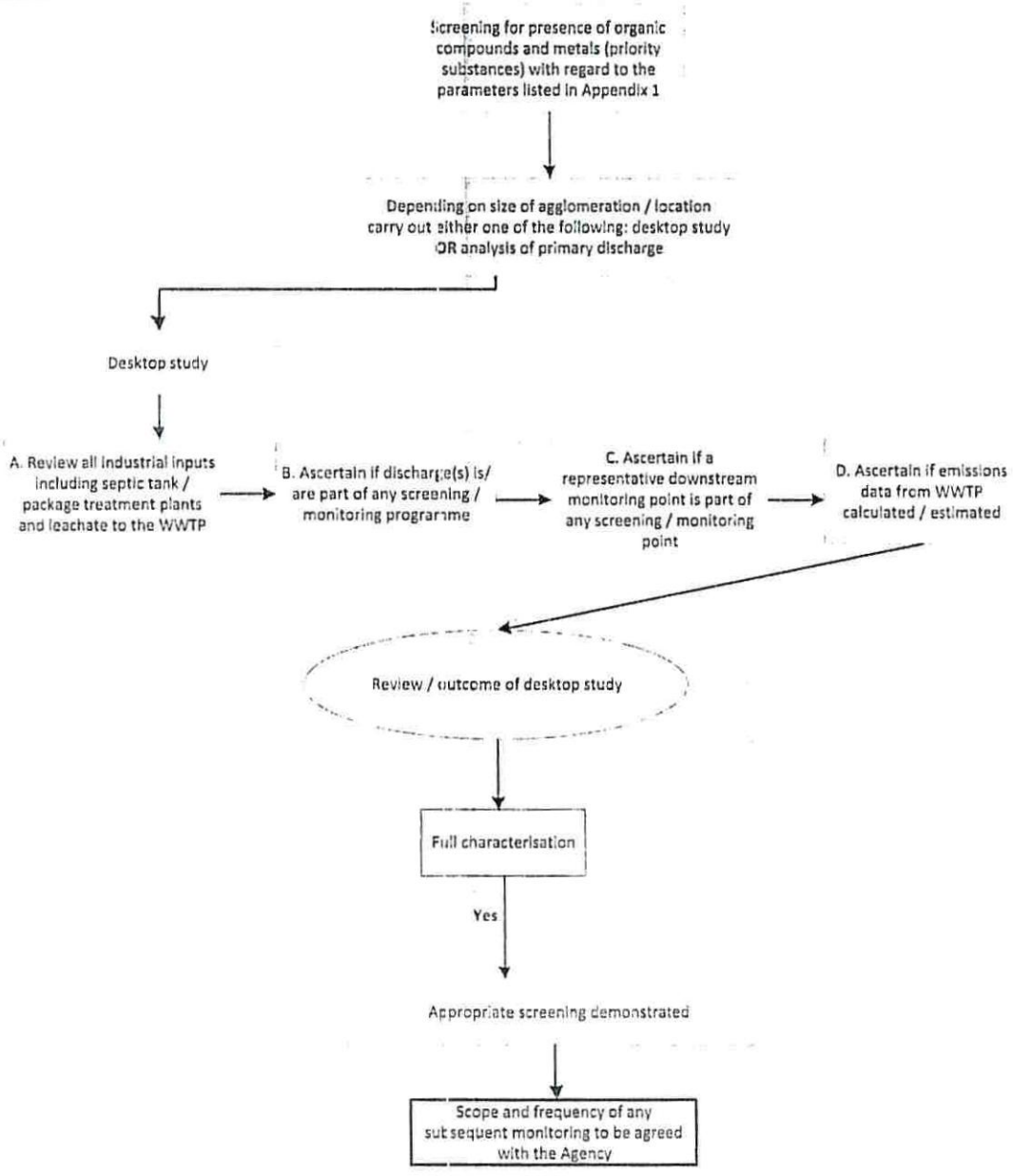
1. Where measured values are available these should be used instead of estimated values from PRTR tool.
2. In the case of Copper the value 5 applies where the water hardness measured in mg/l $CaCO_3$ is less than or equal to 100; the value 30 applies where the water hardness exceeds 100 mg/l $CaCO_3$. Estimated $CaCO_3$ value > 100 where no sampling data available (based on PRTR tool)

3. In the case of Zinc, the standard shall be 8 µg/l for water hardness with annual average values less than or equal to 10 mg/l CaCO3, 50 µg/l for water hardness greater than 10 mg/l $CaCO_3$ and less than or equal to 100 mg/l CaCO3 and 100 µg/l elsewhere. Estimated $CaCO_3$ value > 100 where no sampling data available
4. For Cadmium and its compounds the EQS values vary dependent upon the hardness of the water as specified in five class categories (Class 1: <40 mg CaCO3/l, Class 2: 40 to <50 mg CaCO3/l, Class 3: 50 to <100 mg CaCO3/l, Class 4: 100 to <200 mg CaCO3/l and Class 5: _200 mg CaCO3/l)

Appendix 2 – Priority Substance Screening Flowchart

A flow chart for the screening of the presence of organic compounds and metals (Priority Substances) from WWTP is included below. This flowchart shows that appropriate screening has been demonstrated in line with the assessment undertaken in this report.

Full Characterisation



Appendix 3 – Receiving Waters Priority Substance Data

No Data Available

Appendix 7.8 – Drinking Water Assessment

A Drinking Water Abstraction Point Risk Assessment is not a requirement of the Waste Water Discharge Licence.

Appendix 7.9 – Pearl Mussel Assessment/Habitats Impact Assessment Report

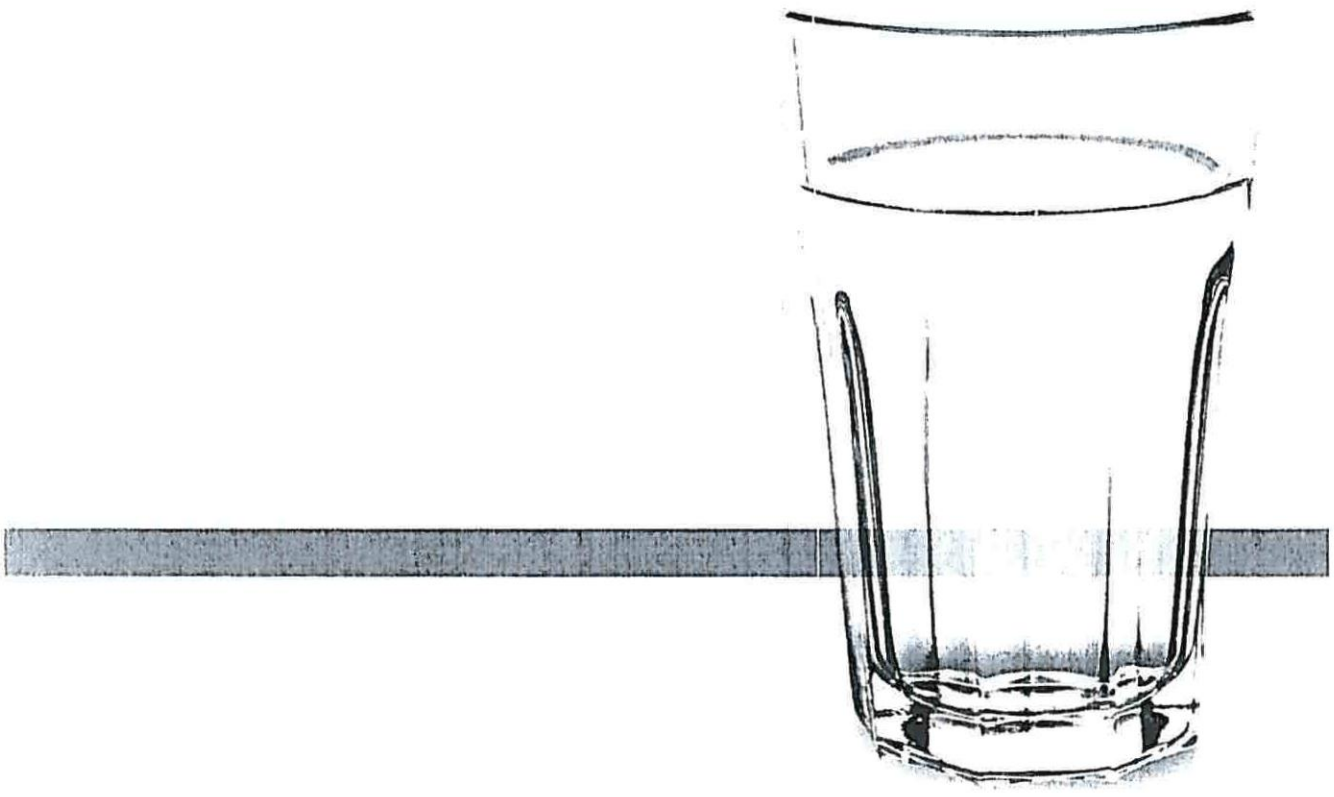
A Pearl Mussel Assessment/Habitats Impact Assessment Report is not a requirement of the Waste Water Discharge Licence.

Appendix 7.10 – Shellfish Water Assessment

Shellfish Waters Desk Study
Agglomeration Name: Kenmare

Waste Water Discharge Licence No: D0184-01

26/01/2016



Contents

Introduction 1
1. Description of Wastewater Treatment Works 1
2. Distance of discharge from Designated Shellfish Waters 2
3. Shellfish Water Regulations S.I. 268 of 2006 4
4. Classification of Shellfish Production Areas 4
5. Shellfish Waters Pollution Reduction Programme 9
5.1. Is the plant identified as at risk in the pollution reduction programme for the designated shellfish waters 9
5.2. What, if any measures are identified in the Shellfish Waters Characterisation Report for the Agglomeration. 9
6. Monitoring results 10
7. Interpretation of monitoring results 11
8. Consultation 15
9. Conclusion 15
Appendix A – Monitoring Data 16

Introduction

This report has been prepared to satisfy Condition 5.6 of the Kenmare agglomeration Waste Water Discharge Licence No. D0184-01 issued on the 16th day of January 2015.

Condition 5.6 of the Discharge Licence states *"The licensee shall carry out an assessment of the impact of the discharge(s) from the waste water works on the microbiological quality (including viruses) of the shellfish in the adjacent designated shellfish waters in consultation with the Sea Fisheries Authority (SFPA), the Marine Institute and Bord Iascaigh Mhara (BIM). The assessment, including a timeframe for installation of UV or other appropriate disinfection as considered necessary, shall be submitted to the Agency within 12 months of the date of grant of the licence where it is identified in the assessment that UV or other appropriate disinfection is required".*

Condition 5.7 of the Discharge Licence states *"Where the assessment outlined in Condition 5.6 indicates that the discharge(s) are having a deleterious microbiological (including viruses) effect on the quality of shellfish in the adjacent designated shellfish waters, the licensee shall install UV or other appropriate disinfection system within the timeframe identified".*

1. Description of Wastewater Treatment Works

The Kenmare Waste Water Treatment Plant has a design population equivalent (p.e.) of 8,500. The actual p.e. served agglomeration is 5,833.

The agglomeration is served by a combined sewerage system. All wastewater generated in the catchment drains to the main pumping station at Cromwell's Bridge from where it is pumped forward to the WWTP at Reenagappul. Preliminary treatment is provided at Cromwell's Bridge Pump station. There is one storm water overflow at the pump station (Sw002) which discharges to the River Finnihy upstream of the WWTP.

The WWTP is located approximately 300m south west of the pump station on the banks of the River Finnihy. The WWTP operates as an extended aeration plant for most of the year, and as a conventional activated sludge plant during peak summer season. Sludge thickening and dewatering facilities are provided on site (Source: EPA inspectors report 14th January 2015).

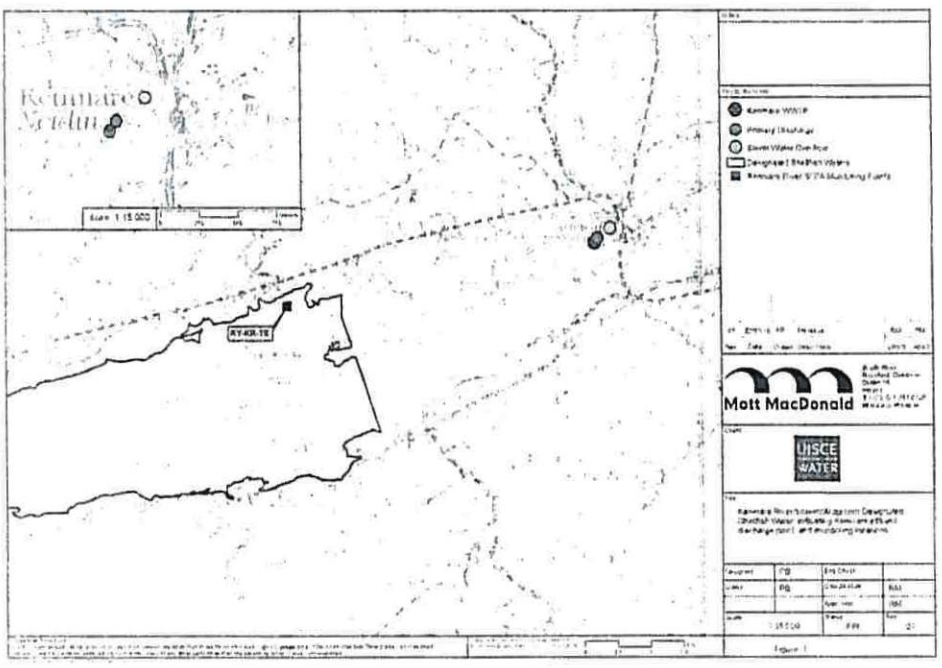
The primary discharge point, SW001, discharges to the River Finnihy (90597E, 70721N) which flows into Kenmare Bay.

2. Distance of discharge from Designated Shellfish Waters

The River Finnihy discharges into the Inner Kenmare River in County Kerry. The Kenmare River/Sneem/Ardgroom shellfish waters are located 4.1 km south west of the primary discharge point.

The Kenmare River/Sneem/Ardgroom shellfish waters were designated in 2009 under the European Communities (Quality of Shellfish Waters) (Amendment) Regulations 2009 (S.I. 55 of 2009). The total area of the Kenmare River/Sneem/Ardgroom shellfish waters as defined in the Revised / Updated Kenmare River/Sneem/Ardgroom Pollution Reduction Programme (2012) is 123.26 km^2. The designated shellfish waters cover an area which extends upstream from a line between Castlecove and Inishfarnard to a line between Dromcuinna and Dawros Point.

Figure 1


Kenmare
Scale 1:15,000
KY-KR-19
Kenmare WWTP
Primary Discharge
Shellfish Waters
Kenmare River SPA Monitoring Points
Mott MacDonald
UISCE EIREANN
WATER

3. Shellfish Water Regulations S.I. 268 of 2006

The Shellfish Waters Directive (SWD) was repealed under the Water Framework Directive (WFD) on 22 December 2013. Article 52 of the WFD states that the Directive is to achieve a level of protection of waters at least equivalent to the levels provided for under the various Directives that have been repealed by the WFD, when the WFD is fully implemented. The Irish legislation which transposed the Directive (i.e. Shellfish Water Regulations S.I. 268 of 2006) into domestic law remains in force. Irish Water has been informed that the Department of Environment Heritage and Local Government intends to draft new Shellfish Waters legislation.

The EPA consider that the standards specified in the shellfish regulations are the most appropriate for use at present for faecal coliforms and advise that impacts of waste water discharges are assessed against these. Article 7(2) c of the shellfish regulations requires that 75% of samples for faecal coliforms are <300 MPN/100 ml for the shellfish water to comply with this guideline value. When assessing the shellfish impact assessments submitted by Irish Water the EPA consider that faecal coliform values of >300 MPN/100 ml are indicative of an impact and require further investigation to confirm impact or not. If >25% of the samples show >300, the EPA consider that impacts are present. Note that for assessment purposes a value of ≤230 E. coli MPN/100g is considered as being equivalent to the guide value of ≤300 faecal coliforms/100ml (source: Marine Institute report: An assessment of the bacteriological quality of shellfish growing waters designated under directive 2006/113/EC on the quality required of shellfish waters between 2009 and 2012).

4. Classification of Shellfish Production Areas

Classification

Criteria for the classification of bivalve mollusc harvesting areas are set out under Regulation (EC) No 854/2004, Regulation (EC) 853/2004 and Regulation (EC) 2073/2005.

Shellfish production areas are classified according to the risk of contamination of shellfish with bacterial and viral pathogens. Evaluation of risk is based on an assessment of the sources and types of faecal contamination (human and animal) in the vicinity of these and on monitoring data (which are at locations identified as having the highest risk of faecal pollution). Samples are taken from harvested shellfish from the high risk areas and monitored for levels of E.coli contamination. The results are assessed against criteria given in the legislation (refer to Table 1 Classification of Bivalve Mollusc Harvesting Areas).

Three classifications exist which define how the shellfish may be marketed:

- 'Class A' product may be placed on the market, without treatment, for direct human consumption;
- 'Class B' product may be placed on the market for human consumption only after treatment in a purification so as to meet the required health standards;
- 'Class C' product may be placed on the market only after relaying over a long period so as to meet the required health standards.

In Ireland, the Sea-Fisheries Protection Authority (SFPA) is the Competent Authority for the classification of shellfish production areas.

Table 1: Classification of Bivalve Mollusc Harvesting Areas [interpreted from Regulation (EC) No 854/2004, via Regulation (EC) No 853/2004, to Regulation (EC) 2073/2005]

Classification	Standard per 100g of live bivalve mollusc (LBM) flesh and intra-valvular fluid	Treatment required
A	<230 E. coli per100g of flesh and intra-valvular liquid[1]	None Required
B	LBMs must not exceed the limits of a five-tube, three dilution Most Probable Number (MPN) test of 4,600 E. coli per 100 g of flesh and intra-valvular liquid.[2]	Purification, relaying in class A area or cooking by an approved method
C	LBMs must not exceed the limits of a five-tube, three dilution MPN test of 46,000 E. coli per 100 g of flesh and intra-valvular liquid.	Relaying for a long period or cooking by an approved method
Prohibited	>46,000 E. coli per 100g of flesh and intra-valvular fluid[3]	Harvesting not permitted

Notes:

[1] By cross-reference from Regulation (EC) No 854/2004, via Regulation (EC) No 853/2004, to Regulation (EC) 2073/2005. Areas for which the limit of 230 MPN E coli per 100g but less than

1000MPN E coli per 100g are not exceeded in 10% of samples shall continue to be classified as Class A.

[2] By way of derogation from Regulation (EC) No 854/2004, the competent authority may continue to classify as being of Class B areas for which the relevant limits of 4,600 E. coli per 100g are not exceeded in 90% of samples.

[3]This level is by default as it is above the highest limit set in legislation.

In the event that the E. coli results obtained during routine monitoring are above the upper limit for the classification of the production area, the implications are as follows:

- The product cannot be placed on the market for human consumption unless additional treatment is applied.
- For Class A areas, harvesting operations must cease until a follow up sample taken by the SFPA indicates that the E. coli levels are within range.

The SFPA Code of Practice for the Microbiological Monitoring of Bivalve Mollusc Production Areas (Version 5, September 2013) prescribes 'Alert Status' E. coli results (refer to Table 2: SFPA Alert Status) which if exceeded require investigations into contamination source.

Table 2: SFPA Alert Status

Classification	Alert Status Limit
A	>1,000 E. coli/ 100g
B	>18,000 E. col/i100g
C	>46,000 E. col/i100g

Biotoxins

Biotoxins are produced by some phytoplankton species found in seawater. Regulation (EC) No 854/2004 requires checks for the presence of these toxins in live bivalve molluscs harvested from the production areas. In addition water samples must also be taken from production areas to check for the presence of certain toxin containing phytoplankton.

Commission Regulation (EC) No 853/2004 governs the total amount of marine biotoxins that may be present in shellfish for the protection of consumers follows:

- 800 microgrammes per kilogramme of the algal toxins that cause paralysis (Paralytic Shellfish Poison - PSP).
- 20 milligrammes per kilogramme of domoic acids which cause amnesia (Amnesic Shellfish Poison - ASP).
- 160 microgrammes okadaic acid equivalent per kilogramme expressed as a sum of okadaic acid, dinophysis toxins and pectenotosins (diarrhetic shellfish poisoning toxins).
- 1 milligramme yessotoxin equivalent per kilogramme and
- 160 microgrammes azaspiracid equivalent per kilogramme expressed as the sum of azaspiracid-1, 2 and 3 (diarrhetic shellfish poisoning toxins).

Shellfish products from within the production areas may only be placed on the market when the production area has an Open biotoxin status i.e. the most recent valid sample is below the regulatory limit for biotoxins (Lipophilic Toxins, Amnesic Shellfish Poisoning – ASP, and Paralytic Shellfish Poisoning – PSP) and the production area is open for harvesting for that species until the end of the production period.

Kenmare River/Sneem/Ardgroom Shellfish Area Classification and Biotoxin Status

Classification

The Kenmare River/Sneem/Ardgroom shellfish area is classified, as of July 201, as Class A or B depending on location of production area and species sampled for (refer to Table 3).

The Templenoe production area is in closest proximity to the discharge from the Kenmare WWTP. The monitoring point within the production area (KY-KR-TE) is approximately 4km downstream of where the Finnihhy River discharges into the harbour.

Table 3: Production Area Classification (2015) Source: sfpa.ie

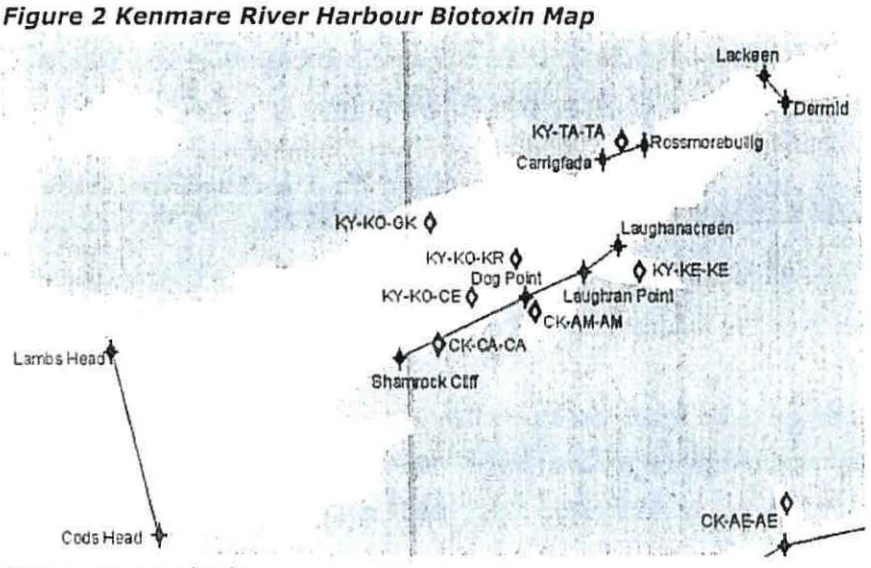
Production Area	Sample Code	Sample Location	Species	Scientific Name	Class
Kenmare River	KY-KR-ST	Sneem/Tahilla	Blue Mussel	M. edulis	B
Kenmare River	KY-KR-ST	Sneem/Tahilla	Oyster	C. Gigas	B*
Kenmare River	KY-KR-TE	Templenoe	Oyster	C. Gigas	B
Kenmare River	CK-KR-CE	Coosmore	Blue Mussel	M. edulis	A
Kenmare River	CK-KR-CA	Cleandra	Blue Mussel	M. edulis	A
Kenmare River	CK-AM-AM	Ardgroom	Blue Mussel	M. edulis	A
Kenmare River	KY-KE-KE	Kilmakilloge	Blue Mussel	M. edulis	B

* Classifications are described as preliminary when an area is being classified for the first time or after a period in suspension. The term may also be used where an incomplete dataset of results was to hand.

Biotoxin Status

Biotoxin sampling within Outer Kenmare River is at sample location KY-KO-KR (see Fig. 2), approximately 10km downstream of where the Finnihhy River discharges into the harbour. Eight samples of Great Scallop (*Pecten maximus*) were taken from this location in 2015 and were analysed for biotoxins (see Appendix A, Table A.1). The Outer Kenmare production area has not been assigned a biotoxin status.

Figure 2 Kenmare River Harbour Biotoxin Map



Source: www.marine.ie

5. Shellfish Waters Pollution Reduction Programme

Article 5 of the Shellfish Directive (2006/113/EC) and section 6 of the Quality of Shellfish Waters Regulations (S.I. No. 268 of 2006 as amended) require the development of Pollution Reduction Programmes (PRPs) for designated shellfish waters in order to protect and improve water quality in the areas.

The Kenmare River/Sneem/Ardgroom Pollution Reduction Programme was produced by the Minister for the Environment in 2009 and subsequently revised in 2012 (the Revised / Updated Kenmare River/Sneem/Ardgroom Pollution Reduction Programme).

The Kenmare River/Sneem/Ardgroom Pollution Reduction Programme sets out specific measures for the control of pressures, identified in the characterisation report, which are most likely to be impacting on shellfish water quality in the Kenmare River/Sneem/Ardgroom designated shellfish waters.

It is anticipated that the pollution reduction plans for designated shellfish waters will be reviewed as part of the preparation of the 2nd cycle of river basin management plans. It has yet to be decided if additional standards specific to shellfish waters will be used to define WFD status for these protected areas.

5.1. Is the plant identified as at risk in the pollution reduction programme for the designated shellfish waters

The Kenmare waste water discharge is identified as a pressure in the Kenmare River/Sneem/Ardgroom Pollution Reduction Programme.

5.2. What, if any measures are identified in the Shellfish Waters Characterisation Report for the Agglomeration.

The Kenmare River/Sneem/Ardgroom Pollution Reduction Programme makes the following reference to the Duncannon waste water discharge:

"A licence application was made by Kerry County Council in September 2008 pursuant to the requirements of the Waste Water Discharge (Authorisation) Regulations, 2007, (as amended). This Application is currently under assessment."

Note the Kenmare Waste Water Discharge Licence (No. D0184-01) has since been granted by the EPA.

6. Monitoring results

The following national bodies carry out monitoring of waters or biota within the Kenmare River/Sneem/Ardgroom shellfish waters:

- Marine Institute (MI) - biotoxin monitoring programme for compliance assessment against Regulation EC No 2074/2005. Data pertaining to the 2015 to 2016 period for the Kenmare River monitoring point was downloaded from www.marine.ie and is presented in Table A1 of Appendix A;

- Marine Institute (MI) – Analysis of ambient waters and analysis of shellfish tissue for contaminants and residues including metals, PAHs, PCBs, and organochlorine compounds. Ambient water quality data for Kenmare River/Sneem/Ardgroom for 2012 to 2014 was provided by the Marine Institute, an extract of which is presented in Table A2 of Appendix A. This data relates to the sampling point in Ardgroom Harbour, approximately 20km downstream of where the Finnihhy River discharges into the Kenmare Harbour. Shellfish tissue analysis for 2012 for the Templenoe monitoring location, approximately 4km downstream of where the Finnihhy River discharges into the Kenmare Harbour is presented in Table A3 of Appendix A.

- Sea-Fisheries Protection Authority (SFPA) – microbial monitoring programme for compliance assessment against Regulation (EC) No 854/2004, via Regulation (EC) No 853/2004, to Regulation (EC) 2073/2005. Data for the Templenoe production (KY-KR-TE) was provided by SFPA for the period 2012 to 2014 and is presented in Table A4.1 of Appendix A;

- Environmental Protection Agency (EPA) – monitoring data gathered as part of the Water Framework Directive monitoring programme for Transitional and Coastal Waters (TraCs). Data for EPA monitoring station KN035 (approximately 700m downstream of where the River Finnihy joins Kenmare River) for the period 2007 to 2014 was provided by the EPA and is presented in Table A5 of Appendix A.

7. Interpretation of monitoring results

Consumption of Foodstuff Legislation

Commission Regulation (EC) No 853/2004 governs the total amount of marine biotoxins that may be present in shellfish for human consumption. There are a number of factors that influence the occurrence of toxic algal blooms including a combination of ocean current, temperature and availability of nutrients.

Biotoxin sampling within Outer Kenmare River at sample location KY-KO-KR is approximately 10km downstream of where the Finnihhy River discharges into the harbour. Analysis of great scallop tissue (gonad and posterior adductor) indicated no samples exceeding the limit of 20mg/kg for Amnesiac Shellfish Poisoning (ASP).

Commission Regulation (EC) No 2073/2005 prescribes microbiological criteria for foodstuffs which must not be exceeded in food placed on the market for human consumption (refer to Table 1 of this report for limits). The 2012 to 2014 *E.coli* monitoring data, as provided by SFPA (refer to Table A.4 in Appendix A), show concentrations to be reflective of Class B production classification. The EPA consider that if >25% of the samples show >230 *E. coli* MPN/100g impacts of waste water discharge are probable.

- Of the 34 oyster samples taken at the Templenoe sampling location over the 2012 to 2014 period, 11 (i.e. 32%) have *E. coli* concentrations in excess of 230 MPN/100g.

The Templenoe sample point is located are approximately 4km downstream of the Kenmare WWTP discharge point. It is possible that the discharge is having an impact on shellfish quality, however the final effluent discharge quality has not been monitored and a correlation between shellfish quality and discharge quality cannot therefore be made.

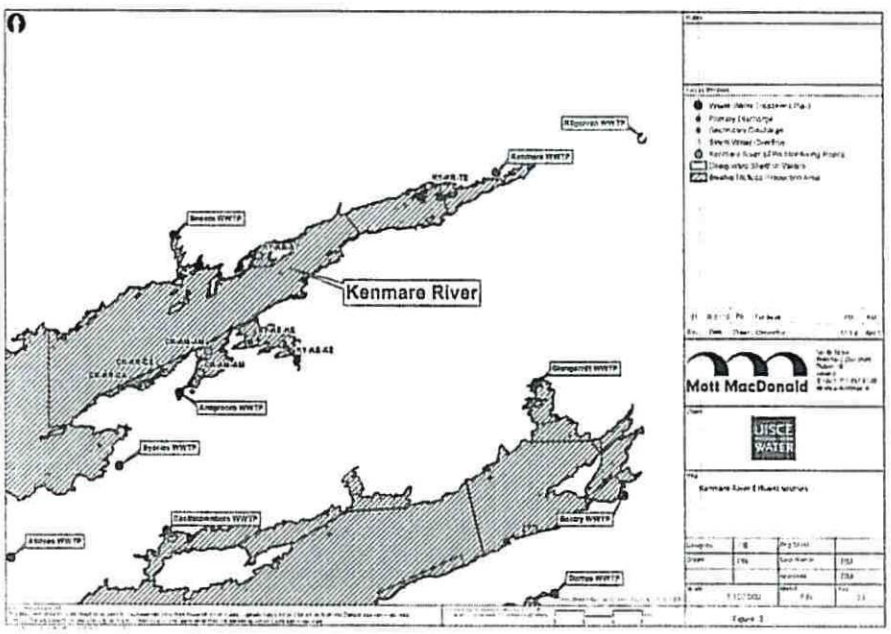
Commission Regulation (EC) No 1881/2006 (as amended), and transposed into Irish law by the European Communities (Certain Contaminants in Foodstuffs) Regulations 2010 (as amended), prescribes maximum concentrations of contaminants in foodstuffs which must not be exceeded in food placed on the market for human consumption. These regulations set maximum limits for

contaminants in bivalve molluscs. Comparison of results of the Marine Institute's Shellfish contaminants and residues analysis for Kenmare River/Sneem/Ardgroom (2012) against the maximum levels set in the Regulations demonstrates compliance with the required standards (refer to Table 4), indicating that the effluent discharge from the Kenmare WWTP is not causing an exceedance in the maximum limits for contaminants in bivalve molluscs.

Table 4: Regulation (EC) No 1881/2006 Compliance for Bivalve Mollusc

Parameter	Highest Measured Concentration (2012)	Regulation (EC) No 1881/2006 limit	Compliant
Lead (mg/kg)	0.05	1.5	Yes
Cadmium (mg/kg)	0.24	1.0	Yes
Benzo(a)pyrene (µg/kg)	0.22	5	Yes

Figure 3 Kenmare River Effluent Sources



Water Quality Legislation

The EPA conducts water quality monitoring in Kenmare River as part of the Water Framework Directive monitoring programme. Kenmare River (part of the Inner Kenmare River transitional waterbody) is classified as Good Status (based on the 2010 to 2012 monitoring period). The Water Framework Directive requires that these waters maintain Good Status.

The European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended, prescribes quality standards which are reflective of Good Status transitional waters. Monitoring results for station KN035 (which is in closest proximity to the Kenmare effluent discharge, approximately 1.5km downstream of Kenmare) can be compared against these quality standards in order to determine potential impact. Comparison against monitoring data suggests that the effluent discharge from the Kenmare agglomeration is not negatively impacting the achievement of good status quality waters:

- The regulations prescribe a standard of ≤4.0 mg/l (95%ile) for BOD in good status transitional waters. The 95%ile BOD concentration at monitoring location KN035 between the sampling periods 2007-2014 is 3.02mg/l.
- Dissolved oxygen concentrations at monitoring station KN035 for the period 2007-2014 are within the upper and lower limits for percentage saturation prescribed in the Regulations.
- Analysis for Molybdate Reactive Phosphorus, for which a standard for transitional waters is prescribed in the Regulations, was not conducted by the EPA and cannot therefore be assessed for compliance.

The European Communities (Quality of Shellfish Waters) Regulations 2006 prescribes mandatory water quality values for shellfish production areas which include metals and general physico-chemical parameters. The Marine Institute conducted ambient water analysis in Kenmare River in the Sneem/Ardgroom shellfish water in 2012 to 2014 (refer to Appendix A, Table A2). All monitoring results are in compliance with the mandatory values prescribed in the legislation. There is no indication that the discharge from the Kenmare agglomeration is causing an impact on shellfish water quality.

8. Consultation

Irish Water have met with and have been in on-going consultation with the Food Safety Authority of Ireland, the Marine Institute and the Sea Fisheries Protection Agency with respect to the requirements of the shellfish waters regulations, shellfish impact assessments, prioritisation of designated shellfish areas for detailed investigation and virus monitoring requirements. Irish Water is also now a member of the Molluscan Shellfish Safety Committee and attended the first meeting on the 9th of June 2015. Irish Water has discussed with the Food Safety Authority of Ireland and the Marine Institute the set-up of a working group to prioritise areas for detailed investigation and discuss the delivery of these investigations.

9. Conclusion

The quality of the primary effluent discharge from the Kenmare WWTP and the storm water overflow from the pump station was not monitored during 2015. However an assessment of water quality within Kenmare Bay, using EPA and Marine Institute monitoring data, shows that the quality of the receiving waters are in compliance with quality standards prescribed under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 and the European Communities (Quality of Shellfish Waters) Regulations 2006. The discharge from the Kenmare WWTP is therefore not impacting on water quality such that quality standards required under the Shellfish Regulations and the Water Framework Directive are impacted.

Analysis of *E.coli* in the tissue of shellfish taken from the Kenmare River/Sneem/Ardgroom area indicates that it is possible that shellfish waters are being impacted by effluent discharges. In the absence of effluent analysis from the Kenmare WWTP, it cannot definitive be stated whether the discharge is an influencing factor. Further investigation into the quality of the discharge is necessary to determine the level of coliforms discharged.

Appendix A – Monitoring Data

Table A.1: Biotoxin site status data for 2015 for Kenmare River [15] (Source: www.marine.ie)

Sample Date	Sampling Point	Species	Tissue	ASP mg/kg	PSP ug/Kg STXdiHCL equivalents	Area-Species Status
11/02/2015	Kenmare River(KY-KO-KR)	Pecten maximus	Gonad	6.5		Not Classified
			Posterior Adductor	1.2		
17/02/2015	Kenmare River(KY-KO-KR)	Pecten maximus	Gonad	4.5		Not Classified
			Posterior Adductor	0.8		
07/04/2015	Kenmare River(KY-KO-KR)	Pecten maximus	Gonad	6.2	n.d.	Not Classified
			Posterior Adductor	<LOQ		
03/10/2015	Kenmare River(KY-KO-KR)	Pecten maximus	Gonad	2.3		Not Classified
			Posterior Adductor	<LOQ	n.d.	
09/10/2015	Kenmare River(KY-KO-KR)	Pecten maximus	Gonad	1.5		Not Classified
			Posterior Adductor	<LOD		

[16] ASP - Amnesic Shellfish Poisoning; AZP - Azaspiracid Shellfish Poisoning (part of the Lipophilic Group); DSP - Diarrhetic Shellfish Poisoning, part of the lipophilic group; PTX - Pectenotoxins, included in the lipophilic toxin group; YTX - Yessotoxins, included in the lipophilic toxin group.

16/10/2015	Kenmare River(KY-KO-KR)	Pecten maximus	Gonad	1.6		Not Classified
			Posterior Adductor	<LOD		
20/10/2015	Kenmare River(KY-KO-KR)	Pecten maximus	Gonad	5.3		Not Classified
			Posterior Adductor	<LOD		
02/11/2015	Kenmare River(KY-KO-KR)	Pecten maximus	Gonad	4.6		Not Classified
			Posterior Adductor	<LOD		

The status assigned to each production area is based on the results of the last sample(s) submitted from that area (an area may have more than 1 production site and may harvest more than species). If an area does not submit a sample during the required testing frequency, the area is considered as Closed Pending.

Table A 2: MI ambient water quality monitoring data for Kenmare River/Sneem/Ardgroom 2012 – 2014 (at Ardgroom Harbour)

Date	Depth (m)	arsenic (ug/l)	cadmium (ug/l)	chromium (ug/l)	coloured dissolved organic mat (mg/l)	copper (ug/l)	lead (ug/l)	mercury (ug/l)	nickel (ug/l)	pH (ac)	salinity (PSU)	salinity (lab salinometer) (PSU)	secci depth (m)	silver (ug/l)	suspended solids (mg/l)	temperature (degC)	turbidity (%)	zinc (ug/l)
03/04/12	0.5				<4								6.3		<5			
03/04/12	0.5									8.03	35.08						11.6	
05/06/12	0.4									7.45	35.08					17.83	4.1	
05/06/12	0.5	1.203	<0.05	23.984	<4	<0.1	<0.1	<0.01	0.035				8.7	<0.002	<5			
07/08/12	0.5				10.4					8.08	33.2		6.2		<5		0.3	
07/08/13	0.5									8.08	32.3					15.34	0.4	
10/12/12	0.5	1.158	<0.05	0.131	5.4	0.112	<0.1	<0.01	0.099			32.733	>7.8	<0.05	<5			<1
10/12/13	0.5									8.24	33.67						8.5	<0.01
24/04/13	0.5									8.22	29.91						10.67	<0.01
24/04/13	0.5				5.1					8.25	29.67		0.35		<5	10.67	<0.01	
22/08/2013		1.28	<0.05	0.13		<0.1	<0.01	<0.01	0.13					nd				<1
02/12/2013		1.31	<0.05	0.16		<0.1	nd	0.0008	0.13					<0.05				<1
03/06/2014		1.53	<0.05	0.14		<0.1	nd	0.0006	0.14					nd				nd
15/12/2014		1.37	<0.05	0.16		0.21	nd	nd	0.2					nd				<1

European Communities (Quality of Shellfish Waters) Regulations 2006 Mandatory water quality values for shellfish production areas:
Arsenic 40ug/l
Cadmium 5ug/l
Chromium 30ug/l
Copper 10ug/l
Lead 20ug/l
Mercury 0.4ug/l
Nickel 50ug/l
Silver 10ug/l
Zinc 200ug/l
pH Not less than 7 nor greater than 9
Salinity (a) less than 40 practical salinity units, and (b) discharges affecting shellfish waters must not cause the salinity of the waters to exceed by more than 10 per cent the salinity of waters not so affected.
Suspended Solids A discharge affecting shellfish waters must not cause the suspended solids content of the waters to exceed by more than 30 per cent the suspended solids content of waters not so affected.
Colour A discharge affecting shellfish waters must not cause the colour of the waters after filtration to deviate by more than 10 milligrams per litre from the colour of waters not so affected.

Table A.3: Marine Institute (MI) – Shellfish Tissue Contaminants and Residues, Kenmare River/Sneem/Ardgroom (2012)

SWD Area	Kenmare River/Sneem/Ardgroom
MI Reference No.	206
Date	26/11/12
Latitude	51° 52.03'N
Longitude	09° 39.81'W
Species Sampled	*Crassostrea gigas*
Number of Individuals	25
Method of Cultivation	trestle
Shellfish	
Shell length range (mm)	80.9 - 105
Shell mean length (mm)	94.6
Shell length std dev (mm)	7.20
Shell weight (%)	82.2
Meat weight (%)	17.8
Moisture (%)	81.9
Extractable Lipids (%)	1.59
Metals mg kg^{-1} (ppm)	
arsenic	1.25
cadmium	0.24
chromium	0.09
copper	6.26
lead	0.05
mercury	<0.02
nickel	<0.13
silver	0.23
zinc	144
PAHs µg kg^{-1} (ppb)	
1-methylnaphthalene	
2-methylnaphthalene	
acenaphthene	0.38
acenaphthylene	0.05
anthracene	1.31
benz[b]anthracene	
benzo[a]anthracene	0.59
benzo[a]pyrene	0.22
benzo[b]fluoranthene	0.63
Benzo[b]naphtho[2 1-d]thiophene	
benzo[e]pyrene	
benzo[ghi]perylene	0.14
benzo[k]fluoranthene	0.16
chrysene	0.37
dibenz[a h]anthracene	0.02
fluoranthene	1.51
fluorene	2.41
indeno[1 2 3-cd]pyrene	0.10
naphthalene	1.49
perylene	

phenanthrene	1.12
pyrene	1.15
PCB µg kg^{-1} (ppb)	
PCB Congener 101	<0.07
PCB Congener 105	0.009
PCB Congener 118	0.06
PCB Congener 138	0.05
PCB Congener 153	0.09
PCB Congener 149	0.04
PCB Congener 156	nd (<0.0009)
PCB Congener 170	nd (<0.0008)
PCB Congener 18	nd (<0.0008)
PCB Congener 180	0.02
PCB Congener 194	nd (<0.0009)
PCB Congener 209	0.004
PCB Congener 28	0.01
PCB Congener 31	nd (<0.001)
PCB Congener 44	0.009
PCB Congener 52	0.02
EFSA sum of 6 CBs	0.26
ICES sum or 7 CBs	0.32
PBDEs µg kg^{-1} (ppb)	
BDE100	0.004
BDE153	0.005
BDE154	0.003
BDE28	0.002
BDE47	0.02
BDE99	0.01
sum of 6 PBDEs	nd (<0.05)
Organochlorine Compounds µg kg^{-1} (ppb)	
aldrin	0.02
cis-chlordane (α chlordane)	nd (<0.004)
DDE (o p')	
DDE (p p')	0.21
DDT (o p')	0.11
DDT (p p')	0.14
dieldrin	0.03
endrin	<0.06
hexachlorobenzene	<0.07
hexachlorobutadiene	<0.06
cis-heptachlorepoxide (α)	0.03
α -HCH	0.02
β -HCH	0.03
δ -HCH	0.02
γ -HCH	0.006
heptachlor	0.006
oxychlordane	0.04
trans-chlordane (γ chlordane)	0.005
TDE (p p')	<0.28

***trans*-nonachlor**	0.01

Table A.4.1: SFPA *E.coli* monitoring data Templenoe 2012 -2014

Sample date	Sample type	MPN E.Coli/100 grammes
18-Jan-12	Oyster	170
21-Feb-12	Oyster	130
22-Mar-12	Oyster	20
26-Apr-12	Oyster	170
31-May-12	Oyster	20
14-Jun-12	Oyster	20
19-Jul-12	Oyster	**1700**
27-Sep-12	Oyster	**1700**
8-Oct-12	Oyster	40
26-Nov-12	Oyster	**790**
17-Dec-12	Oyster	**330**
30-Jan-13	Oyster	90
27-Feb-13	Oyster	20
13-Mar-13	Oyster	20
10-Apr-13	Oyster	220
28-May-13	Oyster	230
25-Jun-13	Oyster	20
23-Jul-13	Oyster	**3500**
21-Aug-13	Oyster	70
25-Sep-13	Oyster	20
17-Oct-13	Oyster	**16000**
31-Oct-13	Oyster	**490**
14-Nov-13	Oyster	**790**
3-Dec-13	Oyster	20
21-Jan-14	Oyster	110
26-Feb-14	Oyster	20
29-Apr-14	Oyster	**1700**
27-May-14	Oyster	170
26-Jun-14	Oyster	20
28-Jul-14	Oyster	110
28-Aug-14	Oyster	**790**
9-Sep-14	Oyster	130
10-Nov-14	Oyster	**330**
9-Dec-14	Oyster	230

Table A.5: EPA TraC monitoring data Station Nr. KN035 for 2008 to 2014

Date_Surveyed	Time	Depth_Bed	Depth_Sample	Salinity	Temperature	pH	
16/09/2014	15:39:00	4.6	0	33.38	14.94	8	VOB
16/09/2014	15:39:00	4.6	4.36	34.61	14.74	8	VOB
16/09/2014	16:07:00	3.54	0	33.35	15.51	8	VOB
16/09/2014	16:07:00	3.54	0	34.65	14.65	8	VOB
24/06/2014	14:14:00	3	2.8	33.85	15.32	8.1	VOB
24/06/2014	07:45:00	4.13	4.1	34.29	14.71	8.1	VOB
24/06/2014	14:14:00	3	0	30.55	17.21	8.1	VOB
24/06/2014	07:30:00	4.13	0	32.82	16.44	8.1	VOB
27/05/2014	10:20:00	1.8	1.5	32.77	11.6	8	VOB
27/05/2014	16:13:00	1.8	0	26.73	11.91	8	?B
27/05/2014	09:58:00	3	2.9	33.65	11.35	8	VOB
27/05/2014	10:10:00	3	0	28.3	11.98	8	VOB
11/03/2014	10:10:00	3.6	3.4	32.85	8.46	7.9	
11/03/2014	15:15:00	2.5	0	17.63	8.68	7.9	
11/03/2014	12:46:00	3.6	0	16	7.64	7.9	
11/03/2014	08:58:00	2.5	3.9	33.22	8.5	7.9	
20/08/2013	13:51:00	4.0	3.8	27.88	18.41	8.2	
20/08/2013	13:51:00	4.0	0.0	22.81	18.04	8.2	
20/08/2013	10:37:00	2.0	1.6	26.09	18.11	8.1	
20/08/2013	10:37:00	2.0	0.0	26.93	17.53	8.0	
16/07/2013	10:15:00	4.2	4.1	32.41	21.90	8.1	
16/07/2013	10:15:00	4.2	0.0	31.79	22.14	8.2	
16/07/2013	13:23:00	3.5	0.0	31.60	22.64	8.2	
16/07/2013	13:23:00	3.5	3.3	32.20	22.23	8.2	
28/05/2013	10:38:00	4.0	0.0	27.14	12.30	8.0	
28/05/2013	10:38:00	4.0	3.1	31.36	12.16	8.1	
28/05/2013	13:07:00	2.0	0.0	21.89	12.68	8.0	
28/05/2013	13:07:00	2.0	1.3	29.04	12.26	8.0	
13/02/2013	09:07:00	3.1	0.0	11.10	6.66	7.6	
13/02/2013	09:07:00	3.1	2.9	31.36	8.57	7.9	
13/02/2013	12:41:00	1.5	0.0	11.40	7.02	7.6	
13/02/2013	12:41:00	1.5	1.1	27.05	8.16	7.8	
14/08/2012		2.9	0.0	12.49	16.56	7.7	
14/08/2012		2.9	3.0	32.38	14.98	8.0	
14/08/2012	13:50:00	3.9	0.0	10.46	18.06	7.6	
14/08/2012	13:50:00	3.9	3.9	32.45	15.06	8.0	
12/06/2012	15:42:00	4.0	3.4	31.87	14.53	7.9	
12/06/2012	11:30:00	3.9	3.6	30.74	14.83	8.0	
12/06/2012	11:30:00	3.9	0.0	23.86	16.64	8.2	
12/06/2012	15:42:00	4.0	0.0	23.23	16.58	8.2	

Date_Surveyed	Time	Depth_Bed	Depth_Sample	Salinity	Temperature	pH
17/05/2012	12:52:00	3.4	3.2	32.84	13.27	8.1
17/05/2012	09:40:00	2.5	0.0	28.06	13.12	8.1
17/05/2012	12:52:00	3.4	0.0	30.88	13.24	8.1
17/05/2012	09:40:00	2.5	2.1	32.35	13.43	8.1
07/02/2012	14:37:00	4.0	3.5	31.60	9.38	8.0
07/02/2012	11:12:00	1.8	1.5	29.37	9.30	7.9
07/02/2012	11:12:00	1.8	0.0	17.79	8.99	7.9
07/02/2012	14:37:00	4.0	0.0	26.00	9.32	8.0
10/08/2011	14:08:00	4.0	0.0	29.32	17.09	8.1
10/08/2011	11:04:00	2.8	2.3	28.10	17.14	8.1
10/08/2011	14:08:00	4.0	3.6	30.48	17.06	8.1
10/08/2011	11:04:00	2.8	0.0	27.86	17.12	8.1
28/06/2011	14:08:00	3.8	3.5	32.89	14.53	8.1
28/06/2011	11:02:00	2.0	1.7	33.56	14.69	7.9
28/06/2011	11:02:00	2.0	0.0	19.72	15.49	8.0
28/06/2011	14:08:00	3.8	0.0	22.48	15.78	8.1
31/05/2011	14:27:00	3.5	0.0	13.23	13.88	8.1
31/05/2011	14:27:00	3.5	3.1	13.52	13.83	8.1
31/05/2011	11:29:00	1.6	0.0	11.23	13.62	7.5
31/05/2011	11:29:00	1.6	1.4	12.12	13.45	7.8
15/02/2011	11:25:00		0.0	17.47	7.21	7.6
15/02/2011	11:25:00		3.2	33.58	8.45	7.9
15/02/2011	14:57:00	4.2	3.7	33.24	8.45	7.9
15/02/2011	14:57:00	4.2	0.0	12.80	6.72	7.8
11/08/2010	10:00:00	2.4	2.1	28.14	18.15	8.1
11/08/2010	10:00:00	2.4	0.0	27.63	18.14	8.0
11/08/2010	14:01:00	2.2	0.0	26.27	18.67	8.1
11/08/2010	14:01:00	2.2	1.9	27.41	18.41	8.1
30/06/2010	10:09:00	3.5	3.3	33.04	18.65	8.0
30/06/2010	10:09:00	3.5	0.0	32.05	18.87	8.0
30/06/2010	14:21:00	1.9	1.6	30.93	19.11	8.1
30/06/2010	14:21:00	1.9	0.0	29.35	19.24	8.1
18/05/2010	14:53:00	2.5	2.3	31.41	13.16	8.0
18/05/2010	10:16:00	4.0	0.0	31.32	13.26	8.0
18/05/2010	10:16:00	4.0	0.0	31.32	13.26	8.0
18/05/2010	10:16:00	4.0	3.7	33.17	12.38	8.1
18/05/2010	14:53:00	2.5	0.0	28.98	13.62	8.0
17/02/2010	10:14:00	2.6	2.1	31.91	7.42	8.0
17/02/2010	14:54:00	2.5	0.0	30.54	7.14	8.0
17/02/2010	14:54:00	2.5	2.3	33.12	7.64	8.0
17/02/2010	09:50:00	2.6	0.0	28.94	7.04	8.0
12/08/2009	14:08:00	2.8	2.6	21.39	17.50	7.9
12/08/2009	14:08:00	2.8	0.0	10.26	17.93	8.0
28/05/2009	12:11:00	2.5	2.0	25.40	13.91	8.0

Date_Surveyed	Time	Depth_Bed	Depth_Sample	Salinity	Temperature	pH
28/05/2009	12:11:00	2.5	0.0	5.34	13.57	7.4
20/08/2008	10:21:00	4.0	3.5	22.78	16.08	7.9
20/08/2008	10:21:00	4.0	0.0	7.28	15.36	7.5
20/08/2008	13:10:00	2.0	1.5	9.61	15.84	7.8
20/08/2008	13:10:00	2.0	0.0	7.58	15.77	7.7
23/07/2008	14:25:00	2.5	0.0	23.74	18.39	8.2
23/07/2008	14:25:00	2.5	2.0	30.55	16.91	8.2
02/07/2008	11:49:00	2.8	2.5	23.57	15.66	7.7
02/07/2008	11:49:00	2.8	0.0	1.40	15.43	7.2
02/07/2008	17:18:00	5.2	4.9	22.34	15.34	7.9
02/07/2008	17:18:00	5.2	0.0	6.93	17.66	7.7
04/02/2008	14:08:00		0.0	2.77	8.70	7.6
19/09/2007	11:35:00	3.0	0.0	33.65	15.65	8.0
19/09/2007	11:35:00	3.0	2.9	33.65	15.65	8.0
19/09/2007	14:06:00	3.3	0.0	32.40	15.70	8.0
19/09/2007	14:06:00	3.3	3.0	32.74	15.71	8.0
27/06/2007		3.2	2.7	32.03	14.82	8.2
27/06/2007	12:50:00	3.2	0.0	30.44	15.05	8.2
27/06/2007	16:54:00	3.8	0.0	30.25	15.69	8.2
27/06/2007		3.8	3.0	32.47	14.88	8.2

European Communities Environmental Objectives (Surface Waters) Regulations 2009 EQS values for transition waters:

- Temperature:- Not greater than a 1.5°C rise in ambient temperature
- DO:- 95%ile > 70% and 95%ile <130%
- BOD: ≤4.0mg/l (95%ile)
- MRP: ≤0.060mgP/l (median) at 0-17psu
- DIN:- Good status (0 psu) ≤2.6 mg N/l and (34.5 psu) ≤ 0.25 mg N/l. Linear interpolation to be used to establish the limit value for water bodies between these salinity levels based on the median salinity of the water body being assessed. A DIN limit of 2.16 mg N/l has been established based on a median salinity concentration of 6.56psu.

Appendix 7.11 – Toxicity/Leachate Management Report

A Toxicity/Leachate Management Report is not a requirement of the Waste Water Discharge Licence

Appendix 7.12 – Final Effluent Toxicity Assessment

A Final Effluent Toxicity Assessment Report is not a requirement of the Waste Water Discharge Licence.

End of Report