

**REVISED INFORMATION FOR THE
COASTAL WATERS DISCHARGE PERMIT APPLICATION**



I&J Danger Point Abalone Farm

DEA Ref 2012/023/WC/Irvin and Johnson

June 2015



**GENERIC APPLICATION FORM FOR A COASTAL WATERS DISCHARGE PERMIT
IN TERMS OF SECTION 69 OF THE INTEGRATED COASTAL MANAGEMENT (ICM) ACT, (ACT NO. 24
OF 2008) effective from 01 January 2014**

GENERAL INSTRUCTIONS

- i. All relevant sections of this Application Form **must** be completed in full.
- ii. If an item is “not applicable”, please indicate “N/A”. The use of “not applicable” in the Application Form must be done with circumspection.
- iii. Failure to fully complete all required parts of this application form or pay necessary Application Fees (if required) will result in the application being returned.
- iv. This Application Form **must** be completed and signed by the applicant. If the application is completed by a third party (such as a consultant or legal representative), the third party’s details must further be included.
- v. All details of previous approved licenses such as the reference number (s) and the dates of issue as well as expiration dates must be provided.
- vi. This Application Form is current as of 1 January 2014. It is the responsibility of the Applicant to ascertain whether subsequent versions of the Application Form have been published or produced by the Department. Note that this Application Form replaces all the previous versions. This updated Application Form must be used.
- vii. One hard copy and one electronic copy (CD/DVD/ via E-mail) of this form must be submitted.
- viii. The required information must be typed within the spaces provided. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. The space provided extend as each space is filled with typing. A legible font type and size must be used when completing the form. The font size should not be smaller than 10pt (e.g. Arial Narrow). A digital copy of the Application Form is available on request.
- ix. **No faxed or e-mailed applications will be accepted.**
- x. Unless protected by law, all information contained in and attached to this Application Form will become public information on receipt by the Department. Upon request, any Interested and

Affected Party should be provided with the information contained in and attached to this Application Form.

- xi. This Application Form must be submitted to the Department at the postal or physical address given below. Unnecessary delays will be incurred should the application and attached information not be submitted to the correct address.
- xii. This Application Form, with all applicable documents **must** be addressed and sent to the Department of Environmental Affairs: Branch Oceans and Coasts to the **Director: Coastal Pollution Management** to:
2nd Floor, East Pier Building, East Pier Road, V & A Waterfront, Cape Town *or*
P.O. Box 52126, V & A Waterfront, 8002

Electronic submissions may also be sent to: cwdp@environment.gov.za
- xiii. The proof of payment of the application fee must be attached to this application.
- xiv. A copy of this application must be kept for the applicant's record.
- xv. The Department's "Draft Generic Assessment Criteria" must be consulted for guidance on how the generic assessment criteria will be used to evaluate your application.
- xvi. The Department's "***Guideline on public participation requirements for Coastal Waters Discharge Permit Application under section 69 of the National Environmental Management Act: Integrated Coastal Management Act 2008 (Act no.24 of 2008)***" must be consulted for guidance when conducting public participation for a CWDP.
- xvii. For information or enquiries, please contact the following officials:
Mr M. Tshikotshi on 021 819 2455 or via E-mail mtshikot@environment.gov.za
Ms N. Baijnath-Pillay on 021 819 2409 or via E-mail nbpillay@environment.gov.za

SPECIFIC INSTRUCTIONS

Who must apply for a Coastal Waters Discharge Permit (CWDP)?

Anyone who discharges or intends to discharge land-derived effluent into the coastal waters of South Africa must apply for a CWDP.

Section 69 (1) of the ICM Act states:

“No person may discharge effluent that originates from a source on land into coastal waters except in terms of a general authorisation ... or a coastal waters discharge permit ...”

Under the ICM Act, “**effluent**” is defined as:

- (a) Any liquid discharged into the coastal environment as waste, and includes any substance dissolved or suspended in the liquid; or*
- (b) Liquid which is a different temperature from the body of water into which it is being discharged.*

“**Waste**” is similarly defined in the ICM Act as:

“... any substance, whether or not that substance can be re-used, recycled or recovered –

- (i) that is surplus, unwanted, rejected, discharged, abandoned or disposed of;*
- (ii) that the generator has no further use of, for the purposes of production, reprocessing or consumption; and*
- (iii) that is discharged or deposited in a manner that may detrimentally impact on the environment.”*

Sections A, B, and C

- I. Section A: To be completed by a private entity.
- II. Section B: To be completed by a consultant and acting on behalf of the applicant.
- III. Section C: To be completed by organ of state or operating as a parastatal.

- Complete all relevant fields.
- If you are a private individual and have been contracted as a service provider for the purposes of environmental authorisations and monitoring, please complete sections A and B respectively.
- If you are representing an organ of state/government/parastatal and have contracted a service provider for the purposes of environmental authorisations and monitoring, please complete sections B and C respectively.

Application Information

- i. Existing discharge: New Application: Renewal Application:
 Revision/Amendment of Existing CWDP Permit:
- ii. Discharge into which of the following receiving environments:
 Offshore: Surf Zone: Estuary:

(For estuary discharges, applications will be processed in consultation with the relevant Department of Water Affairs Office)

SECTION A	APPLICANT INFORMATION (PRIVATE)
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Company trading name (if any):	Irvin & Johnson Limited		
Registration no:	1952/001693/06		
Contact person:	Robert Landman		
Physical address:	1 Davidson Street, Woodstock 7925		
Postal address:	PO Box 1628, Cape Town		
Postal code:	8000	Cell:	
Telephone:	021 – 440 7800	Fax:	021 – 402 9282
E-mail:	robertla@ij.co.za		
Website:	www.ij.co.za		

If the applicant is an individual please provide South African identification number or alternatively provide a valid Passport Number: _____

Pipeline owner:	As above		
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

NB: If another company also discharges via this outfall, kindly attach a list of details as requested in all sections of this application form for any such company.

SECTION B	APPLICANT INFORMATION (CONSULTANT)
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Consultancy	Original application submitted by I&J in 2012. <u>Whale Coast Conservation</u> contracted for public participation phase, for which information has been transcribed onto new application form.		
Trading Name:			
Registration no:	PBO 18/11/13/4541 NPO 020-771		
Consultant's name:	Sue Matthews		
Designation:	Freelance consultant to Whale Coast Conservation		
Physical address:	Green House, R43, Hermanus		
Postal code:	7200	Cell:	083 381 5432
Telephone:	028 316 2527	Fax:	086 695 0046
E-mail:	suemat@iafrica.com		
Website:	www.catchment-to-coast.co.za	www.whalecoastconservation.org.za	

SECTION C**APPLICANT INFORMATION (ORGAN OF STATE OR PARASTAL)**

1. Name of District or Local Authority:

2. Department:

3. Directorate/Section:

4. Primary Contact Official:

Name & Surname:			
Designation/Rank:			
Physical address:			
Postal code:			
Telephone:	Cell:		
E-mail:	Fax:		
Website:			

5. Secondary Contact official:

Name & Surname:			
Designation/Rank:			
Physical address:			
Postal code:			
Telephone:	Cell:		
E-mail:	Fax:		
Website:			

SECTION D**EFFLUENT GENERATION**

1. Provide a brief description of the effluent discharge process that results in the effluent being generated, together with the products, by-products and other waste per month. Attach an effluent flow chart.

I&J has been farming abalone at a land-based aquaculture facility on the Danger Point peninsula near Gansbaai since 1994. The farm operates on a flow-through system, in which seawater is taken up and passed through concrete or fiberglass tanks housing the abalone before being returned to the sea. This seawater effluent contains low levels of food waste, excretory products and particulates from tank cleaning.

See [Appendix 1](#) for flow chart.

2. Describe the location of the waste generation points as within the facility, the route to the coast, the discharge point and the structures associated with the activity en route to the discharge point.

Abalone are cultivated in a number of grow-out tanks at the land-based aquaculture facility. The effluent comprises the seawater outflow from these tanks, with dilute concentrations of waste products. There are six effluent discharge points along the rocky shore.

In order to further assess the application, please indicate the type of sector generating the effluent. (Make an X in the appropriate box)

a.	Aquaculture	X
b.	Industrial	
c.	Brine or brackish water	
d.	Cooling water	
e.	Fish processing effluent	
f.	Municipal effluent	
g.	Other (please specify below)	

NB: For municipal effluent proposed for coastal discharge, an evaluation in terms of the Water Services Development Plan, in terms of the Water Services Act (Act No. 108 of 1997), must be submitted with regard to water management for the Municipality

1. Do alternatives exist other than to discharge the effluent into the coastal environment?

	NO
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2. If alternatives to discharge exist, please provide details:

N/A

3. If not, provide a strong motivation for the need and desirability of the effluent discharge into the coastal environment, noting the need to consider the best practicable environmental option for the site:

The wastewater treatment works in Gansbaai does not accept seawater, and there is in any case no existing sewer line, as sewage is collected in a conservancy tank and removed by 'honesucker' for transfer to the WWTW.

Seawater abstracted from the sea is returned to its source in a relatively unaltered state, apart from elevated levels of nutrients and suspended solids. A report by the Aquaculture division of Department of Agriculture, Forestry and Fisheries (Probyn et al. 2014) has demonstrated that effluent from abalone farms is generally not a pollution threat. The report is attached as [Appendix 5](#).

The abalone farm is at the tip of Danger Point, which juts out into the Atlantic Ocean on the south-west Cape coast. The peninsula has a rocky coastline with extensive kelp beds in the subtidal zone. Upwelling is known to occur on either side of Danger Point, so nutrient concentrations in the surrounding waters are naturally high. In addition, the exposed nature of the coastline means that the effluent is rapidly dispersed by waves and currents. Although some localised impacts might be evident in the immediate vicinity of the discharge points, such as excess algal growth and changes in benthic sediment composition and community structure, it is unlikely that any effects would be detectable more than a few metres from each discharge points (Britz & Godfrey, 2008).

4. Provide details of measures that are/will be made for effluent avoidance/prevention, waste minimisation, recycling, etc.

Most South African abalone farms use a flow-through system with limited options for recirculation, because a high-volume exchange rate is needed to oxygenate the water and remove waste products such as ammonia, which would be toxic to abalone if allowed to accumulate. At the Danger Point abalone farm, however, some of the outflow from the tanks is channelled through seaweed culture ponds before being discharged. The seaweed (*Ulva* spp.) is used as a food supply for the abalone. Feeding abalone natural seaweed rather than standard protein-enriched food pellets reduces the concentration of dissolved nitrogen in the effluent.

5. Has any of the activities in the Listing Notices of the Environmental Impact Assessment Regulations (2010), in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), been triggered that will result in the discharge to the coastal environment? YES

6. If YES, has the abovementioned assessment been conducted? YES NO

EIA for farm expansion completed May 2011; authorisation granted November 2011.

NOTE: that a public participation process is required before a CWDP may be authorised. If the answer to question 6 is "NO," please be informed that the CWDP Reference Number as well as the associated documentation pertaining to this application may be used in the public participation process for an Environmental Authorisation to avoid duplication of such a process.

7. Environmental Authorisation Reference Number (if YES):

E12/2/4/2-E2/10-2000/10

(Attach approved Environmental Authorisation)

8. Date of commencement of pipeline operation Various since 1994, as farm has expanded.

9. Is an Environmental Authorisation in progress? YES NO

SECTION F

PUBLIC PARTICIPATION PROCESS

NOTE: No Public Participation may commence without a CWDP reference number issued by the Department, where clarity will be given on the extent of the public participation required.

NOTE: The Applicant must take into account the Department's "**Guideline on public participation requirements for Coastal Waters Discharge Permit Application under section 69 of the National Environmental Management Act: Integrated Coastal Management Act 2008 (Act no.24 of 2008)**" when conducting public participation for a CWDP.

SECTION G**SITE CHARACTERISATION**

1. It is required by the applicant to attach to this application:
 - 1.1. A detailed site map and aerial photograph indicating the following:
 - i. Point(s) of discharge
 - ii. Location where effluent is generated on land
 - iii. Effluent monitoring points
 - iv. An indication of whether any diffusers have been connected to the pipeline.

Please refer to [Appendix 2](#).

- 1.2. The total length of the pipeline (from the high water mark to the point of discharge): **0 metres**
- 1.3. The shortest straight line distance from the high water mark to the discharge point: **0 metres**
- 1.4. The depth of the discharge point (i.e. the depth at the end of the pipeline): **0 metres**
- 1.5. The Erf No: **Remainder of Farm Klipfontein 711**

(Attach relevant supporting documents to this application form)

2. Complete the following mandatory fields:
(Use either Decimal Degrees or Degrees Minutes and Seconds)

- 2.1. Co-ordinates for point/s of discharge (end of pipeline in coastal environment):

Point 1	19°17'47.59"E ; 34°37'45.28"S
Point 2	19°17'41.98"E ; 34°37'44.46"S
Point 3	19°17'39.20"E ; 34°37'41.50"S
Point 4	19°17'41.36"E ; 34°37'39.21"S
Point 5	19°17'45.36"E ; 34°37'35.35"S
Point 6	19°17'48.91"E ; 34°37'31.30"S

- 2.2. The GPS co-ordinates of the point where the coastal outfall pipeline crosses the high water mark:

Point 1 - 6	All outfalls discharge above the high water mark
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- 2.3. Co-ordinates for plant/generator of land derived effluent (terrestrial):

Point _____	Various culture tanks adjacent to above points
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SECTION H**EFFLUENT CHARACTERISATION**

1. Complete the following information (refer to the Annex for guidance on completing this section):

Quality Variable and unit of measurement	Average Discharge Concentration per month	Maximum Anticipated Discharge Concentration per month
Coliforms (Colony Forming Units/ml)		
Enteric pathogens e.g. E.coli (Colony Forming Units/ml)		
pH (pH units)		
Temperature (°C)		
Acidity (mg/l)		
Alkalinity (mg/l)		
Aluminium (mg/l)		
Ammonia (mg/l)	2.75 *	8.0
Arsenic (mg/l)		
Barium (mg/l)		
Boron (mg/l)		
Bromide (mg/l)		
Cadmium (mg/l)		
Calcium (mg/l)		
Chemical oxygen demand (mg/l)		
Chloride (mg/l)		
Chromium (mg/l)		
Chromium(vi) (mg/l)		
Cobalt (mg/l)		
Copper (mg/l)		

Cyanide (mg/l)		
Fluoride (mg/l)		
Iron (mg/l)		
Lead (mg/l)		
Lithium (mg/l)		
Manganese (mg/l)		
Mercury (mg/l)		
Molybdenum (mg/l)		
Nickel (mg/l)		
Phenol (mg/l)		
Potassium (mg/l)		
Radionuclides (mg/l)		
Salinity		
Soap, oil or grease (mg/l)		
Sodium (mg/l)		
Sulphate (mg/l)		
Tin (mg/l)		
Total dissolved solids (mg/l)		
Total Suspended solids (mg/l)	7.82 *	15.0
Total nitrogen (mg/l) (Nitrate)	3.31 *	6.0
Total phosphorus (mg/l) (Phosphate)	1.93 *	3.5
Uranium (mg/l)		
Vanadium (mg/l)		
Zinc (mg/l)		

* Averages from four DAFF sampling runs during 2010 – 2013. See [Appendix 4](#).

2. Complete the following Monthly discharge pattern (in volume) below and indicate the unit of measurement thereof:

Month	Average					Maximum				
January										
February										
March										
April										
May										
June										
July										
August										
September										
October										
November										
December										
Total/annum										

In cubic meters per hour OR

% of total OR

Another unit of measurement (please specify) _____ kl per hour _____

3. Provide a description of any treatment processes applied to the effluent, where applicable.

The outflow from some of the abalone tanks, amounting to approximately 1600 m³/hr, is channelled through seaweed culture ponds before being discharged to the sea. The seaweed (*Ulva* spp.) is harvested on a monthly basis and used as a food supply for the abalone. The seaweed takes up nitrogen and phosphorus in the effluent as nutrients for growth, and thus helps 'cleanse' the effluent.

SECTION I**COMPLIANCE MONITORING AND REPORTING**

1. Provide a description of all monitoring points along the effluent stream.

Compliance monitoring conducted at Danger Point abalone farm focusses mainly on meeting requirements in terms of food safety regulations and occupational health and safety standards. The facility must comply with the Foodstuffs Cosmetics and Disinfectants Act, the NRCS-regulated 'Compulsory specification for live aquacultured abalone', as well as the DAFF-regulated South African Molluscan Shellfish Monitoring and Control Programme.

Monthly analyses are therefore conducted on abalone samples to check for microbiological contamination, as well as toxins associated with shellfish poisoning. Daily phytoplankton samples are collected from influent seawater and sent to DAFF on a weekly basis to screen for toxic diatoms and dinoflagellates. Daily monitoring of pH, temperature and dissolved oxygen in abalone tanks is conducted to ensure that water quality is suitable for abalone production.

Analyses of effluent quality has to date been conducted infrequently, but a monitoring protocol has now been developed in consultation with DAFF's Sustainable Aquaculture Management directorate. Samples will be collected from one of the five effluent discharge points, as shown in [Appendix 2](#). Please see [Appendix 3](#) for the monitoring protocol.

2. Provide the frequency of monitoring of the above mentioned monitoring point(s).

Samples will in future be collected every two weeks for Ammonia and Total Suspended Solids analyses, identified as the key indicators of effluent quality in the Aquaculture Stewardship Council's Abalone Standard. In addition, samples will be sent twice per year to the CSIR for determination of nitrite, nitrate, reactive phosphate and reactive silica concentrations.

3. Provide a detailed description of the type of monitoring, management strategies and maintenance plans implemented for effluent quantity and quality, the receiving environment as well as structural integrity of the pipeline.

If the annual median concentration of Ammonia exceeds 0.6 mg/ℓ and/or Total Suspended Solids exceed 5 mg/ℓ, remedial action will be taken and adjustments made to operational practices.

No monitoring of the receiving environment is taking place. The structural integrity of all pipelines on the abalone farm are monitored in accordance with the facility's maintenance schedule.

Provide the historic data on monitoring and compliance for the coastal outfall pipeline. Attach your information to this application form.

Please see [Appendix 4](#).

4. Provide a detailed description of maintenance plans in place for recording/monitoring devices, if any.

The only instrumentation relevant to effluent monitoring is a pH probe and a number of Oxyguard Handy Polaris probes for taking temperature and dissolved oxygen readings in the abalone and seaweed culture tanks. These are calibrated whenever they are used.

5. Provide a detailed description of maintenance plans in place for treatment facilities, if any.

The algal ponds are thoroughly cleaned when the *Ulva* seaweed is harvested on a monthly basis. The ponds are drained, disinfected and allowed to dry for a few days before being refilled from the abalone tanks and seaweed cultivation reinitiated.

6. Provide a copy of any prior authorisation issued for the coastal discharge by the Department of Water Affairs, including a record of compliance for the last 12 (twelve) months to such an authorisation. Attach your information.

An authorisation from the Department of Water Affairs is not applicable. In terms of the National Water Act, a permit is not required where uptake from and discharge of seawater is to the same receiving body.

7. For **existing outfalls**, do you have a lease agreement issued in terms of the Sea Shore Act, 1935 (Act No. 21 of 1935) for the pipeline below the high water mark or proof of submission of an application for such a lease agreement to the relevant authority?

	N/A
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The effluent pipelines do not cross the high water mark, so the Sea Shore Act does not apply. The farm has a lease for its intake pipes.

8. If YES, attach the proof thereof.

9. Provide details of the mandatory reporting regime as contained in Annexure 1 (Reporting).

There is no Permit Advisory Forum in existence for the effluent pipelines. The Danger Point abalone farm will endeavour to comply to the South African Abalone Dialogue Standard, once complete, as well as the Aquaculture Stewardship Council's international Abalone Standard. Reporting will be in accordance with these standards, and with any requirements stipulated by DEA: Coastal Pollution Management.

SECTION J**CONTINGENCY AND DECOMMISSIONING PLANNING**

1. Provide information on pipeline incidences, continuous improvement plans, contingency plans for effluent discharge and decommissioning plans implemented at or adopted by the facility for the past 12 (twelve) months, if available.

No incidences occurred and no decommissioning plans available. Continuous improvement plans will be guided by the Abalone Dialogue Standard.

The abalone farm does not have contingency plans relating specifically to effluent, but a large recirculation dam allows seawater intake to be halted in the event of an oil spill or other marine catastrophe that would pose a threat to abalone. The recirculation dam serves as a sump, capable of receiving outflow from the abalone tanks that can then be recycled back to the tanks. In the unlikely event that some chemical spill occurred in the abalone tanks, effluent could be re-directed to the dam for containment and treatment before discharge.

SECTION K**SPECIALIST TECHNICAL AND ENGINEERING REQUIREMENTS**

1. Provide a detailed report on the following specialist technical and engineering requirements (refer to Annex for more on the generic requirements) if applicable:
 - 1.1 Scope of study area and features
 - 1.2 Biogeochemical processes (water column and sediment)
 - 1.3 Marine ecology
 - 1.4 Microbiological Factors
 - 1.5 Hydraulic design
 - 1.6 Achievable dilution
 - 1.7 Sedimentation/re-suspension of solid phase particles
 - 1.8 Pipeline construction considerations and structural design (including decommissioning)

Not applicable – existing pipelines on an authorised aquaculture facility.

2. Describe any gaps in the above knowledge, any underlying assumptions made and any uncertainties when conducting the above specialist study (ies) in the above mentioned detailed report.

DECLARATION

I ROBERT LANDMAN, in my personal capacity or duly authorised as AGRICULTURE MANAGER (state your capacity) by IRVIN & JOHNSON thereto hereby declare that I:

- regard the information contained in this application form and associated documentation submitted to be true and correct, and
- am fully aware of my responsibilities in terms of **Section 69 of the Integrated Coastal Management Act, 2008 (Act No. 24 of 2008)**;
- have provided access to all information at my disposal that is relevant to the application;
- will be responsible for the costs incurred in complying with the environmental legislation including but not limited to –
 - costs incurred in connection with the appointment of a specialist/ consultant ;
 - costs incurred in respect of the undertaking of any process required in terms of this application;
 - costs in respect of any fee prescribed by the Minister in respect of this application and the discharge; and
 - the provision of security to ensure compliance with the applicable management and mitigation measures;
- am responsible for complying with the conditions that might be attached to any decision(s) issued by the Department;
- have the ability to implement the applicable management, mitigation and monitoring measures; and
- hereby indemnify, the government of the Republic, the Department of Environmental Affairs and all its officers, agents and employees, from any liability arising out of, inter alia, the content of any report, any procedure or any action for which the applicant or environmental assessment practitioner is responsible.

Please Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

[Signature](Signature) DANGER POINT(Place)
 (yyyy/mm/dd) 2015/06/17(Date) MANAGER(Designation/capacity)
IRVIN & JOHNSON LTD.(Name of company/municipality/organisation)

	Name and Surname	Address	Signature
Witness 1	DEIDRE DUTOIT	I&J DANGER POINT	<u>[Signature]</u>
Witness 2	Deirdre Strydom	I&J Danger Point	<u>[Signature]</u>