



Leading Seafood in Australia



**TASSAL OPERATIONS PTY LTD  
TRIABUNNA RENDERING FACILITY  
ANNUAL ENVIRONMENTAL REPORT  
to June 2016**

Prepared by Malcolm Cummins  
Environmental Coordinator - Processing  
Tassal Operations Pty Ltd

Version  
Draft 1 2016

Tassal Triabunna Rendering Facility  
Annual Environmental Report 2016

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## Executive Statement

The activities undertaken at the Triabunna Rendering Facility (the facility) are subject to the provisions of a land use planning permit, DA2014\_00001 (the permit) issued by Glamorgan Spring Bay Council which contains an attached set of environmental conditions, issued by the Director, Environmental Protection Authority. The conditions form the basis for environmental management of the facility and for compliance against the Tasmanian legislative framework.

It is acknowledged that the activities undertaken at the facility are subject to the stringent requirements of the permit, which form the basis for environmental management for all activities at the facility, and the content of this report is to address the reporting requirements within this notice.

As required under the permit, the Annual Environmental Report 2016 has been prepared for the facility for the period from 1 July 2015 to 30 June 2016.

The report contains an overview of environmental management, a summary of monitoring and compliance in accordance with the permit, and improvements achieved by Tassal.

This Report concludes that the activities undertaken by Tassal during the reporting period have had no significant impacts on the environment.

This report is available to the public and a copy will be provided on request.



Ben Daley  
Head of Supply Chain and Commercial Services – Tassal

Tassal Triabunna Rendering Facility  
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## 1. Introduction

Tassal is required to prepare an Annual Environmental Report in accordance with environmental Condition G7 of land use planning permit, DA2014\_00001 (the permit) issued by Glamorgan Spring Bay Council for the Triabunna Rendering Facility, 8731 Tasman Highway Triabunna (the facility). The facility produces high quality salmon fish meal and oil.

The Permit contains a set of comprehensive environmental conditions issued by the Environmental Protection Authority that the facility must operate under and comply with.

This report is for the reporting period July 2015 to June 2016, and summarises all monitoring data required in relation to the facility and compliance with the Permit. The report also includes information regarding any changes to operations, development initiatives, and future plans, the quantities of waste produced and waste treatment, and matters relating to any public complaints received and any community consultation undertaken for the reporting period.

The rendering facility was constructed on a “green field” site following approval of the development on 14 March 2014. Commissioning commenced on 14 October 2015.

The key environmental issues for facility operations are fish waste management, odour management from several sources, and wastewater management.

The above is discussed in more detail in the report.

## 2. Operational Summary

### 2.1. *Maximum Quantities and Production*

The permit allows the processing of 20,000 tonnes of fish by-product (waste) annually at a maximum rate of 4,999 kg per hour. The plant is currently operating at 2500 kgs per hour.

The facility produced 776 tonnes of fish meal product and 1132 tonnes of fish oil product for the 2015-2016 Financial Year (reporting period).

### 2.2. *The Rendering Facility*

The construction of a new rendering plant on a “green field” site on the property “Rostrevor” Triabunna was completed in September 2015 prior to commissioning and the commencement of fish meal and oil production in October 2015.

The facility is accessed by a road from the main property boundary on the Tasman Highway and occupies approximately 2 hectares at 8731 Tasman Highway with the rendering plant housed in a building of approximately 3,000m<sup>2</sup> with attached office, and amenities, and is surrounded by a large hardstand area.

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Semi-trailer vehicles delivering plant feedstock access and egress the building via large roller doors on either side. Dispatch is via a separate side roller door on the northern side of the building.

A private water supply “Rostrevor Dam” approximately 600m to the south east supplies fresh water to the facility.

The building (rendering plant room) is negatively pressurised to avoid fugitive emissions. Fumes are drawn under negative pressure from the building into a purpose built biofilter at the rear (west) of the building that scrubs odours.

The facility also has a water reuse - irrigation - storage dam of approximately 21ML capacity and pump house to the south of the building and associated hardstand. Irrigation is conducted on a 15ha site on the Rostrevor property east of the highway under a water reuse plan ‘*Development Proposal & Environmental Management Plan for the Irrigation of Treated Wastewater on Land - Rostrevor Triabunna. 2013*’ (Irrigation Plan) approved under the permit.

**2.3. The Rendering Operation and Feedstock**

The rendering operation is essentially a cooking operation carried out under steam, which is designed not to overheat or burn the product, and a subsequent process to separate and clean the fish oil, the wet fish meal, and the water. The wet fish meal is dried in the ‘dryer’ and the water evaporated in order to recover residual protein. The evaporated water is condensed in the ‘condenser’ and discharged to the water reuse dam of later irrigation.

Feed materials include solid fish remnants and liquid (pumpable) viscera or ‘guts’. Solids include skins, trims, frames and heads and are stored in a large chiller room until required. Guts are delivered by tanker and pumped directly into a feed tank.

Materials received and processed for FY16/17 are:

Table 1: Fish Materials received FY16/17

Fish Material	Tonnes	Destination
Solids – Heads Frames, Trims, Skins	2904	Rendered product
		Compost
Viscera	2524	Rendered product
	450	Compost
Mortalities	736	Rendered product
	166	Compost

Where quality control dictates, fish material received are either rendered or transported to a licenced composting facility.

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## 2.4. Environmental Management

### 2.4.1. Noise

Condition N2 of the permit noise survey requirements were met and a report submitted to the EPA on 13 Jan 2016. The outcome of this survey was that noise emissions have no impact off site, particularly on the Tasman Highway or on the few residences within 1.5km radius.

### 2.4.2. Odour

The facility employs an engineered biofilter to scrub odours compounds from odorous factory air.

As per condition A2 of the permit, a survey of odour sources associated with the facility was conducted in accordance with any requirements of the Director, Environment Protection Authority. The survey included assessment of the water reuse storage dam, irrigation area, and rendering plant biofilter. A report of the work was submitted to the EPA as per the condition.

Condition A4 was also met, with revised odour modelling prior to installation of plant and further testing and modelling was conducted post commissioning by Assured Monitoring Group Pty Ltd, this was submitted to the EPA as required.

Assessment of the odour load entering the biofilter was determined at about 39,300 OUV/s and the odour emission rate of the biofilter discharge was about 8,600 OUV/s, which is well under (43%) the 20,000 OUV/s odour emission rate that was set as a design limit to ensure the air quality standard of 2 OU (1 hour) is met on the Tasman Highway.

The pond and irrigation odour emission rates were well under the design odour emission rate limits in order to meet the 2 OU (1 hour) on the Tasman Highway.

### 2.4.3. Wastewater Reuse

Tassal operates a water reuse scheme under a comprehensive irrigation plan approved under condition E5 of the permit. This scheme allows for the controlled irrigation of factory water using a pivot irrigator, which covers a circular 15ha area. The system including dam storage capacity is designed for a 1:10 year rain period.

The irrigation plan specifies predicted irrigation loads per month, seasonal variation, and ideal storage dam levels throughout the year. The plan also details land management practices for the irrigation area.

The reporting period concluded with an irrigation of an estimated 3,870kl, with an estimated 16kL held in the reuse dam.

### 2.4.4. Monitoring

Under the water reuse plan (titled *Development Proposal & Environmental Management Plan for the Irrigation of Treated Wastewater on Land at Rostrevor*) groundwater and surface waters, including the water reuse dam, the Rostrevor Dam, are to be monitored at least annually.

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Table 2: *Development Proposal & Environmental Management Plan for the Irrigation of Treated Wastewater on Land at Rostrevor Triabunna Environmental Monitoring Regime:*

	Frequency	Time	Responsibility	
			TGL*	Land Owner
Soil Chemical Analysis	Annually	Prior to supplementary fertilizer application		√
Ground Water Quality	Annually		√	
Surface Water Quality	Annually	During rain run off periods		√
Storage Water Quality	Annually	Sept	√	
Supply Water Quality	Monthly		√	

\*Tassal Group Limited

Under the water reuse plan program Tassal intends to complete the required monitoring in October 2016 and annually thereafter unless otherwise required by the EPA.

**2.4.4.1. Plant Wastewater**

The facility generates most wastewater from three key sources; condensate arising from the dryer (48%); wash-down and bin washing (6.5%); and the reverse osmosis (RO) water purification plant (34.5% and other minor sources contribute about 4.3%). These streams combine at varying rates throughout the day in the water reuse dam, which is discussed in the next section. Plant wastewater is assessed on the basis of the quality of the water in the water reuse dam. However, in 2017/18 reporting there will be an analysis of the various wastewater streams.

The major contributor to wastewater quantity and quality is condensate from the dryer. RO wastewater is simply Rostrevor dam water with a modest increase in dissolved solids and natural organics carried in the dam water.

Recent water balancing has indicated that the facility uses about 65 to 70 kL per day of fresh water, largely supplying the RO unit feeding the plant boiler.



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**2.4.4.2. Reuse Water Quality**

Water quality for irrigation was not expected to exceed the following water quality parameter levels (specified in the water reuse plan):

Table 3: Irrigation water guideline values:

Quality	Unit
BOD	1,200 mg/L
pH	6.5 - 8
Suspended Solids	500 mg/L
Ammonia N	5 mg/L
Total N	15 mg/L
Total P	11 mg/L
Salinity	< 1,000uS/cm
Thermotolerant Coliforms	<1,000 per 100 ml

Preliminary indicative test results for the water reuse dam for BOD and COD for a sample taken on 2 June 2016 were 250 mg/l and 1100mg/l respectively indicated at the time that the water quality was comfortably within specification Appendix 1.

Tassal is reviewing treatment options for wastewater in order to ensure quality control is maintained of water delivered to and stored in the water reuse dam and applied through the irrigation scheme. The outcome of this will also be reported in subsequent annual reports.

**2.4.4.3. Groundwater**

A key component of the water reuse scheme is the monitoring of groundwater down gradient of the water reuse dam, one bore, and the irrigation area/s, two bores.

Bore installation was completed in February 2015 with the first round of monitoring and reporting in early March 2015, undertaken by Sloane Geoscience. These results and report are included in Appendix 2.

The EPA responded in correspondence dated 7 October 2015 (received 14 October 2015) at which time the plant commenced commissioning. Unfortunately a key point in the correspondence was an amendment to the groundwater monitoring frequency now required to be every 6 months for the foreseeable future rather than annually. This was inconsistent with the approved wastewater irrigation plan monitoring schedule; however this amendment has now been included in the current monitoring regime.

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The plant commenced using the water reuse dam in earnest in November 2015. Commencement of irrigation did not occur until February 2016 following the wettest January on record for Triabunna, having received 244mm of rain over the month.

The second round of monitoring is underway at the time of preparation of this report and the results will be included in the 2016/2017 annual report.

#### *2.4.4.1. Land Irrigation Monitoring*

Routine daily inspection of the irrigation area is conducted to ensure the soil is maintained in good condition not becoming water logged and there are no signs of runoff and significant ponding, particularly long term ponding.

Weather conditions are critical to decision making, whether to irrigate or not, and are evaluated on a daily basis and also the forecast in advance of unsuitable conditions.

Annual testing of soils will be undertaken in the 2017/18 reporting year and reported; however, observations currently are that the soil is in good health.

#### *2.4.5. Solid Waste Management*

General refuse arrangements are in place with Veolia Environmental Services (Veolia) for the collection and disposal of these wastes. All waste streams are disposed of at EPA approved facilities.

Veolia collected and appropriately disposed of approximately 10 tonnes of general rubbish from the facility in the reporting period to landfill. This accounts for the remaining waste generated by the Triabunna facility.

#### *2.4.6. Disposal of Fish Wastes*

Occasionally material is received that is not suitable for rendering. All unsuitable material is sent to Pure Living Soils Interlaken composting facility. Toxfree is responsible for the transport of fish waste for composting.

#### *2.4.7. Biosecurity*

Under condition G13 of the permit the facility is required to operate under a biosecurity management plan approved both by the EPA and the Chief Veterinary Officer within Biosecurity Tasmania. The 2015 approved document is the *Triabunna Rendering Facility Biosecurity Management Plan*.

This plan stipulates hygiene requirements, product and equipment segregation and handling to ensure potential pathogens are not transferred between equipment and vehicles returning to different biosecurity regions.

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#### *2.4.8. General*

##### *2.4.8.1. Incidents*

There have been no reportable incidents at the facility during the reporting period.

##### *2.4.8.2. Complaints*

A public complaints register is maintained by Tassal. There have been no recorded public complaints during the reporting period.

##### *2.4.8.3. Community Consultation*

Community consultation has been made with the two nearest neighbouring residences during the reporting period. No issues were raised during the reporting period.

##### *2.4.8.4. Recycling*

Given the small volumes of general waste generated and comingled recyclables available it is unlikely that recycling will be put in place at the Facility.

#### *2.4.9. Hazardous Materials Management*

All hazardous materials held at the facility are located within impervious bunded areas or spill trays that are designed to contain at least 110% of the volume of the largest container. Natural gas is stored in approved and licenced 'bullet' tanks.

The storage arrangements are subject to regular checks to ensure that they are in compliance with the prescriptions of the permit and statutory requirements. Spill kits are available at strategic locations and are easily accessible should the need arise to use them.

### **3. Legal and Other Requirements**

Tassal believes that in the course of conducting operations under the Permit the company has complied with all relevant legal and other obligations as stipulated and is operating within all relevant legislation.

Tassal is committed to sustainable business development and operational practice in all areas and in particular in environmental management. Tassal's 2016 Sustainability Report may be found at <http://www.tassal.com.au>.

### **4. Site Development and Environmental Improvements**

Under the permit, Tassal will progressively increase production at its facility; however production is not expected to exceed the current permit production limit.

Other aspects of the site operation that may have an environmental impact, such as odour management, the management of wastewater irrigation will continue to be well managed as approved and in consultation with Tassal's consultant agronomist and the property owner.

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## 5. Environmental Commitments

### 5.1. DPEMP Commitments

Tassal is committed to meeting the following commitments in the Development Proposal and Environmental Management Plan for the facility. Many of the commitments (1, 7, 9, 10, 12, 13, 14) have been met in undertaking construction of the facility.

Commitment 1 complete:

A part 5 Agreement has been registered on CT123536/2 and CT 38705/2 pursuant to Section 71 of the Land Use Planning Approvals Act 1993 to the effect that no sensitive uses can be established within the area marked by the redline on Figure 2 of the DPEMP.

Commitment 2 ongoing by farm management:

Stock grazed on pasture irrigated with recycled water will inspected and monitored in accordance with the Livestock Diseases Control Act 1994. Monitoring for produce will be described as part of the farm's food safety QA plan. The monitoring program will initially set as the alert level of 20 E.coli per gram of produce described in the AFFA Guidelines for On-Farm Safety for Fresh Produce.

Commitment 3 ongoing – advice has been given to farm management:

Livestock will be excluded from reuse water treatment and storage lagoons, channels and drains. Livestock grazing withholding period of 5 days applies of all land irrigated with class B recycled water

Commitment 4 ongoing:

Tassal environmental monitoring programmes of soils, ground water, livestock and plant health (farm management) as set out in Section 5.1 of the DPEMP are being undertaken.

Commitment 5 ongoing – irrigation areas prone to waterlogging are avoided:

The irrigation management plan for the site includes detailed consideration and management measures for any irrigation areas that may be prone to waterlogging.

Commitment 6 ongoing:

The annual surface water monitoring program will determine if any off site impacts are occurring from irrigation and practices will be modified accordingly.

Commitment 7 complete:

A post-commissioning noise survey will be provided by the operator to confirm compliance permit noise level limits.

Commitment 8 ongoing:

Tassal will revise this existing Farm Disease Management & Biosecurity Protocol document to incorporate specific measures for the new waste management facility including:

- Trucks entering and leaving the site will have been serviced by a vehicle wheel washer. Incomplete.
- Best practice in delivery of feedstock to ensure no external spillage of material. Ongoing practice.
- Site secure drainage of delivery areas and dispatch areas to capture any unforeseen spillage. Complete

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- All waste material to be transported to this facility for processing from other Tassal operations will be in enclosed tankers or bins, to prevent spillage enroute. Ongoing practice.
- All delivery tanks and bins are to be cleaned and disinfected after each use. Ongoing practice.

Commitment 9 complete:

If Aboriginal heritage is discovered during construction, works will cease immediately and AHT will be contacted immediately procedures followed in accordance with AHT's Unanticipated Discovery Plan.

Commitment 10 complete:

The proposed buildings are to be finished in muted tones to blend with the rural setting. Prior to issue of a Building Approval for the new buildings colour samples for the external finishes of the proposed buildings are to be provided to the satisfaction of the General Manager of Council.

Commitment 11 ongoing:

No heavy vehicle movements at night.

Commitment 12 complete:

The Sand River Road access to the Tasman Highway will be upgraded to accommodate a turning swept path sufficient to cater for 19 metre heavy vehicles prior to commencement of the use. Detailed drawings to Ausroads guidelines showing any alterations to the existing access geometry will be provided for the approval of DIER prior to construction.

Commitment 13 complete:

Sand River Road will be sealed for a distance of 30 metres from the edge of seal of the Tasman Highway.

Commitment 14 complete:

The highway pavement will be strengthened inclusive of 15 metres either side of the Sand River Road centreline to ensure the highway will not be damaged by turning heavy vehicles.

## 5.2. Additional Commitments for Reporting Period 2016/17

Tassal Triabunna rendering facility is committed to achieving environmental best practice, particularly in:

- Managing water reuse irrigation;
- Introducing appropriate technology and systems to pretreat factory wastewater prior to dam storage and reuse;
- management of putrescible and sludge wastes with appropriate approved disposal;
- ensuring biosecurity is managed in accordance with the approved plan; and
- ensuring no public complaints (such as related to odour and noise).

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## Appendix 1 – Monitoring Results

- (1) AST Water Reuse Dam Test Results BOD & COD
- (2) AST Rostrevor Dam and RO Results

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## **Appendix 2 Sloane Geoscience Bore Install & Monitoring**

*Report - Tassal Rostrevor Recycled Water Scheme Groundwater Monitoring Bore  
Installation & Initial Monitoring Event March 2015*

33 Pages

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**TASSAL OPERATIONS PTY LTD  
TRIABUNNA RENDERING FACILITY  
ANNUAL ENVIRONMENTAL REPORT  
June 2016 to July 2017**

Prepared by Deleeze Chetcuti  
Environmental Coordinator - Processing  
Tassal Operations Pty Ltd

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Final	6 Oct 2017	DC	Reviewed and signed	BD

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## Executive Statement

The activities undertaken at the Triabunna Rendering Facility (the Facility) are subject to the provisions of a land use planning permit, DA2014\_00001 (the Permit) issued by Glamorgan Spring Bay Council which contains an attached set of environmental conditions, issued by the Director, Environmental Protection Authority. The conditions form the basis for environmental management of the facility and for compliance against the Tasmanian legislative framework. The content of this report is to address the reporting requirements within EPN 9015 issued under the Permit.

As required under the Permit, the Annual Environmental Report 2017 has been prepared for the facility for the period from 1 July 2016 to 30 June 2017 and I hereby acknowledge its contents.

The report contains an overview of environmental management, a summary of monitoring and compliance in accordance with the permit, and proposed improvement activities to be undertaken by Tassal at the Facility.

This report is available to the public and a copy will be provided on request.

Ben Daley  
Head of Supply Chain and Commercial Services – Tassal

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## 1. Introduction

Tassal is required to prepare an Annual Environmental Report in accordance with environmental Condition G7 of Land Use Planning Permit, DA2014\_00001 (the Permit) issued by Glamorgan Spring Bay Council for the Triabunna Rendering Facility, 8731 Tasman Highway Triabunna (the Facility). The facility produces high quality salmon fish meal and oil.

The Permit contains a set of comprehensive environmental conditions issued by the Environmental Protection Authority that the Facility must operate under and comply with.

This report is for the reporting period July 2016 to June 2017, and summarises all monitoring data collated in relation to the Facility and compliance with the Permit. The report also includes information regarding the following

- Changes to operations;
- Development initiatives and projected plans;
- Quantities of waste produced and waste management;
- Matters relating to any public complaints received; and
- Community consultation undertaken for the reporting period.

The rendering facility was constructed on a 'green field' site following approval of the development on 14 March 2014. Commissioning commenced on 14 October 2015.

The key environmental issues for facility operations are fish waste management, wastewater management, irrigation of reuse water and odour management.

The above is discussed in more detail in the report.

## 2. Operational Summary

### 2.1. *Maximum Quantities and Production*

The permit allows the processing of 20,000 tonnes of fish by-product (waste) annually at a maximum rate of 4,999 kg per hour. During the reporting period the Facility processed 14 710 tonnes of fish by-product and the plant is currently operating at 2043 kgs per hour.

The facility produced 1467 tonnes of fish meal product and 2494 tonnes of fish oil product for the 2016-2017 Financial Year (reporting period).

### 2.2. *The Rendering Facility*

The construction of a new rendering plant on a greenfield site on the property, Rostrevor, Triabunna was completed in September 2015 and the production of fish meal and oil commenced in October 2015.

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The Facility is accessed by a road from the main property boundary on the Tasman Highway and occupies approximately 2 hectares at 8731 Tasman Highway with the rendering plant housed in a building of approximately 3,000m<sup>2</sup> with attached office, and amenities, and is surrounded by a large hardstand area.

Semi-trailer vehicles delivering plant feedstock access and egress the building via large roller doors on either side. Dispatch is via a separate side roller door on the northern side of the building.

A private water storage, Rostrevor Dam, approximately 600m to the south-east supplies fresh water to the facility.

The building (rendering plant room) is negatively pressurised to avoid fugitive emissions. Fumes are drawn under negative pressure from the building into a purpose built biofilter at the rear of the building that scrubs odours.

The Facility also has a water reuse storage dam (Irrigation Dam) of approximately 21ML capacity and pump house to the south of the building and associated hardstand. Irrigation is conducted from the reuse dam on two irrigation sites on the Rostrevor property east of the highway under a water reuse plan, *Development Proposal & Environmental Management Plan for the Irrigation of Treated Wastewater on Land - Rostrevor Triabunna. 2013* (Irrigation Plan) approved under the Permit.

### 2.3. The Rendering Operation and Feedstock

Atlantic Salmon by-products from processing sites undergo the rendering process to produce fish meal and fish oil. Feed materials include solid fish remnants and liquid (pumpable) viscera or 'guts'. Solids include skins, trims, frames and heads and are stored in a large chiller room until required. Guts are delivered by tanker and pumped directly into a feed tank.

The key processes in the rendering operation are;

- Blending of the feed materials;
- Grinding to a uniform size for effective pre-heating;
- Cooking under steam;
- Separation of the solid and liquid materials;
- The wet solids are dried in a drier and the water evaporated to retrieve residual protein;
- The dry product is milled for meal; and
- Polishing of the oil retrieved in the cooking process.

The evaporated water from the cooking process is condensed in the condenser and directed to the water reuse dam of later irrigation.

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Materials received and processed for FY16/17 are:

Table 1: Fish Materials received FY16/17

Fish Material	Tonnes	Destination
Solids – Heads Frames, Trims, Skins	7442	Rendered product
	377	Compost
Viscera	7268	Rendered product
	871	Compost
Mortalities	161	Rendered product
		Compost

Where quality control dictates, fish material received are either rendered or transported to a licenced composting facility.

#### 2.4. Environmental Management

Environmental management at the Facility prescribed by the conditions outlined in Environmental Protection Notice No.9015 contained within the Permit for the Facility. Environmental management activities are coordinated by the Environmental Coordinator for Tassal’s processing facilities. The Environmental Coordinator works closely with operational personnel to ensure compliance activities and responsibilities are communicated and actioned.

##### 2.4.1. Noise

The requirements of condition N2 of the Permit noise survey requirements have been met and a report submitted to the EPA on 13 Jan 2016. The outcome of this survey was that noise emissions have no impact off site, particularly on the Tasman Highway or on the few residences within 1.5km radius. No complaints relating to noise have been received for the Facility.

##### 2.4.2. Odour

An engineered biofilter has been commissioned at the Facility to scrub odours compounds from odorous factory air.

As per condition A2 of the permit, a survey of odour sources associated with the facility was conducted in accordance with any requirements of the Director, Environment Protection Authority. The survey included assessment of the water reuse storage dam, irrigation area, and rendering plant biofilter. The survey report was submitted to the EPA.

Condition A4 was also met, with revised odour modelling prior to installation of plant and further testing and modelling was conducted post commissioning by Assured Monitoring Group Pty Ltd, this was submitted to the EPA as required.

During the reporting period two complaints were received concerning odour from the Facility. Notification of the complaints was provided to the EPA. The source of the odour was identified as the Irrigation Dam. The Dam was subsequently treated with a lime slurry and aerators were installed to

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improve water quality. The treatment measures were successful in reducing the odour levels from the Dam.

*2.4.3. Wastewater Reuse*

Tassal operates a water reuse scheme under an Irrigation Management Plan approved under condition E5 of the permit. This scheme allows for the controlled irrigation of factory water using a pivot irrigator, which can be moved between two areas covering 15ha and 27ha respectively. The system including dam storage capacity is designed for a 1:10 year rain period. The Irrigation Management Plan specifies predicted irrigation loads per month, seasonal variation, and ideal storage dam levels throughout the year. The plan also details land management practices for the irrigation area. In September 2016, the EPA granted approval for the interim use of a second irrigation area of 27.4 ha to allow for the management of high volumes rainfall received at the Facility.

From July 2016 to June 2017 a total of 15.2 ML of water was irrigated onto Irrigation Area 1 and 23.7 ML onto Irrigation Area 2. Irrigation rates for the reporting period are contained in Appendix 1.

The annual irrigation audit has been commissioned to be undertaken in October 2017.

*2.4.4. Monitoring*

In December 2016 monitoring requirements for the Facility were revised by the EPA as part of the approval for the second irrigation area. The monitoring requirements are listed in Table 2 below.

Table 2: Revised Monitoring Regime

Sampling Location	Frequency of Sampling	Parameters to be Tested
All wastewater streams exiting the plant, but prior to their entry into the irrigation dam	Weekly	Thermotolerant Coliforms
Grab sample of reuse water from the irrigation dam	Weekly	pH, conductivity, TSS, adjusted SAR, total ammonia nitrogen, total nitrogen, total phosphorus, BOD <sub>5</sub> , thermotolerant coliforms
In the creek flowing past the active irrigation area into Rostrevor Dam at the following points: <ol style="list-style-type: none"> <li>1. Approximately 10 metres upstream from the point where surface water runoff from the active irrigation area first enters the creek.</li> <li>2. Approximately 10 metres downstream from the point from the point where surface water runoff from the active irrigation area last enters the creek.</li> </ol>	Monthly, commencing in January 2017, when there is runoff from the active irrigation area and sufficient water flow in the creek to enable sampling.	Thermotolerant coliforms, total ammonia nitrogen, total nitrogen, total phosphorus.

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3. Approximately 1 metre upstream of where the creek enters Rostrevor Dam.		
Water supplied to the plant from Rostrevor Dam	Monthly	Thermotolerant coliforms, total ammonia nitrogen, total phosphorus, conductivity
Active designated irrigation areas	Weekly individual totals for each of the designated irrigation areas to which the reuse water was applied.	kL/ha/week
Soil Chemical Analysis	Annual	As defined in the Irrigation Management Plan
Groundwater Analysis	6 Months	As defined in the Irrigation Management Plan

Tassal has fulfilled the requirements of the revised monitoring regime with some minor discrepancies to which the EPA has been made aware of. Monitoring results are provided in Appendix 3 to 5. Comparison of monitoring for the reporting period with past monitoring cannot be made as irrigation at the Facility and associated monitoring only commenced during the reporting period.

*2.4.4.1. Plant Wastewater*

Processing at the Facility uses about 65 to 70 kL per day of fresh water, largely supplying the RO unit feeding the plant boiler. Wastewater is generated from three key sources; condensate arising from the dryer (48%); wash-down and bin washing (10%); and the reverse osmosis (RO) water purification plant (34.5%) and other minor sources including the biofilter and cooling tower. The configuration of plant equipment differs from what was described in the approved DPMP. An updated Reuse Water Management Plan and Irrigation Management Plan is being developed to reflect current operations and to provide procedures to ensure ongoing compliance.

Plant wastewater is assessed based on the quality of the water in the water reuse dam. Individual wastewater source quality is currently being monitored and investigated. The results of the investigation will contribute to the review and update of the Reuse Water Management Plan as well as the Irrigation Management Plan. Both Plans will be submitted to the EPA for review and approval.

*2.4.4.2. Reuse Water Quality*

Table 3 lists the anticipated water quality for irrigation which are contained in the Irrigation Management Plan:



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Table 3: Irrigation water guideline values:

Quality	Unit
BOD	1,200 mg/L
pH	6.5 - 8
Suspended Solids	500 mg/L
Ammonia N	5 mg/L
Total N	15 mg/L
Total P	11 mg/L
Salinity	< 1,000uS/cm
Thermotolerant Coliforms	<1,000 per 100 ml

Monitoring results show that the Irrigation Dam water quality is not consistent with the above values. Tassal has engaged a consultant specialising in wastewater management to investigate and recommend treatment options to improve the reuse water quality. This work is being undertaken in consultation with the EPA.

#### 2.4.4.3. Groundwater

A key component of the water reuse scheme is the monitoring of groundwater down gradient of the water reuse dam and the irrigation areas.

Bore installation was completed in February 2015 with the first round of monitoring and reporting in early March 2015, undertaken by Sloane Geoscience.

The plant commenced using the water reuse dam in November 2015, commencement of irrigation did not occur until February 2016. The second round of groundwater monitoring was conducted in September 2016 the report and results are contained in Appendix 5. The report for the September 2016 monitoring concluded that there was no obvious evidence to suggest that groundwater quality has been impacted by any leakage from the Irrigation Dam or from reuse water irrigation infiltration. Macquarie Franklin performed the subsequent groundwater monitoring in September 2017 and have been commissioned to install two additional monitoring bores for Irrigation Area 2.

#### 2.4.4.4. Land Irrigation Monitoring

Routine daily inspection of the irrigation area is conducted to ensure the soil is maintained in good condition not becoming water logged and there are no signs of runoff and significant ponding, particularly long term ponding.

Soil samples were collected for analysis in September 2017 and an irrigation audit is being conducted in October 2017. Soil moisture loggers and associated telemetry are being installed in October 2017.

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#### 2.4.5. *Solid Waste Management*

General refuse arrangements are in place with Veolia Environmental Services (Veolia) for the collection and disposal of these wastes. All waste streams are disposed of at EPA approved facilities.

Veolia collect and dispose approximately 1 tonne per week of general rubbish from the facility in the reporting period to landfill. This accounts for the remaining waste generated by the Triabunna facility.

#### 2.4.6. *Disposal of Fish Wastes*

Occasionally material is received that is not suitable for rendering. All unsuitable material is sent to Pure Living Soils Interlaken composting facility. Toxfree is responsible for the transport of fish waste for composting.

#### 2.4.7. *Biosecurity*

Under condition G13 of the permit the facility is required to operate under a biosecurity management plan approved both by the EPA and the Chief Veterinary Officer within Biosecurity Tasmania. The 2015 approved document is the *Triabunna Rendering Facility Biosecurity Management Plan*.

This plan stipulates hygiene requirements, product and equipment segregation and handling to ensure potential pathogens are not transferred between equipment and vehicles returning to different biosecurity regions. A review and update of the Plan is scheduled for 2018.

#### 2.4.8. *General*

##### 2.4.8.1. *Procedural and Process Changes in personnel*

In January the operations manager for the Facility left Tassal and was replaced by a new manager who has extensive experience with the rendering process. There has also been a personnel change for the role of Environmental Coordinator for Processing. Additionally, the role of Environmental Coordinator now sits within the Tassal Sustainability Department with the objective of increasing focus on environmental management at the processing facilities and utilising synergies within the Department.

##### 2.4.8.2. *Incidents*

There have been no reportable incidents at the facility during the reporting period.

##### 2.4.8.3. *Complaints*

A public complaints register is maintained by Tassal. Two complaints were received in the reporting period and recorded on the register. The complaints were regarding odour from the Facility and are detailed in Section 2.4.2.

##### 2.4.8.4. *Community Consultation*

Tassal undertakes ongoing community consultation in the broader Triabunna area and frequent communication is maintained with the two nearest neighbouring residences.

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*2.4.8.5. Recycling*

Given the small volumes of general waste generated and comingled recyclables available it is unlikely that recycling will be put in place at the Facility.

*2.4.9. Hazardous Materials Management*

All hazardous materials held at the facility are located within suitably bunded areas that are designed to contain at least 110% of the volume of the largest container. Natural gas is stored in approved and licenced tanks. A sufficient number of spill kits are maintained and available at appropriate locations throughout the Facility.

Regular workplace inspections are undertaken to ensure all hazardous materials are stored correctly and to identify and address potential issues.

**3. Legal and Other Requirements**

Tassal believes that in the course of conducting operations under the Permit the company has complied with all relevant legal and other obligations.

Tassal is committed to sustainable business development and operational practice, Tassal's 2017 Sustainability Report may be found at <http://www.tassal.com.au>.

**4. Site Development and Environmental Improvements**

An upgrade of plant equipment is currently being undertaken at the Facility. The upgrade is expected to improve water use and wastewater quality. An environmental risk assessment will be undertaken to ensure all potential environmental impacts are identified and managed.

Tassal has commissioned Macquarie Franklin to conduct a full review and update of the Irrigation Management Plan for the Facility. A Water Management Plan will also be developed for submission to the EPA. The objective of the Wastewater Management Plan is to provide the Facility with operational procedures that ensure compliance with Permit conditions and the Irrigation Management Plan as well as to promote responsible and efficient water use.

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## 5. Environmental Commitments

### 5.1. Outstanding and ongoing DPEMP Commitments

**Commitment 2 ongoing by farm management:**

Stock grazed on pasture irrigated with recycled water will be inspected and monitored in accordance with the Livestock Diseases Control Act 1994. Monitoring for produce will be described as part of the farm's food safety QA plan. The monitoring program will initially be set as the alert level of 20 E.coli per gram of produce described in the AFFA Guidelines for On-Farm Safety for Fresh Produce.

**Commitment 3 ongoing – advice has been given to farm management:**

Livestock will be excluded from reuse water treatment and storage lagoons, channels and drains. Livestock grazing withholding period of 5 days applies to all land irrigated with class B recycled water.

**Commitment 4 ongoing:**

Tassal environmental monitoring programmes of soils, ground water, livestock and plant health (farm management) as set out in Section 5.1 of the DPEMP are being undertaken.

**Commitment 5 ongoing – irrigation areas prone to waterlogging are avoided:**

The irrigation management plan for the site includes detailed consideration and management measures for any irrigation areas that may be prone to waterlogging.

**Commitment 6 ongoing:**

The annual surface water monitoring program will determine if any off site impacts are occurring from irrigation and practices will be modified accordingly.

**Commitment 8 ongoing:**

Tassal revised the Farm Disease Management & Biosecurity Protocol document for the Facility to incorporate specific measures outlined by the EPA. Compliance with the Protocol is ongoing.

**Commitment 11 ongoing:**

No heavy vehicle movements at night.

### 5.2. Commitments from previous Reporting Period

- Managing water reuse irrigation;  
Ongoing in accordance with the Irrigation Management Plan.
- Introducing appropriate technology and systems to pre-treat factory wastewater prior to dam storage and reuse;  
Partially complete. Operational practices were amended which resulted in improved wastewater quality.
- Management of putrescible and sludge wastes with appropriate approved disposal;

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Complete and ongoing. Putrescible and sludge wastes are removed by XX and transported to an approved disposal facility.

- Ensuring biosecurity is managed in accordance with the approved plan;  
Ongoing

- Ensuring no public complaints (such as related to odour and noise).

Incomplete. Two complaints were received. The complaints were managed and resolved. See Section 2.4.2 for details.

*5.3. Commitments for Reporting Period 2017/18*

- Assess wastewater management at the Facility and develop a Wastewater Management Plan and a revised Irrigation Management Plan that reflects current operations and ensures ongoing compliance.
- Manage wastewater and irrigation in accordance with the respective Plans;
- Identify and assess wastewater treatment options to improved improve reuse water quality;
- Ensuring no public complaints;
- Ensuring biosecurity is managed in accordance with the approved plan; and
- Management of putrescible and sludge wastes with appropriate approved disposal.

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Appendix 1 - Irrigation rates July 2016 – June 2017

Week	Irrigation Rate Area 1 (kL/wk/ha)	Irrigation Rate Area 2 (kL/wk/ha)
26 July - 1 Aug	79	No irrigation
2 Aug - 8 Aug	22	
9 Aug - 15 Aug	31	
16 Aug - 29 Aug	114	
23 Aug - 29 Aug	112	
30 Aug - 5 Sep	81	
6 Sep - 12 Sep	67	
13 Sep - 19 Sep	No irrigation	64
20 Sep - 26 Sep		52
27 Sep - 3 Oct		59
4 Oct - 10 Oct		73
11 Oct - 17 Oct		122
18 Oct - 24 Oct		93
25 Oct - 31 Oct		43
1 Nov - 7 Nov		168
8 Nov - 14 Nov		67
15 Nov - 21 Nov		65
22 Nov - 28 Nov		88
29 Nov - 4 Dec		98
5 Dec - 12 Dec	78	No irrigation
13 Dec - 19 Dec	139	
20 Dec - 26 Dec	93	
27 Dec - 4 Jan	37	
5 Jan - 11 Jan	121	
12 Jan - 18 Jan	148	
19 Jan - 25 Jan	72	
26 Jan - 1 Feb	231	
2 Feb - 8 Feb	167	
9 Feb - 14 Feb	96	
15 Feb - 21 Feb	No irrigation	86
22 Feb - 28 Feb		126
1 Mar - 7 Mar		53
8 Mar- 14 Mar		101.6733
15 Mar - 21 Mar		113.8742
22 Mar - 28 Mar*		59

\*No further irrigation was undertaken from 28 March 2017

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Appendix 3 - Irrigation Dam Monitoring Results

Date	pH	Conductivity uS/cm	TSS mg/L	SAR	Adjusted SAR	HCO <sub>3</sub> (mg/L)	Ammonia (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	TKN (mg/L)	Total N (mg/L)	Total P (mg/L)	Total Ca (mg/L)	Total Mg (mg/L)	Total Na (mg/L)	BOD (mg/L)	Thermotolerant Coliforms orgs/100ml
	6.5-8.0	>1000	500			5	15	11							50	1000	
19/08/2016	7.5	3790	146	5.54			350	0.02	0.005	360	360	20	21	43	192	920	11000
8/09/2016	7.3	3660	148	5.08			340	0.005	0.005	360	360.01	23	27.7	41.6	181	640	7000
13/09/2016	7.5	3720	152	4.91			320	0.005	0.005	330	330.01	22	31.2	42.8	180	620	15000
23/09/2016	7.5	3540	272	4.62			300	0.02	0.02	330	330.2	19	41.9	44.5	180	470	11000
29/09/2016	7.6	3520	240	4.43			310	0.02	0.02	320	320.2	21	43.3	42.8	172	350	9100
5/10/2016	7.5	3280	152	4.21			230	0.02	0.02	240	240.04	17	43.8	40.3	161	420	2800
14/10/2016	8.6	2940	119	4.23			270	0.02	0.02	270	270.04	18	48.4	40.3	165	350	3100
19/10/2016	8.4	3150	106	3.64			270	0.04	0.04	270	270.08	14	79	38.6	158	270	1600
26/10/2016	8.1	3200	99	3.64			240	0.04	0.04	250	250.08	12	79.7	39.5	159	260	2800
3/11/2016	8	3180	76	3.79			250	0.04	0.04	270	270.08	13	82	41	169	330	6200
10/11/2016	7.8	3030	72	3.65			240	0.04	0.04	250	250.08	12	81	39	160	300	8000
16/11/2016	7.8	2950	68	3.6			230	0.04	0.04	230	230.08	12	78	39	156	190	8200
24/11/2016	7.7	3010	66	3.83			220	0.04	0.04	230	230.08	12	78	39.6	166	260	5500
30/11/2016	7.8	2980	74	3.82			220	0.04	0.04	230	230.08	12	75	39	163	210	5700
8/12/2016	7.9	2980	212	3.89			220	0.04	0.04	220	220.08	12	86	40	174	130	11000
15/12/2016	7.9	3040	73	3.9			230	0.04	0.04	230	230.08	12	80	42.3	173	85	19000
22/12/2016	7.9	3010	156	3.77	4.92	1050	210	0.04	0.04	230	230	11	83.6	44.5	171	13000	
4/01/2017	7.9	2930	108	4.09	5.32	1030	200	0.011	0	210	210	11	76	41.3	178	50	6100
11/01/2017	8.1	2850	150	4.43	5.76	988	180	0.057	0	210	210	8.8	80	43.4	198	22	8600
18/01/2017	8.3	2750	228	4.09	5.28	915	170	0.053	0	190	190	6.8	78	43.7	182	47	820
25/01/2017	8	2720	260	4.25	5.45	853	160	0.04	0	180	180	7.4	75	42.6	186	200	4300
1/02/2017	8	2690	284	4.43	5.64	870	150	0.022	0	180	180	8.4	75	44.5	196	170	54000
8/02/2017	7.9	2740	316	4.28	5.50	859	150	0.04	0	180	180	10	78	45.6	193	72	14000
15/02/2017	7.9	2730	328	4.48	5.70	825	150	0.011	0	170	170	11	80	46.9	204	140	64000
22/02/2017	7.8	2650	392	4.27	5.50	823	78	0.02	0	180	180	12	75	45	189	170	26000
1/03/2017	7.7	2680	410	4.07	5.18	803	140	0.056	0	180	180	11	70	41.7	174	180	22000
8/03/2017	7.9	2740	336	4.41	5.63	848	150	0.04	0	190	190	12	77	45.8	198	110	29000
15/03/2017	8	2870	412	4.37	5.61	903	170	0.026	0	200	200	10	77	44.5	195	310	42000
22/03/2017	7.3	3050	345	4.88	6.00	890	180	0.04	0	220	220	11	65	47.2	212	400	90000
29/03/2017	7.5	3000	220	5.34	6.51	915	160	0.01	0	190	190	10	67.6	52.2	240	240	41000
5/04/2017	7.6	3020	192	4.91	5.99	892	160	0.001	0	170	170	10	66.6	50.4	218	230	11000
11/04/2017	7.4	2920	164	5.51	6.78	819	140	0.01	0	170	170	9.1	71.1	53.7	253		5600
19/04/2017	7.8	2880	228	5.46	6.72	747	120	0.057	0	130	130	5.1	77.4	54.5	257	19	
27/04/2017	7.8	2850	174	5.38	6.56	757	120	0.021	0	130	130	5.9	69.7	52.6	244	100	50000
25/05/2017	8.1	2760	356	5.67	6.91	831	140	0.011	0	160	160	7.1	65.8	49.1	250	180	59000
19/07/2017	7.8	2480	240	5.25	6.13	777	130	0.028	0	160	160	3.8	45.1	42	204	100	1500
28/07/2017	7.9	2600	230	4.95	5.74	750	130	0.088	0	160	160	3.4	46.3	43.7	195	86	1400
31/07/2017	7.8	2640	152	5.08	5.93	766	140	0.039	0	170	170	2	47.6	43.5	201	51	900
9/08/2017	7.9	2650	112	5.68	6.50	752	130	1.6	0	150	150	4.6	45.3	48.8	231	67	800
17/08/2017	7.8	2630	128	5.1	5.97	838	140	0.013	0	150	150	5.8	48.2	46.4	207	84	530
23/08/2017	7.6	2650	106	5.05	5.92	821	140	0.14	0	150	150	5.1	48.9	46	205	110	340

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Appendix 4 - Rostrevor Dam Monitoring Results

Date	pH	Conductivity uS/cm	TSS mg/L	HCO <sub>3</sub> (mg/L)	Ammonia (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	TKN (mg/L)	Total N (mg/L)	Total P (mg/L)	Total Ca (mg/L)	Total Mg (mg/L)	Total Na (mg/L)	Thermotolerant Coliforms orgs/100ml
6/06/2016	8	857		2	0.061	0.34				0.1	21	25.7	102	
3/08/2016	7.8	817	6		0.032	0.25	0.008	1.5		0.09	19.6	23.3	90.3	
23/08/2016	7.9	869	3		0.035	0.13	0.007	2.3		0.09	21.4	24.4	94.4	
1/02/2017	7.8	992	7	94	0.007	0.097		180	1.3	0.06	23.9	29.3	117	<10
28/02/2017	8.1	1070	2	100	0.015	0.04	0.002	1.3	1.3	0.03	24.7	29.7	117	<10
29/03/2017	7.8	1130	7	119	0.009	0.094	0.096	1.2	1.3	0.05	27.5	32.4	134	<10
26/04/2017	7.9	1170	2	116	0.008	0.17	0.01	1.3	1.4	0.04	29.1	34.2	137	<10
1/08/2017	7.7	1210	4	119	0.005	0.15	0.002	1.2	1.4	0.03	29.7	33.4	126	<10

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Appendix 5 - Groundwater monitoring report 2016

*Report - Tassal Rostrevor Recycled Water Scheme September 2016 Groundwater Monitoring Event and Groundwater Monitoring Plan Extension.*

32 Pages

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Leading Seafood in Australia

# **TASSAL OPERATIONS PTY LTD TRIABUNNA FISH RENDERING FACILITY**

## **ANNUAL ENVIRONMENTAL REVIEW July 2017 to June 2018**

RTI - DL - RELEASED - EPA

Prepared by Deleeze Chetcuti  
Environmental Coordinator – Processing  
Tassal Operations Pty Ltd

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**Document Status**

<b>Revision</b>	<b>Date</b>	<b>Author</b>	<b>Comments</b>	<b>Approved</b>
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## Appendices

Appendix 1  
Irrigation Dam Water Quality Results (July 2017 to June 2018)

Appendix 2  
Macquarie Franklin (2017) *2017 Annual Soil Monitoring and Compliance Auditing Report: Triabunna Effluent Recycled Water Scheme*

Appendix 3  
Macquarie Franklin (2017) *2017 Groundwater Monitoring Report: Triabunna Effluent Recycled Water Scheme*

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## Executive Statement

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The activities undertaken at Tassal Operations Pty Ltd (Tassal) Triabunna Fish Processing Facility (the Facility) are subject to Permit Conditions – Environmental (PCE) No. 9015 as contained in Permit DA 2014/00001, issued by Glamorgan Spring Bay Council on 12 March 2014.

The conditions form the basis for environmental management for all activities at the Facility and ensure its compliance with Tasmanian legislation, and state and national guidelines.

Protecting, conserving and enhancing the environment for current and future generations is a high priority for our company and fundamental to the long-term sustainability of the farming industry.

Tassal is pleased to submit this Annual Environmental Review for the period 1 January to 31 December 2017, and I hereby acknowledge its contents.

This report is available to the public and copies will be provided upon request.



Ben Daley  
Head of Supply Chain and Commercial Services  
Tassal Operations Pty Ltd

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## Section 1: Introduction

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Each year Tassal Operations Pty Ltd (Tassal) undertakes an Annual Environmental Review of the Triabunna Fish Rendering Facility (the Facility) for submission to the Director, Environment Protection Authority (EPA) in accordance with Condition G11 of Permit DA 2014/00001 (the Permit) for the Facility.

The Annual Environmental Review is required to be submitted to the EPA within 3 months of the end of the reporting period. The reporting period for the Facility is 1 July 2017 to 30 June 2018.

Condition G11 requires the Annual Environmental Review address:

- complaints;
- environment-related procedural or process changes;
- solid and liquid wastes produced, and treatment methods implemented;
- non-trivial environmental incidents;
- monitoring data;
- breaches of limits;
- any issues that must be addressed to improve compliance with these conditions;
- fulfilment of any environmental commitments made;
- community consultation and communication undertaken; and
- proposed changes to the activity in the next 12 months.

The above items are addressed in turn in this report.

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## Section 2: EPN and Activity Details

### 2.1 EPN Holder

Person Responsible: Mr Mark Ryan, Managing Director and Chief Executive Officer  
Trading Name: Tassal Operations Pty Ltd  
ACN Number: 106 324 127  
Address: GPO Box 1645  
Hobart Tasmania 7001

### 2.2 Activity to which this Report Relates

Permit Number	DA 2014/00001
Date of Issue	12 March 2014
Activity Description	Operation of a fish rendering factory
Activity Name	Triabunna Fish Rendering Facility
Activity Address	8731 Tasman Highway, Triabunna, Tasmania 7190
Contact Person	Deleeze Chetcuti, Environmental Coordinator - Processing

### 2.3 Description of the Activity

The Facility produces fish meal and fish oil through the rendering of Atlantic Salmon by-products from Tassal's fish processing factories. Feed materials include solid fish remnants and liquid (pumpable) viscera or 'guts'. Solids include skins, trims, frames and heads and are stored in a large chiller room until required. Guts are delivered by tanker and pumped directly into a feed tank.

The key processes in the rendering operation are:

- Blending of the feed materials;
- Grinding to a uniform size for effective pre-heating;
- Cooking under steam;
- Separation of the solid and liquid materials;
- The wet solids are dried in a drier and the water evaporated to retrieve residual protein;
- The dry product is milled for meal; and
- Polishing of the oil retrieved in the cooking process.

The Facility is accessed by a road from the main property boundary on the Tasman Highway and occupies approximately 2 hectares at 8731 Tasman Highway. The rendering plant is housed in a building of approximately 3,000m<sup>2</sup> with an attached office, and amenities, and is surrounded by a large hardstand area.

Semi-trailer vehicles delivering plant feedstock access and egress the building via large roller doors on either side. Dispatch is via a separate roller door on the northern side of the building.

The building (rendering plant room) is negatively pressurised to avoid fugitive emissions. Fumes are drawn under negative pressure from the building into a purpose built biofilter that scrubs odours. The biofilter is located at the rear of the building. Water for the rendering process is stored in Rostrevor Dam, a private dam located approximately 600m to the south-east of the Facility.

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The evaporated water from the cooking process is condensed in the condenser and directed to the water reuse dam (Irrigation Dam) with a capacity of 21 ML, from which water is used for irrigation.

In April 2018 a disinfection system was commissioned to treat the reuse water prior to irrigation. Irrigation is undertaken on two irrigation sites on the property east of the Tasman Highway, in accordance with an approved Irrigation Management Plan.

**2.4 Regulatory Limit for Production**

The Permit allows the processing of 20,000 tonnes of fish by-product annually at a maximum rate of 4,999 kg per hour. During the reporting period the Facility processed 13,178 tonnes of fish by-product and the plant is currently operating at 1830 kg per hour. This is less than the previous reporting period during which the facility processed 14,710 tonnes of fish by-product and operated at 2,043 kg per hour.

The facility produced 1687 tonnes of fish meal product and 2747 tonnes of fish oil product for the 2017-2018 Financial Year (reporting period).

Materials received and processed for FY17/18 are summarised in Table 1 below.

**Table 1: Fish Materials received FY17/18**

Fish Material	Tonnes	Destination
Solids – Heads Frames, Trims, Skins	6236	Rendered product
	594	Compost
Viscera	6942	Rendered product
	800	Compost

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## **Section 3: Environmental Management and Monitoring**

Environmental management and monitoring at the Facility is coordinated by the Environmental Coordinator – Processing, in accordance with the Permit conditions.

The Environmental Coordinator – Processing works closely with operational personnel to ensure compliance activities and responsibilities are communicated and actioned.

Management and/or monitoring of the following environmental aspects at the Facility are addressed below:

- Biosecurity
- Odour
- Wastewater and irrigation
- Hazardous Substances
- Noise
- Fish waste management
- Waste

### **3.1 Biosecurity**

Under condition G13 of the permit the facility is required to operate under a biosecurity management plan approved both by the EPA and the Chief Veterinary Officer within Biosecurity Tasmania. In 2015 the EPA approved the, *Triabunna Rendering Facility Biosecurity Management Plan*.

This plan stipulates hygiene requirements, product and equipment segregation and handling to ensure potential pathogens are not transferred between equipment and vehicles returning to different biosecurity regions.

Permit MH 18-01 issued to Tassal under Section 37 of the *Animal Health Act 1995* for the movement of fish and fish products (Rainbow trout and Atlantic Salmon) within Tasmania was amended to restrict Macquarie Harbour fish being transported to the Rendering Facility.

In January 2018 the EPA granted Tassal approval to install and operate a maceration system for fish by-product deemed unsuitable for the rendering process. A requirement of the approval was the submission of a revised Biosecurity Management Plan. A preliminary Biosecurity Management Plan was submitted to the EPA which encompasses the use and operation of the macerator. Tassal is currently in the process of conducting a business wide biosecurity management review in consultation with Biosecurity Tasmania. A revised Biosecurity Management Plan for the Triabunna Facility will be developed to incorporate findings and recommendations of the review. Representatives from Biosecurity Tasmania visited the Rendering Facility in July 2018. No concerns were raised.

### **3.2 Odour**

Conditions A1 to A4 of the Permit define the odour emission limits for the Facility as well as associated monitoring and modelling requirements.

During the reporting period complaints were received from a nearby resident regarding the odour emissions from the Facility (see Section 4.2 below for additional details). Tassal sought specialist advice as to the appropriate course of action.

In March 2018 Tassal took odour samples from the biofilter which indicated that the biofilter was not operating to design. Tassal commissioned The Odour Unit (biofilter

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consultancy) to provide advice and coordinate the refurbishment of the biofilter. The air pressure of the vents directing airflow to the biofilter was adjusted and the biofilter medium was turned and replenished.

Tassal engaged Dr Steven Carter of Environmental Dynamics to conduct odour monitoring following refurbishment of the biofilter. The results showed the biofilter had returned to operating at 90% of its design capacity. The monitoring results were used by Dr Steve Carter to model odour dispersion at the Facility. Modelling outcomes demonstrated general compliance with regulatory limits.

Tassal has continued to review odour emissions and assess additional mitigation options at the Facility. Both the monitoring results and the draft odour modelling report have been submitted to the EPA for review and comment.

### 3.3 Wastewater and Irrigation

Tassal operates a water reuse scheme in accordance with an Irrigation Management Plan approved under condition E5 of the Permit. The scheme allows the controlled irrigation of fodder crops using wastewater generated by the Facility. All wastewater streams report to a reuse dam (Irrigation Dam) prior to its use for irrigation. A pivot irrigator is used to irrigate two areas (Area 1 and Area 2) covering 15 ha each. The system, including the storage capacity of the dam, is designed for a 1:10 year rainfall event.

The reuse water quality does not meet the expected values as initially assessed in the approved Irrigation Management Plan. In September 2017, Tassal engaged Macquarie Franklin to develop an interim Irrigation Management Plan for submission to the EPA. The interim Plan allows irrigation with the water stored in the Irrigation Dam.

In December 2017 coliform levels of the reuse dam exceeded the approved limit of 1000 orgs/100ml. Irrigation ceased while Tassal progressed the design, approval and commissioning of disinfection system to treat the irrigation water. The disinfection system was approved by the EPA and commissioned in May 2018.

The interim Irrigation Management Plan was updated to include the operation of the disinfection system and the use of a second irrigation area until 18 November 2018. Two soil moisture monitoring probes were installed at the irrigation sites. This has provided access to real time soil moisture data.

A total of 841kL of reuse water was used to irrigate Area 1 and 225kL to irrigate Area 2 during the reporting period. The 2018 annual irrigation audit has been commissioned to be undertaken in October 2018 and will be submitted to the EPA for review and comment. Last year's (2017) annual irrigation audit is included in the *2017 Annual Soil Monitoring and Compliance Auditing Report: Triabunna Effluent Recycled Water Scheme* (Macquarie Franklin, 2017) at Appendix 1. Table 2 below outlines the volume of water used to irrigate Area 1 and Area 2. As per the current Irrigation Management Plan irrigation volumes are determined by the ongoing review (weekly) of moisture data by Macquarie Franklin.

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**Table 2: Irrigation Volumes**

	Volume Irrigation (kL)	
	Irrigation Area 1	Irrigation Area 2
6/12/2017	358.81	
30/05/2018	256.98	
18/06/2018	224.94	
25/06/2018		225
<b>Total kL/area</b>	<b>840.73</b>	<b>225</b>
<b>Total kL</b>	<b>1065.73</b>	

Irrigation activities are managed in accordance with the Tassal Triabunna Irrigation Procedure. The Procedure contains an approved irrigation schedule, an internal approval process to commence irrigation, monitoring, recording and reporting requirements as well as information to be communicated to the landowner. A Task Breakdown has been developed for the operation of the disinfection and irrigation system. Moisture probes have been installed on both irrigation areas. The probes record continuous data that can be accessed on a real-time basis. The irrigation schedule is revised on a weekly basis and adjusted in accordance with soil moisture, reuse water quality and soil quality data.

Yabbie Pond Pty Ltd (wastewater engineer) and Macquarie Franklin (irrigation specialist) were commissioned in March and April 2018, respectively, to undertake a holistic review of wastewater management at the Facility. The objective of the review is to identify wastewater quality improvement options for assessment and implementation. The selected options will have timeframes for implementation allocated and be included in an overall Wastewater Management Plan (WMP) for the Facility. The WMP will be submitted to the EPA for review and approval.

**3.3.1 Monitoring**

Monitoring currently required by the Permit to determine the quality of the reuse water at the Facility is summarised in Table 2.

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**Table 2: Reuse Monitoring Requirements**

Sampling Location	Frequency of Sampling	Parameters to be Tested
All wastewater streams exiting the plant, but prior to their entry into the irrigation dam	Weekly	Thermotolerant Coliforms
Grab sample of reuse water from the irrigation dam	Weekly	pH, conductivity, TSS, adjusted SAR, total ammonia nitrogen, total nitrogen, total phosphorus, BOD <sub>5</sub> , thermotolerant coliforms
In the creek flowing past the active irrigation area into Rostrevor Dam at the following points: 1. Approximately 10 metres upstream from the point where surface water runoff from the active irrigation area first enters the creek. 2. Approximately 10 metres downstream from the point from the point where surface water runoff from the active irrigation area last enters the creek. 3. Approximately 1 metre upstream of where the creek enters Rostrevor Dam.	Monthly, commencing in January 2017, when there is runoff from the active irrigation area and sufficient water flow in the creek to enable sampling.	Thermotolerant coliforms, total ammonia nitrogen, total nitrogen, total phosphorus.
Water supplied to the plant from Rostrevor Dam	Monthly	Thermotolerant coliforms, total ammonia nitrogen, total phosphorus, conductivity
Active designated irrigation areas	Weekly individual totals for each of the designated irrigation areas to which the reuse water was applied.	kL/ha/week
Soil Chemical Analysis	Annual	As defined in the Irrigation Management Plan
Groundwater Analysis	6 Months	As defined in the Irrigation Management Plan

### 3.3.1.1 Irrigation Dam Water Quality

The quality of water in the Irrigation Dam is monitored on a weekly basis. A summary of the 2017-18 results, in comparison to the previous reporting period, is presented in Table 3.

Ammonia, total nitrogen and electrical conductivity are consistently above the irrigation guideline limits contained in the DPEMP for the Facility. However, except for BOD, the quality of water in the Irrigation Dam has improved or remained the same since the previous reporting period. The current approved interim Irrigation Management Plan accounts for the reuse water quality and ensures appropriate controls are implemented to prevent adverse impacts to irrigated pasture and livestock.

Thermotolerant coliform levels generally exceeded the 1000 orgs/100ml limit from December 2017 to June 2018. However, irrigation of reuse water was not undertaken during this period, until the disinfection system was commissioned in May 2018.

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**Table 3: Summary of Reuse Dam Water Quality July 2017 – June 2018**

Date	Parameter								
	pH	EC uS/cm	TSS mg/L	Adjusted SAR	Ammonia mg/L	Total Nitrogen mg/L	Total Phosphorus mg/L	BOD mg/L	Total Coliforms orgs/100 mL
<b>Average 2017/18</b>	7.8	2930.4	689.2	7.4	161.9	213.6	7.8	275.2	2810.5
<b>Average 2016/17</b>	7.8	2962.0	198.0	5.9	194.6	214.7	11.0	229.3	16822.0
<b>Max 2017/18</b>	8.3	3900.0	3380.0	10.9	230.0	320.0	23.0	1500.0	32000.0
<b>Max 2016/17</b>	8.6	3790.0	412.0	6.9	350.0	360.0	23.0	920.0	90000.0
<b>Median 2017/18</b>	7.9	2830.0	426.0	7.0	150.0	220.0	6.6	205.0	1400.0
<b>Median 2016/17</b>	7.8	2930.0	164.0	5.8	170.0	200.0	11.0	180.0	8400.0

**3.3.1.2 Rostrevor Dam Water Quality**

The quality of water in Rostrevor Dam is monitored monthly. The results of monitoring, between July 2017 and June 2018, are presented in Table 4.

The key factor influencing Rostrevor Dam water quality is climatic variation. Tassal did not undertake irrigation from July 2017 until May 2018 (one day of irrigation was undertaken in December 2017) therefore Rostrevor water quality was not impacted by runoff from irrigation.

To Tassal's knowledge the Creek flowing past the irrigation area has not experienced a flow event. If the Creek had flowed it will not have been affected by irrigation runoff.

**Table 4: Rostrevor Dam Water Quality July 2017 – June 2018**

Date	Parameter			
	EC uS/cm	Ammonia mg/L	Total Phosphorus mg/L	Total Coliforms orgs/100 mL
31/07/2017	1210	0.005	0.03	<10
28/08/2017	1190	0.005	0.03	<10
28/09/2017	1290	0.006	0.04	<10
27/10/2017	1330	0.005	0.07	<10
30/11/2017	1440	0.005	0.07	<10
30/01/2018	1730	<0.10	0.13	<10
1/03/2018	1690	0.005	0.07	10
28/03/2018	1790	0.024	0.07	20
2/05/2018	1860	0.014	0.09	<10
29/05/2018	1580	0.087	0.05	10
27/06/2018	1580	0.019	0.05	<10
<b>Average</b>	<b>1517.3</b>	<b>0.0</b>	<b>0.1</b>	<b>13.3</b>
<b>Max</b>	<b>1860.0</b>	<b>0.1</b>	<b>0.1</b>	<b>20.0</b>
<b>Median</b>	<b>1580.0</b>	<b>0.0</b>	<b>0.1</b>	<b>10.0</b>

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### 3.3.1.3 Soil Monitoring

Monitoring of soil in Irrigation Areas 1 and 2 is undertaken by Macquarie Franklin. The sub-soil is monitored annually, and the top-soil is monitored bi-monthly. The sub-soil was monitored in October 2017. The results did not indicate any significant emerging issues and it was recommended that soil quality be monitored closely during irrigation. Bimonthly top-soil monitoring has been undertaken since irrigation commenced in May 2018. Macquarie Franklin's report; *2017 Annual Soil Monitoring and Compliance Auditing Report: Triabunna Effluent Recycled Water Scheme* is at Appendix 1.

### 3.3.1.4 Groundwater Monitoring

Macquarie Franklin undertook groundwater bore sampling at the Facility in September 2017. This was the third sampling event since bore installation by Sloane Geoscience Pty Ltd and KMR Drilling Pty Ltd in March 2015. The 2017 results have been compared to both the 2015 and 2016 results in *2017 Groundwater Monitoring Report: Triabunna Effluent Recycled Water Scheme* (Macquarie Franklin, 2017) (see Appendix 2). Overall, irrigation and recycled water does not appear to be having any adverse effects on groundwater quality.

## 3.4 Hazardous substances

Conditions H1 and H2 of the Permit relate to the management of hazardous substances at the Facility, including storage and handling and spill kits.

All hazardous materials held at the facility are located within suitably bunded areas that are designed to contain at least 110% of the volume of the largest container. Natural gas is stored in approved and licenced tanks. A sufficient number of spill kits are maintained and available at appropriate locations throughout the Facility.

These and other requirements for the management of hazardous substances are outlined in the following Tassal procedures, which are accessible to and implemented by relevant personnel:

- *WHS-110 Dangerous Goods and Hazardous Substances Procedure;*
- *WHS-F129 Dangerous Goods and Hazardous Substances Register;*
- *WHS-F129 Dangerous Goods and Hazardous Substances Spill Station Safety Equipment Checklist;* and
- *WHS-F142 Dangerous Goods and Hazardous Substances Risk Assessment.*

Regular workplace inspections are undertaken to ensure compliance and to identify and address any potential issues. All personnel have received training in hazardous substances management.

## 3.5 Noise

Noise from the Facility must not exceed the following limits specified by Condition N1 of the Permit:

- Day (7am to 6pm)            45 dBA
- Evening (6pm to 10pm)    40 dBA
- Night (10pm to 7am)        35 dBA

A Noise Survey, conducted in February 2018 by Environmental Dynamics, was approved by the EPA on 20 September 2018 as fulfilling Condition N3(5) of the Permit (report requirements) and demonstrating compliance with Condition N1 (Noise Emission Limits).

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The main sources of noise from the Facility are the cooling tower and the intermittent truck movements.

### 3.6 Fish waste and general waste

The management of waste at the Facility is undertaken in accordance with Tassal procedures:

- *PRO-175 Waste Management & Disposal at Processing Sites;*
- *TB-418 Fish By-Product Management – Processing;*
- *Triabunna Rendering Facility Biosecurity Management Plan 2015; and*
- *Biosecurity Management of the operation of the Macerator System 2018.*

Fish material received that is not suitable for rendering is stored in leak proof lidded containers in a refrigerated area. Since the commissioning and approval of the maceration system all fish waste is macerated in accordance with the approval and pumped directly from the maceration system into a tanker where it is then transported to Pure Living Soils Interlaken composting facility. Records are kept in accordance with the approval for the maceration system.

General refuse arrangements are in place with a licenced contractor for the collection and disposal of general waste. All waste streams are disposed of at EPA approved facilities. Approximately 4 m<sup>3</sup> of general waste is removed twice per week from the Facility.

### 3.7 Operational Procedures and Environmental Management Plan

Condition G12 of the Permit requires development of an Environmental Management Plan – Operations for the Facility.

Tassal uses an electronic document control management system called Q-Pulse, which ensures business processes and procedures are current, accessible and secure. Q-Pulse maintains all operational procedures relevant to the Facility.

An Environmental Management Plan - Operations is currently being drafted for submission to the EPA.

## Section 4: Incidents and Complaints

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### 4.1 Notifiable Incidents

There have been no incidents, notifiable under section 32 of *Environmental Management and Pollution Control Act 1994*, at the facility during the reporting period.

### 4.2 Complaints

A public complaints register is maintained by Tassal. During the reporting period two complaints were lodged by a resident who lives within the approved boundary of the Facility. Details of the complaints and their resolution are below. Tassal continues to review odour emissions and assess mitigation options for the Facility.

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Date	Complaint	Date Tassal Responded	Resolution
22-Aug-17	Compliant made to Tassal re odour emissions from the Facility	24-Aug-18	Advised maintenance of the biofilter would be undertaken and an odour survey conducted.  Operational staff were instructed to ensure the roller doors at the Facility are to remain closed.
09-Mar-18	Compliant made to the EPA re odour emissions from the Facility	30-Mar-18	No further complaints were received.

### 4.3 Community Consultation

Tassal has a formal stakeholder engagement process and strategy, which involves multiple communication and working group relationships to facilitate effective feedback, actions and outcomes which benefit the business and communities where we operate, including the East Coast and Triabunna area. These include:

- An overarching Engagement strategy and risk/issues analysis model;
- Implementation of Community Foundation model and Community Charter;
- Dedicated Community Advisory Groups in the areas where we operate, which meet quarterly;
- A minimum of two Community Information sessions per year in each farming area
- An Open Day in each area;
- Designated Community Grants program 'Better Together', with funding application assessed by key members of the community advisory groups; and
- Multiple mainstream, social and direct mail communications to keep stakeholders regularly updated.

Improved resourcing in the Engagement team has been established to have specialist focus on community projects and programs which directly improve social and environmental outcomes.

## Section 5: Compliance with EPN Conditions

During the reporting period, Tassal received two minor infringement notices issued by the EPA with respect to the Facility. The notices were for past events (2016) where:

- Changes were made within the facility without EPA approval; and
- Reject water from the Facility's reverse osmosis system was redirected.

An Action Plan to address the infringements has been developed and is currently being implemented. Tassal commissioned Macquarie Franklin to assess the potential impacts of the release of the RO reject water and it was concluded that the impacts were negligible and further preventative controls are being implemented. The change of discharge location for the RO reject water was temporarily approved by the EPA in September 2018. It is Tassal's intention to divert the RO reject water back to the Irrigation Dam when sufficient capacity is achieved through irrigation.

The Facility was compliant with all other EPN conditions during the reporting period.



There have been no changes to management personnel during the reporting period.

## Section 6: Commitments

### 6.1 2014 DPEMP Commitments

All commitments made by Tassal in its *Development Proposal and Environmental Management Plan (2014)* associated with the construction and operation of the Facility in 2014 are completed or require on-going management.

### 6.2 2017 Commitments

Several commitments were made by Tassal in the 2016-2017 Annual Report. The commitments and their status are outlined in Table 5.

**Table 5 – 2017 Commitments**

No.	Commitment	Status
1	Assess wastewater management at the Facility and develop a Wastewater Management Plan and a revised Irrigation Management Plan that reflects current operations and ensures ongoing compliance.	In progress. Yabbie Pond Pty Ltd (wastewater engineer) and Macquarie Franklin (irrigation specialist) were commissioned in March and April 2018, respectively, to undertake a holistic review of wastewater management at the Facility. Review is continuing.
2	Manage wastewater and irrigation in accordance with the respective Plans.	Compliant and ongoing.
3	Identify and assess wastewater treatment options to improved improve reuse water quality.	See No. 1.
4	Ensuring no public complaints.	Complaints were received regarding odour emissions. Work is being undertaken to address the issue.
5	Ensuring biosecurity is managed in accordance with the approved plan.	Compliant and ongoing.
6	Management of putrescible and sludge wastes with appropriate approved disposal.	Compliant and ongoing.

### 6.3 Future Commitments

Tassal is committed to the following in 2018:

1. Revising the *Triabunna Rendering Facility Biosecurity Management Plan 2015* and the *Biosecurity Management of the operation of the Macerator System 2018* to incorporate findings and recommendations of the business-wide biosecurity management review.
2. Reviewing odour emissions and assessing mitigation options for the Facility.
3. Undertaking a holistic review of wastewater management at the Facility and documenting a Wastewater Management Plan (WMP) to identify options for wastewater quality improvement and timeframes for implementation.
4. Documenting an Environmental Management Plan - Operations in accordance with condition G12 of the Permit.

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**APPENDIX 1**  
**Irrigation Dam Water Quality Results (July 2016 – June 2017)**

Date	Parameter								
	pH	EC uS/cm	TSS mg/L	Adjusted SAR	Ammonia mg/L	Total Nitrogen mg/L	Total Phosphorus mg/L	BOD mg/L	Total Coliforms orgs/100 mL
19/07/2017	7.8	2480	240	6.13	130	160	3.8	100	1500
28/07/2017	7.9	2600	230	5.74	130	160	3.4	86	1400
31/07/2017	7.8	2640	152	5.93	140	170	2	51	900
9/08/2017	7.9	2650	112	6.5	130	150	4.6	67	800
17/08/2017	7.8	2630	128	5.97	140	150	5.8	84	530
23/08/2017	7.6	2650	106	5.92	140	150	5.1	110	340
28/08/2017	7.5	2680	86	6.24	150	150	6.5	115	210
6/09/2017	7.5	2700	98	6.38	150	150	6.2	80	230
13/09/2017	7.7	2670	160	6.35	140	150	4.8	85	150
20/09/2017	7.7	2670	220	6.36	150	160	4.3	100	100
28/09/2017	7.6	2770	172	6.69	160	160	5.4	74	100
6/10/2017	8	2710	405	6.29	140	160	3.6	58	290
11/10/2017	8	2690	280	6.71	140	160	3.5	35	250
27/10/2017	7.7	2750	180	6.52	150	170	5.3	69	690
1/11/2017	7.6	2790	290	6.62	150	160	6.2	24	700
8/11/2017	7.6	2820	185	6.6	170	170	6.1	79	300
16/11/2017	7.4	2850	124	6.95	150	170	6.1	85	100
22/11/2017	7.4	2710	3380	6.49	120	300	23	1500	900
30/11/2017	7.9	2540	2110	7.01	100	210	12	1200	5500
7/12/2017	7.9	2560	513	6.88	100	150	5.1	350	5700
13/12/2017	8	2510	384	6.92	110	130	4.1	220	3100
21/12/2017	7.8	2620	610	7.64	120	180	6.7		1782
2/01/2018	7.6	2720	2670	7.22	130	250	16	420	1000
10/01/2018	7.6	2830	2010	7.23	150	270	16	570	3600
15/01/2018	8.1	2840	820	7.57	150	220	9.2	620	4200
24/01/2018	7.8	2930	1480	6.61	150	200	10	450	3200
30/01/2018	7.8	1730	1660	7.03	170	250	11	290	2800
7/02/2018	7.8	3020	2800	7.2	160	320	22	480	11000
13/02/2018	7.8	3040	604	7.79	160	220	7.4	130	2800
23/02/2018	7.9	3060	790	8.05	180	240	9.8	260	32000
1/03/2018	8.3	3130	538	5.77	170	240	7.8	210	3200
13/03/2018	8	3280	535	8.52	180	240	7	310	2800
21/03/2018	7.9	3300	440	8.63	190	270	6.6	210	1000
28/03/2018	7.8	3330	1300	8.14	180	320	12	390	
5/04/2018	8	3900	570	8.65	200	270	7.5	280	3900
11/04/2018	7.8	3410	1020	9.26	200	300	10	460	5300
19/04/2018	8.1	3330	364	9.28	200	260	7.3	350	5000
26/04/2018	7.9	3380	1040	8.34	230	270	10	490	4800
2/05/2018	8	3440	486	9.05	210	260	7.5	330	600
8/05/2018	7.9	3430	484	8.74	190	240	6.6	310	700
16/05/2018	8	3200	740	8.65	200	260	7.8	370	2700
23/05/2018	8	3560	426	10.85	190	240	7.4	27	
29/05/2018	7.9	3220	627	8.74	200	270	8.3	380	3400
6/06/2018	7.9	3240	260	8.56	190	240	6.8	170	2500
13/06/2018	8	3220	224	8.23	200	240	6.2	190	4200
20/06/2018	7.9	3240	124	9.27	210	240	5.7	200	100
27/06/2018	7.9	3260	215	9.43	210	240	5.4	190	100
<b>Avg 17/18</b>	<b>7.8</b>	<b>2930.4</b>	<b>689.2</b>	<b>7.4</b>	<b>161.9</b>	<b>213.6</b>	<b>7.8</b>	<b>275.2</b>	<b>2810.5</b>
<b>Avg 16/17</b>	<b>7.8</b>	<b>2962.0</b>	<b>19.08</b>	<b>5.9</b>	<b>194.6</b>	<b>214.7</b>	<b>11.0</b>	<b>229.3</b>	<b>16822.0</b>
<b>Max 17/18</b>	<b>8.3</b>	<b>3900.0</b>	<b>3380.0</b>	<b>10.9</b>	<b>230.0</b>	<b>320.0</b>	<b>23.0</b>	<b>1500.0</b>	<b>32000.0</b>
<b>Max 16/17</b>	<b>8.6</b>	<b>3790.0</b>	<b>412.0</b>	<b>6.9</b>	<b>350.0</b>	<b>360.0</b>	<b>23.0</b>	<b>920.0</b>	<b>90000.0</b>
<b>Med 17/18</b>	<b>7.9</b>	<b>2830.0</b>	<b>426.0</b>	<b>7.0</b>	<b>150.0</b>	<b>220.0</b>	<b>6.6</b>	<b>205.0</b>	<b>1400.0</b>
<b>Med 16/17</b>	<b>7.8</b>	<b>2930.0</b>	<b>164.0</b>	<b>5.8</b>	<b>170.0</b>	<b>200.0</b>	<b>11.0</b>	<b>180.0</b>	<b>8400.0</b>



# **TASSAL OPERATIONS PTY LTD TRIABUNNA FISH RENDERING FACILITY**

## **ANNUAL ENVIRONMENTAL REVIEW July 2018 to June 2019**

RTI - DL - RELEASED - EPA

Prepared by Clinton Luckock  
Environmental Partner – Land Based Operations  
Tassal Operations Pty Ltd

RTI - DL - RELEASE - EPA

**Document Status**

<b>Revision</b>	<b>Date</b>	<b>Author</b>	<b>Comments</b>	<b>Approved</b>
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Triabunna Fish Rendering Facility  
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## Appendices

### Appendix 1

Macquarie Franklin (2018) *2018 Annual Soil Monitoring and Compliance Auditing Report: Triabunna Effluent Recycled Water Scheme*

### Appendix 2

Irrigation Dam Water Quality Results (July 2018 to June 2019)

### Appendix 3

Macquarie Franklin (2018) *2018 Groundwater Monitoring Report: Triabunna Wastewater Irrigation Scheme*

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## Executive Statement

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The activities undertaken at Tassal Operations Pty Ltd (Tassal) Triabunna Fish Processing Facility (the Facility) are subject to Permit Conditions – Environmental No. 9015 as contained in Permit DA 2014/00001, issued by Glamorgan Spring Bay Council on 12 March 2014.

The conditions form the basis for environmental management for all activities at the Facility and ensure its compliance with Tasmanian legislation and state national guidelines.

Protecting, conserving and enhancing the environment for current and future generations is a high priority for our company and fundamental to the long-term sustainability of the aquaculture industry.

Tassal is pleased to submit this Annual Environmental Review for the period 1 July 2018 to 30 June 2019, and I hereby acknowledge its contents.

This report is available to the public and will be provided upon request.



Ben Daly

Head of Supply Chain and Commercial Services

Tassal Operations Pty Ltd

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## Section 1: Introduction

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Each year Tassal Operations Pty Ltd (Tassal) undertakes an Annual Environmental Review of the Triabunna Fish Rendering Facility (the Facility) for submission to the Director, Environment Protection Authority (EPA) in accordance with Condition G11 of Permit DA 2014/00001 (the Permit) for the Facility.

The Annual Environmental Review is required to be submitted to the EPA within 3 months of the end of the reporting period. The reporting period for the Facility is 1 July 2018 to 30 June 2019.

Condition G11 requires the Annual Environmental Review address:

- complaints;
- environment-related procedural or process changes;
- solid and liquid wastes produced, and treatment methods implemented;
- non-trivial environmental incidents;
- monitoring data;
- breaches of limits;
- any issues that must be addressed to improve compliance with these conditions;
- fulfilment of any environmental commitments made;
- community consultation and communication undertaken; and
- proposed changes to the activity in the next 12 months.

The above items are addressed in turn in this report.

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## Section 2: EPN and Activity Details

### 2.1 EPN Holder

Person Responsible: Tassal Operations Pty Ltd  
 Trading Name: Tassal Operations Pty Ltd  
 ACN Number: 106 324 127  
 Address: GPO Box 1645  
 Hobart Tasmania 7001

### 2.2 Activity to which this Report Relates

Permit Number	DA 2014/00001
Date of Issue	12 March 2014
Activity Description	Operation of a fish rendering factory
Activity Name	Triabunna Fish Rendering Facility
Activity Address	8731 Tasman Highway, Triabunna, Tasmania 7190
Contact Person	Deleeze Chetcuti, Environmental Compliance Manager

### 2.3 Description of the Activity

The Facility produces fish meal and fish oil through the rendering of Atlantic Salmon by-products from Tassal's and other fish processing facilities. Feed materials include solid fish remnants and liquid (pumpable) viscera or 'guts'. Solids include skins, trims, frames and heads and are stored in a large chiller room until required. Viscera or 'guts' are delivered by tanker and pumped directly into a feed tank.

The key processes in the rendering operation are:

- Blending of the feed materials;
- Grinding to a uniform size for effective pre-heating;
- Cooking under steam;
- Separation of the solid and liquid materials;
- The wet solids are dried in a drier and the water evaporated to retrieve residual protein;
- The dry product is milled for meal; and
- Polishing of the oil retrieved in the cooking process.

The Facility is accessed by a road from the main property boundary on the Tasman Highway and occupies approximately 2 hectares at 8731 Tasman Highway. The rendering plant is housed in a building of approximately 3,000m<sup>2</sup> with an attached office, and amenities, and is surrounded by a large gravel hardstand area.

Semi-trailer vehicles delivering plant feedstock access and egress the building via large roller doors on either side. Dispatch of fish meal is via a separate roller door on the northern side of the building.

The building (rendering plant room) is negatively pressurised to avoid fugitive emissions. Fumes are drawn under negative pressure from the building into a purpose built biofilter that scrubs odours. The biofilter is located at the rear of the building. Water for the rendering process is supplied from the Rostrevor Dam, a private dam located approximately 3km to the south-east of the Facility.



Waste water at the Facility is derived from the following processes are directed to the water reuse dam (Irrigation Dam);

- condensed evaporated water from the cooking process
- Reverse osmosis concentrate
- Cooling tower blowdown
- Boiler blowdown
- Clean in place of Stickwater centrifuge
- Clean in place of fish oil centrifuge
- Biofilter

The irrigation dam has a capacity of 21 ML, from which water is used for irrigation after it is disinfected through the disinfection plant. Irrigation is undertaken on two irrigation sites on the property east of the Tasman Highway, in accordance with an approved Irrigation and Environmental Management Plan.

#### 2.4 Regulatory Limit for Production

The Permit allows the processing of 20,000 tonnes of fish by-product annually at a maximum rate of 4,999 kg per hour. During the reporting period the Facility processed 12,753 tonnes of fish by-product and the plant is currently operating at 1,771 kg per hour. This is less than the previous reporting period during which the facility processed 13,178 tonnes of fish by-product and operated at 1,830 kg per hour.

The facility produced 1637 tonnes of fish meal product and 2861 tonnes of fish oil product for the 2018-2019 Financial Year (reporting period).

Materials received and processed for FY18/19 are summarised in Table 1 below.

**Table 1: Fish Materials received FY18/19**

Fish Material	Tonnes	Destination
Solids – Heads Frames, Trims, Skins	6255	Rendered product
	26	Compost
Viscera	6498	Rendered product
	0	Compost

## Section 3: Environmental Management and Monitoring

Environmental management and monitoring at the Facility are coordinated by the Environmental Partner – Land based Operations, in accordance with the Permit conditions.

The Environmental Partner – Land based Operations works closely with operational personnel to ensure compliance activities and responsibilities are communicated and actioned.

Management and/or monitoring of the following environmental aspects at the Facility are addressed below:

- Biosecurity
- Odour
- Wastewater and irrigation
- Hazardous Substances
- Noise
- Fish waste management
- Waste

### 3.1 Biosecurity

Under condition G13 of the permit the facility is required to operate under a biosecurity management plan approved both by the EPA and the Chief Veterinary Officer within Biosecurity Tasmania. In 2015 the EPA approved the; *Triabunna Rendering Facility Biosecurity Management Plan*.

This plan stipulates hygiene requirements, product and equipment segregation and handling to ensure potential pathogens are not transferred between equipment and vehicles returning to different biosecurity regions.

Permit MH 19-01 issued to Tassal under Section 37 of the *Animal Health Act* 1995 for the movement of fish and fish products (Rainbow trout and Atlantic Salmon) within Tasmania was amended to restrict Macquarie Harbour whole dead fish being transported to the Rendering Facility however raw fish waste (viscera or “guts”) is acceptable.

In January 2018 the EPA granted Tassal approval to install and operate a maceration system for fish by-product deemed unsuitable for the rendering process. A requirement of the approval was the submission of a revised Biosecurity Management Plan. A preliminary Biosecurity Management Plan was submitted to the EPA which encompasses the use and operation of the macerator. Tassal is currently in the process of conducting a business wide biosecurity management review in consultation with Biosecurity Tasmania. A draft Biosecurity Management Plan for the Triabunna Facility will be submitted to Biosecurity Tasmania for assessment and to EPA Tasmania for reference in October 2019.

### 3.2 Odour

Conditions A1 to A4 of the Permit define the odour emission limits for the Facility as well as associated monitoring and modelling requirements.

During the reporting period three complaints were received from a nearby resident regarding the odour emissions from the Facility (see Section 4.2 below for additional details).

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In December 2018 EPA Tasmania advised Tassal that the odour assessment and updated modelling report submitted in July 2018 was to be repeated and resubmitted. The odour assessment was required to be undertaken during the summer period 2018 - 2019. Due to the low production at the site through the first 3 months of 2019 the sampling was undertaken in early April 2019 during a period of full production. Tassal engaged Tarkarri Engineering to conduct the odour sampling and modelling of the Facility's operation. The early results indicate that there may be areas that require improvement. When the odour modelling report is finalised, it will be submitted to the EPA with a plan to address any sub-optimal performance.

### 3.3 Wastewater and Irrigation

Tassal operates a water reuse scheme in accordance with an Irrigation Management Plan approved under condition E5 of the Permit. The scheme allows the controlled irrigation of fodder crops using wastewater generated by the Facility. All wastewater streams report to the water reuse dam (Irrigation Dam). Prior to its use for irrigation, the water passes through a disinfection system to reduce coliforms present in the water to below the required 1,000 cfu/100mL.

Pivot irrigators are used to irrigate two areas (Area 1 and Area 2) covering 15 ha each. The system, including the storage capacity of the dam, is designed for a 1:10 year rainfall event.

The reuse water quality does not meet the expected values as initially assessed in the approved Irrigation Management Plan. Tassal has subsequently implemented significant improvements to the Facility's waste water and irrigation management.

- In September 2017, Tassal engaged Macquarie Franklin to develop an interim Irrigation Management Plan for submission to the EPA;
- In May 2018 Tassal successfully commissioned a disinfection system to reduce thermotolerant coliforms in the irrigation water below the required limit;
- Soil moisture monitoring probes were installed at each of the irrigation sites to provide access to real time soil moisture data to improve irrigation schedule planning;
- In November 2018 the interim irrigation plan was replaced with the Irrigation and Environmental Management Plan (IEMP) to include the above changes;
- Macquarie Franklin has assessed the water as being suitable for irrigation.

A total of 15,970kL of reuse water was used to irrigate Area 1 and 16,960kL to irrigate Area 2 during the reporting period. Table 2 outlines the volume of water used to irrigate Area 1 and Area 2. As per the current Irrigation Management Plan, irrigation volumes are determined by the ongoing weekly review of soil moisture data by Macquarie Franklin.

The 2018 annual irrigation audit was undertaken in October 2018 and is included in the *2018 Annual Soil Monitoring and Compliance Auditing Report: Triabunna Effluent Recycled Water Scheme* (Macquarie Franklin, 2018) at Appendix 1.

**Table 2: Irrigation Volumes**

Month	Pivot 1 (15 Ha) Volume (ML)	Pivot 2 (15 ha) Volume (ML)	Rainfall (mm)*
Jul-18	0	0	9.6
Aug-18	0	0	34.8
Sep-18	0	1.74	8.4
Oct-18	0.6	1.94	20.6
Nov-18	1.18	0	75.8
Dec-18	2.9	0	56.8
Jan-19	3.65	1.61	7.0
Feb-19	0	5.31	62.7
Mar-19	0.6	3.31	19.6
Apr-19	5.71	2.52	20.2
May-19	0.37	0.53	23.2
Jun-19	0.96	0	28.6
<b>Total</b>	<b>15.97</b>	<b>16.96</b>	<b>367.3</b>
<b>Application rate (ML/ha)</b>	<b>1.06</b>	<b>1.13</b>	

\*Rainfall data taken from BOM weather station Grindstone Point – ID: 92149

Irrigation activities are managed in accordance with the Tassal Triabunna Irrigation Procedure. The Procedure contains an approved irrigation schedule, an internal approval process to commence irrigation, monitoring, recording and reporting requirements as well as information to be communicated to the landowner. A Task Breakdown has been developed for the operation of the disinfection and irrigation system. Moisture probes have been installed on both irrigation areas. The probes record continuous data that can be accessed on a real-time basis. The irrigation schedule is revised by Macquarie Franklin on a weekly basis and adjusted in accordance with soil moisture, reuse water quality and soil quality data.

Yabbie Pond Pty Ltd (wastewater engineer) and Macquarie Franklin (irrigation specialist) were commissioned in 2018 to undertake a holistic review of wastewater management at the Facility. The objective of the review is to identify wastewater quality improvement options for assessment and implementation. The Waste Water Improvement Plan (WWIP) was developed from this work. The options were allocated implementation timeframes which are aligned to the objectives of the overall Wastewater Management Plan (WMP) for the Facility. The WMP was submitted to the EPA for review and approval in 2019.

### 3.3.1 Monitoring

Monitoring currently required by the Permit to determine the quality of the reuse water at the Facility is summarised in Table 3.

**Table 3: Reuse Monitoring Requirements**

Sampling Location	Frequency of Sampling	Parameters to be Tested
All wastewater streams exiting the plant, but prior to their entry into the irrigation dam	Weekly	Thermotolerant Coliforms
Grab sample of reuse water from the irrigation dam	Weekly	pH, conductivity, TSS, adjusted SAR, total ammonia nitrogen, total nitrogen, total phosphorus, BOD <sub>5</sub> , thermotolerant coliforms
In the creek flowing past the active irrigation area into Rostrevor Dam at the following points: 1. Approximately 10 metres upstream from the point where surface water runoff from the active irrigation area first enters the creek. 2. Approximately 10 metres downstream from the point from the point where surface water runoff from the active irrigation area last enters the creek. 3. Approximately 1 metre upstream of where the creek enters Rostrevor Dam.	Monthly, commencing in January 2017, when there is runoff from the active irrigation area and sufficient water flow in the creek to enable sampling.	Thermotolerant coliforms, total ammonia nitrogen, total nitrogen, total phosphorus.
Water supplied to the plant from Rostrevor Dam	Monthly	Thermotolerant coliforms, total ammonia nitrogen, total phosphorus, conductivity
Active designated irrigation areas	Weekly individual totals for each of the designated irrigation areas to which the reuse water was applied.	kL/ha/week
Soil Chemical Analysis	Annual	As defined in the Irrigation and Environmental Management Plan
Groundwater Analysis	6 Months	As defined in the Irrigation and Environmental Management Plan

### 3.3.1.1 Irrigation Dam Water Quality

The quality of water in the Irrigation Dam is monitored on a weekly basis. A summary of the 2018-19 results, in comparison to the previous reporting period, is presented in Table 4.

The current approved IEMP accounts for the reuse water quality and ensures appropriate controls are implemented to prevent adverse impacts to irrigated pasture and livestock.

Ammonia, total nitrogen and electrical conductivity are consistently above the irrigation guideline limits contained in the DPMP for the Facility. Discussions were held with EPA Tasmania in June 2019 regarding the appropriateness of the waste water limits detailed in the DPMP and subsequent changes implemented in December 2016. These limits are now under review.

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Thermotolerant coliform levels are maintained below 1000 cfu/100ml limit when samples are taken during irrigation when the water is disinfected however we are required to sample weekly which leads to sampling directly from the dam. Dam water prior to treatment can vary significantly as is not a representation of what is being put onto the irrigated land. As such Table 4 below summarises samples taken from the pipe during irrigation. For annual analysis data please refer to Appendix 2.

**Table 4: Summary of Reuse Dam Water Quality July 2018 – June 2019**

Date	Parameter								
	pH	EC uS/cm	TSS mg/L	Adjusted SAR	Ammonia mg/L	Total Nitrogen mg/L	Total Phosphorus mg/L	BOD mg/L	Total Coliforms cfu/100 mL
<b>Average 2018/19</b>	7.8	3532	255	8.0	224	266	6.3	321	526
<b>Average 2017/18</b>	7.8	2930	689	7.4	162	214	7.8	275	2811
<b>Max 2018/19</b>	8.5	4090	1170	9.4	300	340	9.1	930	1400
<b>Max 2017/18</b>	8.3	3900	3380	10.9	230	320	23	1500	32000
<b>Median 2018/19</b>	7.9	3480	186	7.9	220	260	6.3	275	400
<b>Median 2017/18</b>	7.9	2830	426	7.0	150	220	6.6	205	1400

**3.3.1.2 Rostrevor Dam Water Quality**

The quality of water in Rostrevor Dam is monitored monthly. The results of monitoring, between July 2018 and June 2019, are presented in Table 5.

**Table 5: Rostrevor Dam Water Quality July 2018 – June 2019**

Date	Parameter			
	EC uS/cm	Ammonia mg/L	Total Phosphorus mg/L	Total Coliforms orgs/100 mL
2/8/18	1680	0.022	0.04	10
29/8/18	1690	0.008	0.04	<100
25/9/18	1770	0.005	0.05	10
30/10/18	1890	0.005	0.05	10
28/11/18	1940	0.012	0.07	10
31/1/19	2260	0.010	0.12	10
28/2/19	2370	0.005	0.12	30
27/3/19	2500	0.047	0.05	10
29/5/19	2640	0.065	0.08	10
26/6/19	2560	0.008	0.06	10
<b>Average</b>	2130	0.019	0.07	12.2
<b>Max</b>	2640	0.065	0.12	30
<b>Median</b>	2100	0.009	0.06	10

The key factor influencing Rostrevor Dam water quality is climatic variation. Low rainfall has caused an increase in salinity in this dam during 2019.

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To Tassal's knowledge the Creek flowing past the irrigation area has not experienced a flow event.

### 3.3.1.3 Soil Monitoring

Monitoring of soil in Irrigation Areas 1 and 2 is undertaken by Macquarie Franklin. The sub-soil is monitored annually, and the top-soil is monitored quarterly. The sub-soil was monitored in October 2018. The results did not indicate any significant emerging issues and it was recommended that soil quality continue to be monitored closely during irrigation. Macquarie Franklin's report; *2018 Annual Soil Monitoring and Compliance Auditing Report: Triabunna Effluent Recycled Water Scheme* is at Appendix 1.

### 3.3.1.4 Groundwater Monitoring

Macquarie Franklin undertook groundwater bore sampling at the Facility in October 2018. This was the fourth sampling event since bore installation by Sloane Geoscience Pty Ltd and KMR Drilling Pty Ltd in March 2015. The 2018 results have been compared to previous results in *2018 Groundwater Monitoring Report: Triabunna Wastewater Irrigation Scheme* (Macquarie Franklin, 2018) (see Appendix 3). Overall, irrigation and recycled water does not appear to be having any adverse effects on groundwater quality.

## 3.4 Hazardous substances

Conditions H1 and H2 of the Permit relate to the management of hazardous substances at the Facility, including storage and handling and spill kits.

All hazardous materials held at the facility are located within suitably bunded areas that are designed to contain at least 110% of the volume of the largest container. Natural gas is stored in approved and licenced tanks. A sufficient number of spill kits are maintained and available at appropriate locations throughout the Facility.

These and other requirements for the management of hazardous substances are outlined in the following Tassal procedures, which are accessible to and implemented by relevant personnel:

- *WHS-110 Dangerous Goods and Hazardous Substances Procedure;*
- *WHS-F129 Dangerous Goods and Hazardous Substances Register;*
- *WHS-F129 Dangerous Goods and Hazardous Substances Spill Station Safety Equipment Checklist;* and
- *WHS-F142 Dangerous Goods and Hazardous Substances Risk Assessment.*

Regular workplace inspections are undertaken to ensure compliance and to identify and address any potential issues. All personnel have received training in hazardous substances management.

## 3.5 Noise

Noise from the Facility must not exceed the following limits specified by Condition N1 of the Permit:

- Day (7am to 6pm)            45 dBA
- Evening (6pm to 10pm)    40 dBA
- Night (10pm to 7am)        35 dBA

A Noise Survey, conducted in February 2018 by Environmental Dynamics, was approved by the EPA on 20 September 2018 as fulfilling Condition N3(5) of the Permit

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(report requirements) and demonstrating compliance with Condition N1 (Noise Emission Limits).

The main sources of noise from the Facility are the cooling tower and the intermittent truck movements.

### 3.6 Fish waste and general waste

The management of waste at the Facility is undertaken in accordance with Tassal procedures:

- *PRO-175 Waste Management & Disposal at Processing Sites;*
- *TB-418 Fish By-Product Management – Processing;*
- *Triabunna Rendering Facility Biosecurity Management Plan 2015; and*
- *Biosecurity Management of the operation of the Macerator System 2018.*

The process for fish material that is not suitable for rendering is to identify this at the Marine operations areas and then transport the material directly to an approved composting facility. If fish material is received at Triabunna that is not suitable for rendering it is stored in leak proof lidded containers in a refrigerated area until the bins are emptied into slide top hook lift bins that are then transported to Pure Living Soils Interlaken composting facility. The maceration system for unsuitable fish waste is also maintained as a back-up system. If it is used in the future, records will be kept in accordance with the approval for the maceration system.

General refuse arrangements are in place with a licenced contractor for the collection and disposal of general waste. All waste streams are disposed of at EPA approved facilities. Approximately 4 m<sup>3</sup> of general waste is removed twice per week from the Facility.

### 3.7 Operational Procedures and Environmental Management Plan

Condition G12 of the Permit requires development of an Environmental Management Plan – Operations for the Facility.

Tassal uses an electronic document control management system called Q-Pulse, which ensures business processes and procedures are current, accessible and secure. Q-Pulse maintains all operational procedures relevant to the Facility.

The Environmental Management Plan - Operations was submitted to the EPA in March 2019 and approved in April 2019.

## Section 4: Incidents and Complaints

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### 4.1 Notifiable Incidents

There have been no incidents, notifiable under section 32 of *Environmental Management and Pollution Control Act 1994*, at the facility during the reporting period.

### 4.2 Complaints

A public complaints register is maintained by Tassal. During the reporting period three complaints were lodged by a resident who lives within the approved boundary of the Facility. Details of the complaints and their resolution are below in Table 6. Tassal continues to review odour emissions and assess mitigation options for the Facility.



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**Table 6: Complaints Register - Triabunna July 2018 – June 2019**

<b>Date</b>	<b>Complaint</b>	<b>Date Tassal Responded</b>	<b>Resolution</b>
22-Sept-18	Compliant made to Tassal re odour emissions from the Facility	24-Sept-18	Advised odour sampling and modelling had been done and to be repeated in April 2019 for the EPA.  Advise site management of the complaints and to review all potential odour producing systems.
13-Jan-19	Compliant made to Tassal re odour emissions from the Facility	14-Jan-19	Operational staff were instructed to ensure the roller doors at the Facility are to remain closed.
29-Mar-19	Compliant made to Tassal re odour emissions from the Facility	29-Mar-19	No further complaints were received.

### 4.3 Community Consultation

In 2018 Tassal implemented a routine approach to community engagement, committing to a minimum of two public information sessions in every region, annually. The sessions provide a forum for:

- consultation and feedback both to and from Tassal;
- discussion of Tassal planning and decision-making processes;
- community to raise concerns about Tassal operations;
- considering joint initiatives with stakeholders;
- supporting stakeholder partnerships; and
- providing information to the community about salmon farming practices.

Tassal meets with residents and community groups on a regular basis and provides financial support through an ongoing grants program.

Tassal also addresses broader off-site potential social impacts associated with salmon production, including interactions with local communities, as part of its annual Aquaculture Stewardship Council certification.

In 2018 Tassal launched its Community Foundation - which includes a charter on how Tassal engages with communities. As part of this, Tassal established in every region dedicated Community Advisory Groups (CAGs). The CAGs purpose is to facilitate feedback and partner with Tassal on opportunities for local improvement and engagement.

## Section 5: Compliance with EPN Conditions

During the reporting period, the Facility was compliant with all EPN conditions.

The Triabunna site manager changed in January 2019 when Rennick Kerr was appointed to the position.

## Section 6: Commitments

### 6.1 2014 DPEMP Commitments

All commitments made by Tassal in its *Development Proposal and Environmental Management Plan (2014)* associated with the construction and operation of the Facility in 2014 are completed or require on-going management.

### 6.2 2018/19 Commitments

Several commitments were made by Tassal in the 2017-2018 Annual Report. The commitments and their status are outlined in Table 7.

**Table 7 – 2018/19 Commitments**

No.	Commitment	Status
1	Revising the <i>Triabunna Rendering Facility Biosecurity Management Plan 2015</i> and the <i>Biosecurity Management of the operation of the Macerator System 2018</i> to incorporate findings and recommendations of the business-wide biosecurity management review	Biosecurity Management Plan is currently undergoing final review and is planned to be submitted in October 2019. The Macerator is no longer in use.
2	Reviewing odour emissions and assess mitigation options for the Facility	Odour sampling was repeated in April 2019 and the odour modelling report is planned to be submitted in October 2019 with an action plan to address any issues identified.
3	Undertaking a holistic review of wastewater management at the Facility and document a Wastewater Management Plan (WMP) to identify options for wastewater quality improvement and timeframes for implementation.	The Irrigation and Environmental Plan was submitted in November 2018 and the Wastewater Improvement Plan was submitted in July 2019.
4	Document an Environmental Management Plan - Operations in accordance with condition G12 of the Permit.	The Environmental Management Plan – Operations 2019-2023 was submitted in March 2019.

### 6.3 Future Commitments

Tassal is committed to the following in 2019/20:

1. Complete the *Triabunna Rendering Facility Biosecurity Management Plan 2019* to incorporate findings and recommendations of the business-wide biosecurity management review.
2. Reviewing odour emissions assessment outcomes and assessing mitigation options for the Facility.
3. Implement the commitments made in the Irrigation and Environmental Management Plan and the Wastewater Improvement Plan to improve wastewater quality.
4. implement the commitments made in the Environmental Management Plan - Operations 2019 - 2023.

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**APPENDIX 2 - Irrigation Dam Water Quality Results July 2018 - June 2019**  
(Samples taken after disinfection are highlighted in yellow)

Date	pH	EC uS/cm	TSS mg/L	Adjusted SAR	Ammonia mg/L	Total Nitrogen mg/L	Total Phosphorus mg/L	BOD mg/L	Total Coliforms cfu/100 mL
4/7/18	7.8	3320	108	7.85	220	230	5.2	200	<100
12/7/18	7.9	3290	172	8.09	210	250	5.8	180	<100
17/7/18	7.7	3340	122	7.65	200	240	4.9	160	<100
25/7/18	7.6	3340	128	7.07	220	260	6.5	210	<100
2/8/18	7.4	3390	124	7.65	220	250	6.1	260	200
8/8/18	7.4	3460	195	7.29	220	250	5.6	260	<100
15/8/18	7.4	3240	35	7.49	220	250	5.9	290	30
22/8/18	7.6	3400	114	7.36	250	250	5.7	270	<100
29/8/18	7.4	3450	130	7.26	220	250	5.5	290	<1000
5/9/18	7.7	3370	50	7.39	230	240	5	280	<100
11/9/18	7.5	3460	68	7.44	240	250	5.4	290	<100
18/9/18	7.6	3130	72	7.71	210	240	5.3	290	<100
25/9/18	7.9	3300	270	7.41	230	250	5.2	190	<100
2/10/18	7.8	3330	198	7.89	220	240	5	170	<100
11/10/18	7.6	3360	74	7.73	240	240	5	160	<100
16/10/18	7.9	3290	170	7.81	210	250	5.9	160	<100
23/10/18	7.4	3310	150	7.78	220	250	6.2	220	<100
30/10/18	8	3510	136	8.5	220	240	5.6	99	<100
7/11/18	7.7	3390	136	7.76	220	260	7.3	280	<100
13/11/18	7.6	3410	140	8.25	220	230	6.5	280	<100
20/11/18	7.8	3440	192	8.43	210	260	7.7	210	<100
28/11/18	7.7	3440	140	7.98	230	270	8.2	340	<100
6/12/18	7.4	3480	155	7.87	230	270	7.5	350	<100
11/12/18	8.1	3560	240	8.79	220	260	6.4	120	<100
18/12/18	7.7	3360	202	7.94	220	280	9.1	210	<100
8/1/19	7.8	3350	256	8.91	190	250	6.2	250	<100
19/1/19	8.1	3480	287	8.26	210	270	6.7	250	<100
24/1/19	7.9	3390	380	7.76	210	270	7.3	220	3,000
31/1/19	7.6	3610	364	7.87	230	280	7.9	240	4,000
5/2/19	8	3610	188	8.3	240	290	7.7	310	<100
13/2/19	8	3730	292	8.7	210	270	6.7	250	1,400
20/2/19	7.9	3530	472	7.57	220	280	7	300	<100
28/2/19	8	3790	448	9.15	220	280	6.5	110	<100
6/3/19	7.6	3880	192	8.88	220	270	6.5	200	<100
13/3/19	8	3490	395	7.62	210	280	6.6	230	18,000
20/3/19	8	3500	485	8.05	210	280	7.1	310	14,000
27/3/19	7.9	3680	415	8.15	220	280	7.5	320	<100
3/4/19	8	3580	265	8.39	220	290	7.1	370	400
10/4/19	7.9	3640	370	8.16	160	300	7.2	320	6,000
16/4/19	7.7	3800	524	8.07	230	290	7	240	22,000
24/4/19	8.1	3620	420	8.1	200	270	6.6	310	44,000
1/5/19	8.2	3870	1170	7.26	200	310	7.7	620	3,300
8/5/19	8.1	3650	140	7.23	220	250	4.9	540	70,000
14/5/19	7.5	3810	184	6.82	240	260	4.6	560	35,000
22/5/19	8	3690	138	8.2	240	260	4.4	500	20,000
29/5/19	8.2	3680	104	8.44	250	270	5.5	610	17,000
5/6/19	8.3	3930	160	8.65	280	300	5	680	9,000
12/6/19	8.2	4090	715	7.99	290	320	6.2	930	5,000
19/6/19	8.5	3940	695	8.27	300	340	7.9	900	5,000
26/6/19	8.3	3880	150	9.38	240	260	5.5	690	600
<b>Avg 18/19</b>	<b>7.8</b>	<b>3532</b>	<b>255</b>	<b>8</b>	<b>224</b>	<b>266</b>	<b>6.3</b>	<b>321</b>	<b>526</b>
<b>Avg 17/18</b>	<b>7.8</b>	<b>2930</b>	<b>689</b>	<b>7.4</b>	<b>162</b>	<b>214</b>	<b>7.8</b>	<b>275</b>	<b>2811</b>
<b>Max 18/19</b>	<b>8.5</b>	<b>4090</b>	<b>1170</b>	<b>9.4</b>	<b>300</b>	<b>340</b>	<b>9.1</b>	<b>930</b>	<b>1,400</b>
<b>Max 17/18</b>	<b>8.3</b>	<b>3900</b>	<b>3380</b>	<b>10.9</b>	<b>230</b>	<b>320</b>	<b>23</b>	<b>1500</b>	<b>32000</b>
<b>Med 18/19</b>	<b>7.9</b>	<b>3480</b>	<b>186</b>	<b>7.9</b>	<b>220</b>	<b>260</b>	<b>6.3</b>	<b>275</b>	<b>400</b>
<b>Med 17/18</b>	<b>7.9</b>	<b>2830</b>	<b>426</b>	<b>7</b>	<b>150</b>	<b>220</b>	<b>6.6</b>	<b>205</b>	<b>1400</b>

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RTI - DL - RELEASE - EPA



**TASSAL OPERATIONS PTY LTD  
TRIABUNNA FISH RENDERING FACILITY  
ANNUAL ENVIRONMENTAL REVIEW  
July 2019 to June 2020**

RTI - DL - RELEASED - EPA

Prepared by Clinton Luckock  
Environmental Partner  
Tassal Operations Pty Ltd

RTI - DL - RELEASE - EPA

**Document Status**

<b>Revision</b>	<b>Date</b>	<b>Author</b>	<b>Comments</b>	<b>Approved</b>
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## Executive Statement

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The activities undertaken at Tassal Operations Pty Ltd (Tassal) Triabunna Fish Processing Facility (the Facility) are subject to Permit Conditions – Environmental No. 9015 as contained in Permit DA 2014/00001, issued by Glamorgan Spring Bay Council on 12 March 2014.

The conditions form the basis for environmental management for all activities at the Facility and ensure its compliance with Tasmanian legislation and state national guidelines.

Protecting, conserving and enhancing the environment for current and future generations is a high priority for our company and fundamental to the long-term sustainability of the aquaculture industry.

Tassal is pleased to submit this Annual Environmental Review for the period 1 July 2019 to 30 June 2020, and I hereby acknowledge its contents.

This report is available to the public and will be provided upon request.



Michael Verhagen

Senior Manager- Commercial & National Processing

Tassal Operations Pty Ltd



## Section 1: Introduction

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Each year Tassal Operations Pty Ltd (Tassal) undertakes an Annual Environmental Review of the Triabunna Fish Rendering Facility (the Facility) for submission to the Director, Environment Protection Authority (EPA) in accordance with Condition G11 of Permit DA 2014/00001 (the Permit) for the Facility.

The Annual Environmental Review is required to be submitted to the EPA within 3 months of the end of the reporting period. The reporting period for the Facility is 1 July 2019 to 30 June 2020.

Condition G11 requires the Annual Environmental Review address:

- complaints;
- environment-related procedural or process changes;
- solid and liquid wastes produced, and treatment methods implemented;
- non-trivial environmental incidents;
- monitoring data;
- breaches of limits;
- any issues that must be addressed to improve compliance with these conditions;
- fulfilment of any environmental commitments made;
- community consultation and communication undertaken; and
- proposed changes to the activity in the next 12 months.

The above items are addressed in turn in this report.

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## Section 2: EPN and Activity Details

### 2.1 EPN Holder

Person Responsible: Tassal Operations Pty Ltd  
Trading Name: Tassal Operations Pty Ltd  
ACN Number: 106 324 127  
Address: GPO Box 1645  
Hobart Tasmania 7001

### 2.2 Activity to which this Report Relates

Permit Number	DA 2014/00001
Date of Issue	12 March 2014
Activity Description	Operation of a fish rendering factory
Activity Name	Triabunna Fish Rendering Facility
Activity Address	8731 Tasman Highway, Triabunna, Tasmania 7190
Contact Person	Deleeze Chetcuti, Environmental Compliance Manager

### 2.3 Description of the Activity

The Facility produces fish meal and fish oil through the rendering of Atlantic Salmon by-products from Tassal's and other fish processing facilities. Feed materials include solid fish remnants and liquid (pumpable) viscera or 'gut'. Solids include skins, trims, frames and heads and are stored in a large chiller room until required. Viscera or 'gut' are delivered by tanker and pumped directly into a feed tank.

The key processes in the rendering operation are:

- Blending of the feed materials;
- Grinding to a uniform size for effective pre-heating;
- Cooking under steam;
- Separation of the solid and liquid materials;
- The wet solids are dried in a drier and the water evaporated to retrieve residual protein;
- The dry product is milled for meal; and
- Polishing of the oil retrieved in the cooking process.

The Facility is accessed by a road from the main property boundary on the Tasman Highway and occupies approximately 2 hectares at 8731 Tasman Highway. The rendering plant is housed in a building of approximately 3,000m<sup>2</sup> with an attached office, and amenities, and is surrounded by a large gravel hardstand area.

Semi-trailer vehicles delivering plant feedstock access and egress the building via large roller doors on either side. Dispatch of fish meal is via a separate roller door on the northern side of the building.

The building (rendering plant room) is negatively pressurised to avoid fugitive emissions. Fumes are drawn under negative pressure from the building into a purpose built biofilter that scrubs odours. The biofilter is located at the rear of the building. Water for the rendering process is supplied from the Rostrevor Dam, a private dam located approximately 3km to the south-east of the Facility.

Waste water at the Facility is derived from the following processes are directed to the water reuse dam (Irrigation Dam);

- condensed evaporated water from the cooking process
- Reverse osmosis concentrate
- Cooling tower blowdown
- Boiler blowdown
- Clean in place of Stickwater centrifuge
- Clean in place of fish oil centrifuge
- Biofilter

The irrigation dam has a capacity of 21 ML, from which water is used for irrigation after it is disinfected through the disinfection plant. Irrigation is undertaken on two irrigation sites on the property east of the Tasman Highway, in accordance with an approved Irrigation and Environmental Management Plan.

#### 2.4 Regulatory Limit for Production

The Permit allows the processing of 20,000 tonnes of fish by-product annually at a maximum rate of 4,999 kg per hour. During the reporting period the Facility processed 11,440 tonnes of fish by-product and the plant is currently operating at 1,589 kg per hour. This is less than the previous reporting period during which the facility processed 12,753 tonnes of fish by-product and operated at 1,771 kg per hour.

The facility produced 1,031 tonnes of fish meal product and 2,918 tonnes of fish oil product for the 2019/2020 Financial Year (reporting period).

Materials received and processed for FY2019/2020 are summarised in Table 1 below.

**Table 1: Fish Materials received FY2019 /2020**

Fish Material	Tonnes	Destination
Solids – Heads Frames, Trims, Skins	5096	Rendered product
	29	Compost
Viscera	6344	Rendered product
	0	Compost

## Section 3: Environmental Monitoring

Environmental monitoring at the Facility is coordinated by the Environmental Partner – Land based Operations, with operational personnel to ensure compliance activities and responsibilities are communicated and actioned in accordance with the Permit conditions.

Management and/or monitoring of the following environmental aspects at the Facility are addressed below:

- Biosecurity
- Odour
- Wastewater and irrigation
- Hazardous Substances
- Noise
- Fish waste management
- Waste

### 3.1 Biosecurity

Under condition G13 of the permit the facility is required to operate under a biosecurity management plan approved both by the EPA and the Chief Veterinary Officer of Biosecurity Tasmania.

The original approved plan, dated 2015, was up-dated and approved by the Chief Veterinary Officer in February 2020. The plan, *Biosecurity Management Plan - Triabunna Rendering Facility* (Tassal, January 2020) was subsequently approved by the EPA in March 2020.

The plan describes the obligations and associated procedures Tassal is required to fulfil to effectively manage biosecurity at the Facility to ensure pathogens are not transferred between biosecurity regions. It also addresses requirements specified by Permit MH 20-01, issued to Tassal under Section 37 of the *Animal Health Act* 1995 for the movement of fish and fish products (Rainbow trout and Atlantic Salmon) within Tasmania.

### 3.2 Odour

Conditions A1 to A4 of the Permit define the odour emission limits for the Facility as well as associated monitoring and modelling requirements.

During the reporting period there were no odour complaints received.

In April 2019, during a period of full production, Ektimo conducted odour sampling and Tarkarri Engineering produced the modelling of the Facility's odour impact. Tassal submitted the odour emission modelling report in January 2020 which was subsequently approved by the EPA on 2 March 2020 which required the development of an Odour Mitigation Plan. The Odour Action Plan was submitted to the EPA on 25 March 2020 and updated on 11 May 2020.

Due to COVID19 planned actions have been limited to in-house maintenance and controls supported by procedures and daily monitoring of key parameters. This has led to significantly improved performance, reduces odour emanating from the site and no odour complaints.

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### 3.3 Wastewater and Irrigation

Tassal operates a wastewater reuse scheme in accordance with an Irrigation Management Plan approved under condition E5 of the Permit. The scheme allows the controlled irrigation of fodder crops using wastewater generated by the Facility. All wastewater streams report to the wastewater reuse dam (Irrigation Dam). Prior to its use for irrigation, the water passes through a disinfection system to reduce coliforms present in the water to below the required 1,000 cfu/100mL.

Pivot irrigators are used to irrigate two areas (Area 1 and Area 2) covering 15 ha each. The system, including the storage capacity of the dam, is designed for a 1:10 year rainfall event.

A total of 6,631kL of reuse water was used to irrigate Area 1 and 9,482kL to irrigate Area 2 during the reporting period. Table 2 outlines the volume of water used to irrigate Area 1 and Area 2. As per the current Irrigation Management Plan, irrigation volumes are determined by the ongoing weekly review of soil moisture data by Macquarie Franklin.

The 2019 annual soil monitoring and compliance audit was undertaken in October 2019 and the subsequent report was submitted to the EPA for review. The actions from this report, the Irrigation and Environmental Management Plan and the Wastewater Improvement Plan have been combined into the Wastewater Management Action Plan – 2020 and approved by the EPA. This is a living document that enables focus and review of all the key issues, actions and commitments.

**Table 2: Irrigation Volumes**

Month	Pivot 1 (15 Ha) Volume (ML)	Pivot 2 (15 ha) Volume (ML)	Rainfall (mm)*
Jul-19	0	0	9.6
Aug-19	0	0	31.2
Sep-19	0	0	69.0
Oct-19	1.09	1.62	39.4
Nov-19	0	2.59	33.4
Dec-19	0	0	29.0
Jan-20	0	0	14.2
Feb-20	0.81	0.00	38.8
Mar-20	0.67	0.00	73.6
Apr-20	2.14	0.00	101.6
May-20	1.92	4.75	13.8
Jun-20	0	0.53	73.6
<b>Total</b>	<b>6.63</b>	<b>9.48</b>	<b>527.2</b>
<b>Application rate (ML/ha)</b>	<b>0.44</b>	<b>0.63</b>	

\*Rainfall data taken from BOM weather station Grindstone Point – ID: 92149

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Irrigation activities are managed in accordance with the Tassal Triabunna Irrigation Procedure. The Procedure contains an approved irrigation schedule, an internal approval process to commence irrigation, monitoring, recording and reporting requirements as well as information to be communicated to the landowner. A Task Breakdown has been developed for the operation of the disinfection and irrigation system. Moisture probes have been installed on both irrigation areas. The probes record continuous data that can be accessed on a real-time basis. The irrigation schedule is revised by Macquarie Franklin on a weekly basis and adjusted in accordance with soil moisture, reuse water quality and soil quality data.

Tassal and Macquarie Franklin developed the Waste Water Improvement Plan (WWIP) in 2018 and the Wastewater Management Plan (WMP) for the Facility in 2019. These were submitted to the EPA and approved in 2019.

### 3.3.1 Monitoring

Monitoring currently required by the Permit to determine the quality of the reuse water at the Facility is summarised in Table 3.

**Table 3: Reuse Monitoring Requirements**

Sampling Location	Frequency of Sampling	Parameters to be Tested
All wastewater streams exiting the plant, but prior to their entry into the irrigation dam	Weekly	Thermotolerant Coliforms
Grab sample of reuse water from the irrigation dam	Weekly	pH, conductivity, TSS, adjusted SAR, total ammonia nitrogen, total nitrogen, total phosphorus, BOD <sub>5</sub> , thermotolerant coliforms
In the creek flowing past the active irrigation area into Rostrevor Dam at the following points: 1. Approximately 10 metres upstream from the point where surface water runoff from the active irrigation area first enters the creek. 2. Approximately 10 metres downstream from the point from the point where surface water runoff from the active irrigation area last enters the creek. 3. Approximately 1 metre upstream of where the creek enters Rostrevor Dam.	Monthly, commencing in January 2017, when there is runoff from the active irrigation area and sufficient water flow in the creek to enable sampling.	Thermotolerant coliforms, total ammonia nitrogen, total nitrogen, total phosphorus.
Water supplied to the plant from Rostrevor Dam	Monthly	Thermotolerant coliforms, total ammonia nitrogen, total phosphorus, conductivity
Active designated irrigation areas	Weekly individual totals for each of the designated irrigation areas to which the reuse water was applied.	kL/ha/week
Soil Chemical Analysis	Annual	As defined in the Irrigation and Environmental Management Plan
Groundwater Analysis	6 Months	As defined in the Irrigation and Environmental Management Plan

### 3.3.1.1 Irrigation Dam Water Quality

The quality of water in the Irrigation Dam is monitored on a weekly basis. A summary of the 2019 -20 results, in comparison to the previous reporting period, is presented in Table 4.

The current approved IEMP accounts for the reuse water quality and ensures appropriate controls are implemented to prevent adverse impacts to irrigated pasture and livestock.

Ammonia, total nitrogen and electrical conductivity are consistently above the irrigation guideline limits contained in the DPEMP for the Facility. Discussions were held with EPA Tasmania in June 2019 regarding the appropriateness of the waste water limits detailed in the 2015 DPEMP and subsequent changes implemented in December 2016. These limits have been under review during the whole of the reporting period and significant progress has been made to achieve a workable alternative to the original DPEMP limits that were not achievable.

Thermotolerant coliform levels are maintained below 1000 cfu/100ml limit when samples are taken during irrigation when the water is disinfected however, we are required to sample weekly which leads to sampling directly from the dam when irrigation is not possible. Dam water quality prior to treatment can vary significantly and is not a representation of what is being put onto the irrigated land. As such Table 4 below summarises samples taken from the pipe during irrigation only.

**Table 4: Summary of Irrigated Water Quality July 2019 – June 2020**

<i>Avg 19/20</i>	7.8	3628	198	8.5	106	135	2.8	110	291
<i>Avg 18/19</i>	7.8	3532	255	8	224	266	6.3	321	526
<i>Max 19/20</i>	8.2	5260	920	10.9	130	230	4.7	570	800
<i>Max 18/19</i>	8.5	4090	1170	9.4	300	340	9.1	930	1400
<i>Med 19/20</i>	7.8	3520	152.5	8.2	120	145	3.3	104	50
<i>Med 18/19</i>	7.9	3480	186	7.9	220	260	6.3	275	400

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Full details of all irrigation dam water analysis results sampled from both the dam and the irrigation pipe are contained in Table 5 below.

**Table 5 – Weekly Irrigation Dam Water Quality Results July 2019 - June 2020**

Date	Parameter								
	pH	EC	TSS	Adjusted SAR	Ammonia	Total Nitrogen	Total Phosphorus	BOD	Total Coliforms
	pH units	uS/cm	mg/L		mg/L	mg/L	mg/L	mg/L	cfu/100 mL
3/7/19	8.1	3990	135	10.3	240	270	7.1	750	3,000
10/7/19	8.2	3810	120	9.98	220	230	5	770	5,000
17/7/19	8.1	3930	133	9.01	130	230	4.7	570	50
24/7/19	8	3840	99	8.67	160	160	3.7	410	1,100
7/8/19	7.9	3720	104	8.86	150	160	3.7	410	11,000
14/8/19	7.6	3730	120	8.71	130	150	3.68	340	400
21/8/19	7.8	3680	160	8.21	130	150	3.84	240	800
28/8/19	7.6	3690	180	8.34	130	140	4.06	200	10,000
4/9/19	7.6	3730	164	8.68	130	160	3.78	120	3,300
12/8/19	7.6	3450	208	7.49	130	150	3.41	120	300
18/9/19	7.6	3500	157	7.95	120	150	4.36	110	400
25/9/19	7.7	3570	262	8.36	130	140	3.39	120	1,500
3/10/19	7.5	3510	172	8.46	120	150	3.53	140	1,100
10/10/19	7.6	3540	188	8.63	120	140	3.54	150	800
17/10/19	7.6	3570	125	8.89	120	140	3.42	150	800
23/10/19	7.7	3630	164	9.19	120	140	3.31	120	1,200
31/10/19	7.7	3630	248	9.26	120	150	3.92	130	1,100
7/11/19	7.8	3800	227	9.15	130	160	4.23	110	600
14/11/19	8	3820	222	8.96	130	170	3.41	70	700
27/11/19	8.1	3970	350	9.16	120	160	3.68	160	3,200
5/12/19	7.9	3970	316	9.37	120	150	2.46	110	600
11/12/19	8	4010	368	9.4	110	150	2.22	120	5,000
9/1/20	8	4570	640	10.1	110	180	3.52	110	5,000
16/1/20	7.8	4590	920	9.55	110	170	3.97	110	400
23/1/20	7.8	4800	585	10.3	110	180	3.09	120	2,400
4/3/20	7.6	5530	644	10.8	140	200	4.13	240	3,100
11/3/20	7.9	5160	360	10.4	130	180	3.2	110	50
26/3/20	7.7	4990	776	10.5	120	190	5.05	210	15,000
1/4/20	7.7	5090	660	10.4	130	180	4.51	210	*US*
9/4/20	7.3	5270	1123	10.8	130	170	4.25	160	*US*
15/4/20	7.5	5260	90	10.9	130	160	3.69	98	50
23/4/20	7.9	2970	148	7.84	65	83	1.43	50	50
29/4/20	7.9	3000	124	7.9	68	85	1.52	36	50
6/5/20	8	2980	110	7.6	52	86	1.23	2.5	50
14/5/20	8.2	2960	100	7.68	72	87	1.29	2.5	50
20/5/20	7.8	3060	91	8.04	75	87	1.48	2.5	50
27/5/20	7.8	3130	157	7.73	85	100	1.52	2.5	50
3/6/20	7.8	3200	108	8.15	92	110	1.94	29	50
11/6/20	7.8	3240	94	7.86	92	110	1.57	2.5	50
17/6/20	8	3280	200	7.92	98	130	2.62	2.5	50
24/6/20	7.7	2970	230	7.21	85	110	2.65	83	10,000
<b>Avg 19/20</b>	<b>7.8</b>	<b>3857</b>	<b>278</b>	<b>8.9</b>	<b>120</b>	<b>151</b>	<b>3</b>	<b>171</b>	<b>2267</b>
<b>Avg 18/19</b>	<b>7.8</b>	<b>3532</b>	<b>255</b>	<b>8</b>	<b>224</b>	<b>266</b>	<b>6.3</b>	<b>321</b>	<b>13897</b>
<b>Max 19/20</b>	<b>8.2</b>	<b>5530</b>	<b>1123</b>	<b>10.9</b>	<b>240</b>	<b>270</b>	<b>7.1</b>	<b>770</b>	<b>15000</b>
<b>Max 18/19</b>	<b>8.5</b>	<b>4090</b>	<b>1170</b>	<b>9.4</b>	<b>300</b>	<b>340</b>	<b>9.1</b>	<b>930</b>	<b>70000</b>
<b>Med 19/20</b>	<b>7.8</b>	<b>3720</b>	<b>172</b>	<b>8.86</b>	<b>120</b>	<b>150</b>	<b>3.53</b>	<b>120</b>	<b>800</b>
<b>Med 18/19</b>	<b>7.9</b>	<b>3480</b>	<b>186</b>	<b>7.9</b>	<b>220</b>	<b>260</b>	<b>6.3</b>	<b>275</b>	<b>5500</b>



### 3.3.1.2 Rostrevor Dam Water Quality

The quality of water in Rostrevor Dam is monitored monthly. The results of monitoring, between July 2019 and June 2020, are presented in Table 6.

**Table 6: Rostrevor Dam Water Quality July 2019 – June 2020**

Date	Parameter			
	EC uS/cm	Ammonia mg/L	Total Phosphorus mg/L	Total Coliforms cfu/100 mL
28/8/19	2600	0.006	0.079	10
25/9/19	2560	0.007	0.013	10
31/10/19	2630	0.008	0.058	10
27/11/19	2800	0.03	0.104	10
4/3/20	3780	0.033	0.325	20
1/4/20	3520	0.06	0.241	*US*
23/4/20	2140	0.66	0.246	10
27/5/20	1900	0.22	0.137	10
24/6/20	2060	0.19	0.087	80
Average	2666	0.135	0.143	20
Maximum	3780	0.66	0.325	80
Median	2600	0.033	0.104	10

The key factor influencing Rostrevor Dam water quality is climatic variation. Continued low rainfall during 2019 and early 2020 had caused further increase in salinity in this dam through until a major rainfall event in April 2020 which reduced salinity by 50%. This has subsequently reduced salinity in the irrigated water from the facility.

### 3.3.1.3 Soil Monitoring

Monitoring of soil in Irrigation Areas 1 and 2 is undertaken by Macquarie Franklin. The topsoil and sub-soil have been monitored annually for the past 4 years to establish a robust data set. The results did not indicate any significant emerging issues and it was recommended that topsoil quality continue to be monitored annually and subsoil change to every 5 years in line with metals unless the topsoil results indicate a potentially negative impact on subsoil.

### 3.3.1.4 Groundwater Monitoring

Macquarie Franklin undertook groundwater bore sampling at the Facility in October 2019. This was the fifth sampling event since bore installation by Sloane Geoscience Pty Ltd and KMR Drilling Pty Ltd in March 2015. The 2019 results have been compared to previous results in *2019 Groundwater Monitoring Report: Triabunna Wastewater Irrigation Scheme* (Macquarie Franklin, 2019) was submitted to the EPA on 29 January 2020. Overall, irrigation and recycled water does not appear to be having any adverse effects on groundwater quality.

Triabunna Fish Rendering Facility  
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### 3.4 Hazardous substances

Conditions H1 and H2 of the Permit relate to the management of hazardous substances at the Facility, including storage and handling and spill kits.

All hazardous materials held at the facility are located within suitably bunded areas that are designed to contain at least 110% of the volume of the largest container. In 2020 additional chemical storage was installed for acids and flammable liquids in a purpose built storage facility external to the factory building with a dedicated safety shower.

Natural gas is stored in approved and licenced tanks.

A sufficient number of spill kits are maintained and available at appropriate locations throughout the Facility.

### 3.5 Noise

Noise from the Facility must not exceed the following limits specified by Condition N1 of the Permit:

- Day (7am to 6pm) 45 dBA
- Evening (6pm to 10pm) 40 dBA
- Night (10pm to 7am) 35 dBA

The last Noise Survey was conducted in February 2018 by Environmental Dynamics and was approved by the EPA in September 2018 as fulfilling Condition N3(5) of the Permit (report requirements) and demonstrating compliance with Condition N1 (Noise Emission Limits).

The main sources of noise from the Facility are the cooling tower and the intermittent truck movements.

### 3.6 Fish waste and general waste

The process for fish material that is not suitable for rendering is to identify this at the Marine operations areas and then transport the material directly to an approved composting facility. If fish material is received at Triabunna that is not suitable for rendering it is stored in leak proof lidded containers in a refrigerated area until the bins are emptied into slide top hook lift bins that are then transported to an EPA licenced composting facility. The maceration system for unsuitable fish waste is also maintained as a back-up system. If it is used in the future, records will be kept in accordance with the approval for the maceration system.

General refuse arrangements are in place with a licenced contractor for the collection and disposal of general waste. All waste streams are disposed of at EPA approved facilities. Approximately 4 m<sup>3</sup> of general waste is removed twice per week from the Facility.

### 3.7 Operational Procedures and Environmental Management Plan

Condition G12 of the Permit requires development of an Environmental Management Plan – Operations for the Facility.

Tassal uses an electronic document control management system called Q-Pulse, which ensures business processes and procedures are current, accessible and secure. Q-Pulse maintains all operational procedures relevant to the Facility.

The Environmental Management Plan - Operations was submitted to the EPA in March 2019 and approved in April 2019.

## Section 4: Incidents and Complaints

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### 4.1 Notifiable Incidents

There have been no incidents, notifiable under section 32 of *Environmental Management and Pollution Control Act 1994*, at the facility during the reporting period.

### 4.2 Complaints

A public complaints register is maintained by Tassal. During the reporting period no complaints were received.

### 4.3 Community Consultation

In 2018 Tassal implemented a routine approach to community engagement, committing to a minimum of two public information sessions in every region, annually. The sessions provide a forum for:

- consultation and feedback both to and from Tassal;
- discussion of Tassal planning and decision-making processes;
- community to raise concerns about Tassal operations;
- considering joint initiatives with stakeholders;
- supporting stakeholder partnerships; and
- providing information to the community about salmon farming practices.

Tassal meets with residents and community groups on a regular basis and provides financial support through an ongoing grants program.

Tassal also addresses broader off-site potential social impacts associated with salmon production, including interactions with local communities, as part of its annual Aquaculture Stewardship Council certification.

In 2018 Tassal launched its Community Foundation - which includes a charter on how Tassal engages with communities. As part of this, Tassal established in every region dedicated Community Advisory Groups (CAGs). The CAGs purpose is to facilitate feedback and partner with Tassal on opportunities for local improvement and engagement.

## Section 5: Compliance with EPN Conditions

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During the reporting period, the Facility was compliant with all EPN conditions.

## Section 6: Commitments

### 6.1 2018/19 Commitments

Several commitments were made by Tassal in the 2018-2019 Annual Review. The commitments and their status are outlined in Table 7.

**Table 7 – 2018/19 Commitments**

No.	Commitment	Status
1.	Complete the <i>Triabunna Rendering Facility Biosecurity Management Plan 2019</i> to incorporate findings and recommendation of the business-wide biosecurity management review.	Complete. The <i>Biosecurity Management Plan Triabunna Rendering Facility</i> (Tassal, January 2020) was approved by the Chief Veterinary Officer in February 2020 and subsequently approved by the EPA in March 2020.
2.	Review odour emissions and assess mitigation options for the Facility.	Complete. An odour emission and modelling report was submitted to the EPA in January 2020 and was approved on 2 March 2020, subject to the development of a plan to mitigate odour. An Odour Action Plan was submitted to the EPA on 25 March 2020 and updated on 11 May 2020.
3.	Implement the commitments made in the Irrigation and Environmental Management Plan and the Wastewater Improvement Plan to improve wastewater quality.	Ongoing. Commitments in both plans, as well as the Facility's annual environmental monitoring and audit report, have been collated in the <i>Tassal Triabunna Rendering Facility Wastewater Management Action Plan – 2020</i> and are progressively being investigated and implemented, where possible.
4.	Implement commitments made in the Environmental Management Plan - Operations 2019 - 2023.	Ongoing. Implementation of commitments is ongoing.

### 6.2 Future Commitments

Tassal is committed to the following in 2020/21:

1. Implement the approved *Triabunna Rendering Facility Biosecurity Management Plan 2020*.
2. Implement the approved *Triabunna Odour Action Plan* to reduce odour emissions from the Facility.
3. Implement the *Triabunna Wastewater Management Action Plan – 2020* to improve wastewater quality from the Facility.



Leading Seafood in Australia



# **TASSAL OPERATIONS PTY LTD TRIABUNNA FISH RENDERING FACILITY**

## **ANNUAL ENVIRONMENTAL REVIEW July 2020 to June 2021**

RTI - DL - RELEASED - EPA

Prepared by Clinton Luckock  
Environmental Partner  
Tassal Operations Pty Ltd

RTI - DL - RELEASE - EPA

**Document Status**

<b>Revision</b>	<b>Date</b>	<b>Author</b>	<b>Comments</b>	<b>Approved</b>
Draft 1	7/9/2021	CHL	Submitted to JC for review & comment	9/09/2021
Draft 2	16/9/2021	CHL	Submitted to management for review & comment	29/09/2021
Draft 3	29/09/2021	CHL	Submitted to management for final review and sign off	30/09/2021
Final	30/09/2021	CHL	Final submitted to EPA	

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Triabunna Fish Rendering Facility  
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## Executive Statement

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The activities undertaken at Tassal Operations Pty Ltd (Tassal) Triabunna Fish Processing Facility (the Facility) are subject to Permit Conditions – Environmental No. 9015 as contained in Permit DA 2014/00001, issued by Glamorgan Spring Bay Council on 12 March 2014.

The conditions form the basis for environmental management for all activities at the Facility and ensure its compliance with Tasmanian legislation and state national guidelines.

Protecting, conserving and enhancing the environment for current and future generations is a high priority for our company and fundamental to the long-term sustainability of the aquaculture industry.

Tassal is pleased to submit this Annual Environmental Review for the period 1 July 2020 to 30 June 2021, and I hereby acknowledge its contents.

This report is available to the public and copies will be provided upon request.



Hamish Sutton  
Head of Supply, Product Innovation & Business Performance  
Tassal Operations Pty Ltd

RTI - DL - RELEASE - ERA



Triabunna Fish Rendering Facility  
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## Section 1: Introduction

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Each year Tassal Operations Pty Ltd (Tassal) undertakes an Annual Environmental Review of the Triabunna Fish Rendering Facility (the Facility) for submission to the Director, Environment Protection Authority (EPA) in accordance with Condition G11 of Permit DA 2014/00001 (the Permit) for the Facility.

The Annual Environmental Review is required to be submitted to the EPA within 3 months of the end of the reporting period. The reporting period for the Facility is 1 July 2020 to 30 June 2021.

Condition G11 requires the Annual Environmental Review address:

- complaints;
- environment-related procedural or process changes;
- solid and liquid wastes produced, and treatment methods implemented;
- non-trivial environmental incidents;
- monitoring data;
- breaches of limits;
- any issues that must be addressed to improve compliance with these conditions;
- fulfilment of any environmental commitments made;
- community consultation and communication undertaken; and
- proposed changes to the activity in the next 12 months.

The above items are addressed in this report.

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Triabunna Fish Rendering Facility  
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## Section 2: EPN and Activity Details

### 2.1 EPN Holder

Person Responsible: Tassal Operations Pty Ltd  
 Trading Name: Tassal Operations Pty Ltd  
 ACN Number: 106 324 127  
 Address: GPO Box 1645  
 Hobart Tasmania 7001

### 2.2 Activity to which this Report Relates

Permit Number	DA 2014/00001
Date of Issue	12 March 2014
Activity Description	Operation of a fish rendering factory
Activity Name	Triabunna Fish Rendering Facility
Activity Address	8731 Tasman Highway, Triabunna, Tasmania 7190
Contact Person	Joel Cooper, Environmental Compliance Manager

### 2.3 Description of the Activity

The Facility produces fish meal and fish oil through the rendering of Atlantic Salmon by-products from Tassal's and other fish processing facilities. Feed materials include solid fish, fish remnants and liquid (pumpable) viscera or 'gut'. Solids include mortalities, skins, trims, frames and heads and are stored in a large chiller room until required. Viscera or 'gut' are delivered by tanker and pumped directly into a feed tank.

The key processes of the rendering operation are:

- Blending of the feed materials;
- Grinding to a uniform size for effective pre-heating;
- Cooking under steam;
- Separation of the solid and liquid materials;
- The wet solids are dried in a drier and the water evaporated to retrieve residual protein;
- The dry product is milled for meal; and
- Polishing of the oil retrieved in the cooking process.

The Facility is accessed by a road from the main property boundary on the Tasman Highway and occupies approximately 2 hectares at 8731 Tasman Highway. The rendering plant is housed in a building of approximately 3,000m<sup>2</sup> with an attached office, and amenities, and is surrounded by a large gravel hardstand area.

Semi-trailer vehicles delivering plant feedstock access and egress the building via large roller doors on either side. Dispatch of fish meal is via a separate roller door on the northern side of the building.

The building (rendering plant room) is negatively pressurised to avoid fugitive emissions. Fumes are drawn under negative pressure from the building into a purpose built biofilter that scrubs odours. The biofilter is located at the rear of the building. Water for the rendering process is supplied from the Rostrevor Dam, a private dam located approximately 3km to the south-east of the Facility.

Waste water at the Facility is derived from the following processes and are directed to the water reuse dam (Irrigation Dam)

- Water filtrate
- Reverse osmosis concentrate
- Cooling tower blowdown
- Boiler blowdown
- Condensed evaporated water from the cooking processes
- Cleaning & disinfection washdown water
- Biofilter water

The irrigation dam has a capacity of 21 ML. Water is disinfected through the disinfection plant and subsequently used for irrigation. Irrigation is undertaken at two sites on the property east of the Tasman Highway, in accordance with an approved Irrigation and Environmental Management Plan.

#### 2.4 Regulatory Limit for Production

The Permit authorises Tassal to process 20,000 tonnes of fish by-product annually at a maximum rate of 4,999 kg per hour. During the reporting period the Facility processed 14,177 tonnes of fish by-product. The plant is currently operating at 1,696 kg per hour. This is higher than the previous reporting period during which the facility processed 11,440 tonnes of fish by-product at a rate of 1,589 kg per hour.

The facility produced 1,407 tonnes of fish meal product and 3,382 tonnes of fish oil product for the 2020/2021 Financial Year (reporting period).

Materials received and processed for FY2020/2021 are summarised in Table 1 below.

**Table 1: Fish Materials received FY2020 /2021**

Fish Material	Tonnes	Destination
Solids – heads, frames, trims, skins and mortalities	7347	Rendered product
	377	Compost
Viscera	6830	Rendered product
	1743	Compost

## Section 3: Environmental Monitoring

Environmental monitoring at the Facility is coordinated by the Environmental Partner, in collaboration with operational personnel, to ensure compliance activities and responsibilities are communicated and actioned in accordance with the Permit conditions.

Management and/or monitoring of the following environmental aspects at the Facility are addressed below:

- Biosecurity
- Odour
- Wastewater and irrigation
- Hazardous Substances
- Noise
- Fish waste management
- Waste

### 3.1 Biosecurity

Under condition G13 of the permit, the facility is required to operate under a biosecurity management plan approved both by the EPA and the Chief Veterinary Officer of Biosecurity Tasmania.

The original approved plan, dated 2015, was updated and approved by the Chief Veterinary Officer in February 2020. The plan, *Biosecurity Management Plan - Triabunna Fish Rendering Facility* (Tassal, January 2020) was subsequently approved by the EPA in March 2020.

The plan describes the obligations and associated procedures Tassal is required to fulfil to effectively manage biosecurity at the Facility to ensure pathogens are not transferred between biosecurity regions. It also addresses requirements specified by current permit issued under Section 37 of the *Animal Health Act 1995* for the movement of fish and fish products (Rainbow trout and Atlantic Salmon) within Tasmania.

### 3.2 Odour

Conditions A1 to A4 of the Permit define the odour emission limits for the Facility as well as associated monitoring and modelling requirements.

During the reporting period there was one odour complaint received via the EPA on 12 March 2021. This complaint was raised prior to the biofilter upgrade.

In April 2019, during a period of full production, Ektimo conducted odour sampling for the site. Tarkarri Engineering subsequently produced the modelling of the Facility's odour impact. Tassal submitted the odour emission modelling report in January 2020 and the report was approved by the EPA on 2 March 2020. The development of an Odour Mitigation Plan was formally required. The Odour Action Plan was submitted to the EPA on 25 March 2020 and updated on 11 May 2020 and June 2021 respectively.

In April 2021, the biofilter was increased in physical size and capacity to improve odour reduction from the facility. All media was replaced, and the monitoring equipment inspected or replaced. An evaluation of system performance was completed, and adjustments were made to maximise odour reduction.

Triabunna Fish Rendering Facility  
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### 3.3 Wastewater and Irrigation

Tassal operates a wastewater reuse scheme in accordance with an Irrigation Management Plan approved under condition E5 of the Permit. The scheme allows the controlled irrigation of fodder crops using wastewater generated by the Facility. All wastewater streams report to the wastewater reuse dam (Irrigation Dam). Prior to its use for irrigation, the water passes through a disinfection system to reduce coliforms present in the water to below the required 1,000 cfu/100mL.

Pivot irrigators are used to irrigate two areas (Area 1 and Area 2) covering 15 ha each. The system, including the storage capacity of the dam, is designed for a 1:10 year rainfall event.

A total of 1,475kL of reuse water was used to irrigate Area 1 and 1,115kL to irrigate Area 2 during the reporting period. Table 2 outlines the volume of water used to irrigate Area 1 and Area 2. As per the current Irrigation Management Plan, irrigation volumes are determined by the ongoing weekly review of soil moisture data by Pinion Advisory.

The 2020 annual soil monitoring and compliance audit was undertaken in October 2020 and the associated report was submitted to the EPA for review. The actions from this report, the Irrigation and Environmental Management Plan and the Wastewater Improvement Plan have been incorporated into the combined Wastewater Management Action Plan – 2020 and approved by the EPA on 4 November 2020. This is a living document that enables focus and review of all the key issues, actions and commitments.

**Table 2: Irrigation Volumes**

Month	Pivot 1 (15 Ha) Volume (ML)	Pivot 2 (15 ha) Volume (ML)	Rainfall (mm)*
Jul-19	0.19	0	6.8
Aug-19	0	0	121
Sep-19	0	0	14.2
Oct-19	0.31	0	123.8
Nov-19	0.28	0.16	19.6
Dec-19	0.18	0.12	73.6
Jan-20	0.18	0.15	66
Feb-20	0	0	34.8
Mar-20	0	0	149.4
Apr-20	0.34	0	24.2
May-20	0	0.43	17.2
Jun-20	0	0.25	113.8
<b>Total</b>	<b>1.47</b>	<b>1.11</b>	<b>764.4</b>
<b>Application rate (ML/ha)</b>	<b>0.10</b>	<b>0.07</b>	

\*Rainfall data taken from BOM weather station Triabunna - Salmon Flats - ID: 92157 as Grindstone Point – ID: 92149 BOM records are missing over 3 months of data.

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Irrigation activities are managed in accordance with the Tassal Triabunna Irrigation Procedure. The procedure contains an approved irrigation schedule, an internal approval process to commence irrigation, monitoring, recording and reporting requirements as well as the specification of all information to be communicated to the landowner.

A detailed task breakdown procedure has been developed for the operation of the disinfection and irrigation system. Moisture probes have been installed on both irrigation areas. The probes record continuous data that can be accessed on a real-time basis. The irrigation schedule is revised by Pinion Advisory on a weekly basis and adjusted in accordance with soil moisture, reuse water quality and soil quality data.

Tassal and Pinion Advisory developed the Waste Water Improvement Plan (WWIP) in 2018 and the Wastewater Management Plan (WMP) for the Facility in 2019. These were submitted to the EPA and approved in 2019. In August 2020 the new Wastewater Quality Investigation Levels were introduced to address the issues with sustainable wastewater management. Subsequently the Wastewater Management Action Plan - September 2020 was submitted and approved on 4 November 2020. This document supersedes the 2018 & 2019 iterations.

### 3.3.1 Monitoring

Monitoring is required to determine the quality of the reuse water at the Facility. Irrigation water is to be sampled during each month that irrigation takes place. The Wastewater Quality Investigation Levels are presented in Table 3.

**Table 3: Wastewater Quality Investigation Levels**

Parameter	Short-term Investigation Level (Year 1)	Long-term Investigation Level (Years 2-3)
BOD (mg/L)	500	300
pH units	6.5-10	6.5-10
Total Suspended Solids (mg/L)	750	500
Ammonia N (mg/L)	140	100
Total N (mg/L)	200	120
Total P (mg/L)	10	5
Electrical Conductivity (µS/cm)	4000	2000
Thermotolerant Coliforms (cfu per 100 ml)	1000	1000

#### 3.3.1.1 Irrigation Reuse Water Quality

A summary of the 2020-2021 analysis results, and a comparison to the previous reporting period, is presented in Table 4.

The current approved IEMP accounts for the reuse water quality and ensures appropriate controls are implemented to prevent adverse impacts to irrigated pasture and livestock. Total nitrogen and total phosphorous were exceeded in the May 2021 sample.

The sampling results for thermotolerant coliforms in July 2020 were taken directly from the irrigation dam prior to disinfection as weekly sampling was required at this point in time. Dam water quality can vary significantly prior to treatment and does not provide an accurate representation of what is being distributed to the irrigated land.

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**Table 4: Summary of Irrigation Water Quality July 2020 – June 2021**

Date	Parameter								
	pH pH units	EC uS/cm	TSS mg/L	Adjusted SAR	Ammonia mg/L	Total Nitrogen mg/L	Total Phosphorus mg/L	BOD mg/L	Total Coliforms cfu/100 mL
1/7/20	7.6	2890	212	6.9	86	110	2.48	73	12,000
9/7/20	7.8	2980	180	7.54	92	120	2.45	67	11,000
16/7/20	7.8	3370	188	7.88	100	120	2.48	100	<100
9/12/20	7.8	2780	573	6.92	94	170	6.59	170	<10
11/1/21	7.9	2950	727	7.74	100	190	8.19	130	<10
3/5/21	7.6	3490	525	10.3	140	240	10.9	110	<100
<b>Avg 20/21</b>	<b>7.8</b>	<b>3077</b>	<b>401</b>	<b>7.9</b>	<b>102</b>	<b>158</b>	<b>6</b>	<b>108</b>	<b>3852</b>
<b>Avg 19/20</b>	<b>7.8</b>	<b>3857</b>	<b>278</b>	<b>8.9</b>	<b>120</b>	<b>151</b>	<b>3.3</b>	<b>171</b>	<b>2267</b>
<b>Max 20/21</b>	<b>7.9</b>	<b>3490</b>	<b>727</b>	<b>10.3</b>	<b>140</b>	<b>240</b>	<b>10.9</b>	<b>170</b>	<b>12000</b>
<b>Max 19/20</b>	<b>8.2</b>	<b>5530</b>	<b>1123</b>	<b>10.9</b>	<b>240</b>	<b>270</b>	<b>7.1</b>	<b>770</b>	<b>15000</b>
<b>Med 20/21</b>	<b>7.8</b>	<b>2965</b>	<b>368.5</b>	<b>7.64</b>	<b>97</b>	<b>145</b>	<b>4.535</b>	<b>105</b>	<b>50</b>
<b>Med 19/20</b>	<b>7.8</b>	<b>3720</b>	<b>172</b>	<b>8.86</b>	<b>120</b>	<b>150</b>	<b>3.53</b>	<b>120</b>	<b>800</b>

### 3.3.1.2 Soil Monitoring

Monitoring of soil in irrigation pivot areas 1 and 2 is undertaken by Pinion Advisory. The topsoil and sub-soil have been monitored annually for the past 5 years to establish a robust data set. The results did not indicate any significant emerging issues and it was recommended that topsoil quality continue to be monitored annually and subsoil change to every 5 years in line with metals, unless the topsoil results indicate a potentially negative impact to subsoil.

### 3.3.1.3 Groundwater Monitoring

Pinion Advisory undertook groundwater bore sampling at the Facility in October 2020. This was the sixth sampling event since bore installation by Sloane Geoscience Pty Ltd and KMR Drilling Pty Ltd in March 2015. The 2020 results have been compared to previous results in the Tassal Triabunna annual monitoring report January 2021 (Pinion Advisory, 2020) which was submitted to the EPA on 5 January 2021. Overall, irrigation and recycled water does not appear to be having any adverse effects on groundwater quality.

## 3.4 Hazardous substances

Conditions H1 and H2 of the Permit relate to the management of hazardous substances at the Facility, including storage and handling and spill kits. All hazardous materials held at the facility are located within suitably bunded areas that are designed to contain at least 110% of the volume of the largest container. In 2020 additional chemical storage was installed for acids and flammable liquids in a purpose built storage facility external to the factory building with a dedicated safety shower. Natural gas is stored in approved and licenced tanks. A sufficient number of spill kits are maintained and available at appropriate locations throughout the Facility.

## 3.5 Noise

Noise from the Facility must not exceed the following limits specified by Condition N1 of the Permit:

- Day (7am to 6pm) 45 dBA
- Evening (6pm to 10pm) 40 dBA
- Night (10pm to 7am) 35 dBA

The last Noise Survey was conducted in February 2018 by Environmental Dynamics. The survey was approved by the EPA in September 2018 and satisfied the requirements of conditions N1 and N3(5) of the Permit.

Triabunna Fish Rendering Facility  
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The main sources of noise from the Facility are the cooling tower and the intermittent truck movements.

### 3.6 Fish waste and general waste

The process for managing fish material that is not suitable for rendering is as follows:

- to identify this at the Marine operations areas and then transport the material directly to an approved composting facility.
- If fish material is received at Triabunna that is not suitable for rendering it is stored in leak proof lidded containers in a refrigerated area until the bins are emptied into slide top hook lift bins that are then transported to an EPA licenced composting facility.
- The maceration system for unsuitable fish waste is also maintained as a back-up system.
  - If it is used in the future, records will be kept in accordance with the approval for the maceration system.

General refuse arrangements are in place with a licenced contractor for the collection and disposal of general waste. All waste streams are disposed of at EPA approved facilities. Approximately 4 m<sup>3</sup> of general waste is removed twice per week from the Facility.

### 3.7 Operational Procedures and Environmental Management Plan

Condition G12 of the Permit requires development of an Environmental Management Plan and subsequent review at five year intervals.

The Triabunna Environmental Management Plan - Operations was submitted to the EPA in March 2019 and approved in April 2019.

## Section 4: Incidents and Complaints

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### 4.1 Notifiable Incidents

There have been no incidents, notifiable under section 32 of *Environmental Management and Pollution Control Act 1994*, at the facility during the reporting period.

### 4.2 Complaints

A public complaints register is maintained by Tassal. During the reporting period one odour complaint was received on 12 March 2021.

### 4.3 Community Consultation

Part of Tassal's commitment to operating responsibly is to develop, maintain and strengthen our relationships with stakeholders. We collaborate with a broad range of stakeholders to identify and manage business risks and opportunities, to advocate for positive outcomes and to ultimately create long-term value.

We use a process of ongoing formal and informal engagement methods, which are based on a set of principles that ensure we are proactive, respectful, transparent and uphold the highest ethical standards.

Engagement is focused on:

**Transparency:** responding with facts and lived experience to enquiries.



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**Flexibility:** needing to change course or stay on course.

**Trust:** goes both ways – we won't engage in false or misleading claims.

Most of our engagement is through dialogue and discussion that takes place as part of normal business practice.

While formal commitments, like certification standards and licence conditions, require us to engage with local communities about our business operations, we are committed to being a responsible neighbour and having a positive impact in the communities where we live and work.

We commission third-party research to understand community sentiment towards aquaculture and our operations.

Key topics raised in 2021 include:

- Animal welfare
- Compliance
- Healthy and affordable food
- Transparency
- Biodiversity
- Indirect economic impacts
- Employment and local recruitment
- Local community support

This research will be bi-annual going forward and complimented by our What Matters community campaign that includes a survey component asking individuals What Matters to them to inform future disclosure activities.

We have ongoing Community Advisory Groups (CAGs) in our key areas of operation. Our CAGs act as an opportunity for information exchange and allow us to understand what matters to the communities we operate in.

In 2022 we are committed to revising our CAG terms of reference and membership structure to ensure refreshed representation.

We work hard to understand any perceived negative community impacts as they become known and mitigate where possible. We encourage our neighbours and local community members to directly engage with us regarding any concerns they may have.

Tassal's annual Sustainability Report and monthly sustainability dashboard updates remain the foundational platforms for voluntary routine disclosure to stakeholders against sustainability metrics and actions and key communication platforms for our environmental, social and governance reporting.

## **Section 5: Compliance with EPN Conditions**

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During the reporting period, the Facility was compliant with all EPN conditions with the exception of an odour complaint in March 2021 and an elevated result in irrigated wastewater analysis during May 2021.

## Section 6: Commitments

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### 6.1 2019/2020 Commitments

The following commitments were made by Tassal in the 2019-2020 Annual Review. The commitments and their status are outlined below

1. Implement the approved *Triabunna Rendering Facility Biosecurity Management Plan 2020*.

Biosecurity Management Plan has been implemented – roller door closure timers placed on the raw materials receiving area

2. Implement the approved *Triabunna Odour Action Plan* to reduce odour emissions from the Facility.

The biofilter has been increased in size and fully refurbished. A dedicated water pump has been installed to maintain flow pressure in the air humidification of the biofilter duct. The air flow has been increased to full design capacity. A 12,000 litre grease trap has been installed between the Facility and the irrigation dam to reduce fat accumulation on the dam walls and potential odour from this source

3. Implement the *Triabunna Wastewater Management Action Plan – 2020* to improve wastewater quality from the Facility.

A 12,000 litre grease trap has been installed between the Facility and the irrigation dam to reduce fats entering the dam.

### 6.2 Future Commitments

Tassal is committed to the following in 2021/2022:

1. Review and update *Triabunna Rendering Facility Biosecurity Management Plan* in 2021.
2. Conduct odour sampling in late 2021/early 2022 during a peak production and summer weather conditions. As this requires interstate contractors coming to site there could potentially be delays with border closures due to COVID19.



**TASSAL OPERATIONS PTY LTD**

**TRIABUNNA FISH RENDERING FACILITY**

**ANNUAL ENVIRONMENTAL REVIEW**

**July 2021 to June 2022**

**Due 30<sup>th</sup> September 2022**

RTI - DL - RELEASED - EPA

Prepared by Laura Hodge  
Environmental Partner  
Tassal Operations Pty Ltd

Triabunna Annual Environmental Review  
 July 2021 – June 2022

**Document Status**

Revision	Date	Author	Comments	Approved
Draft 1	02/09/2022	LH	Submitted to JC for review & comment	JC
Draft 2	27/09/2022	LH	Submitted to management for final review and sign off	DC, MV
Final	30/09/2022	LH	Final submitted to EPA	

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## 1. Executive Statement (G11.1.1)

The activities undertaken at Tassal Operations Pty Ltd (Tassal) Triabunna Fish Processing Facility (the Facility) are subject to Permit Conditions – Environmental No. 9015 as contained in Permit DA 2014/00001, issued by the Environmental Protection Authority on 12 March 2014.

The conditions form the basis for environmental management for all activities at the Facility and ensure its compliance with Tasmanian legislation and national guidelines.

Protecting, conserving, and enhancing the environment for current and future generations is a high priority for our company and fundamental to the long-term sustainability of the aquaculture industry.

Tassal is pleased to submit this Annual Environmental Review for the period 1 July 2021 to 30 June 2022, and I hereby acknowledge its contents.

This report is available to the public.



Hamish Sutton  
**Head Strategy and Supply Chain**  
Tassal Operations Pty Ltd

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## 2. EPN and Activity Details

### 2.1 EPN Holder

<b>Person Responsible:</b>	Tassal Operations Pty Ltd
<b>Trading Name:</b>	Tassal Operations Pty Ltd
<b>ACN Number:</b>	106 324 127
<b>Address:</b>	GPO Box 1645 Hobart Tasmania 7001

### 2.2 Activity to which this Report relates

<b>Permit Number</b>	DA 2014/00001
<b>Date of Issue</b>	12 March 2014
<b>Activity Description</b>	Operation of a fish rendering factory
<b>Activity Name</b>	Triabunna Fish Rendering Facility
<b>Activity Address</b>	8731 Tasman Highway, Triabunna, Tasmania 7190
<b>Contact Person</b>	Joel Cooper, Environmental Compliance Manager

This report is structured in alignment with condition G11 of the Environmental Permit for the Triabunna Rendering Facility (hereafter, the Facility).

The Facility produces fish meal and fish oil through the rendering of Atlantic Salmon (*Salmo salar*) by-products from Tassal's and other fish processing facilities. Feed materials include solid fish, fish remnants and liquid (pumpable) viscera (hereafter, gut). Solids include mortalities, skins, trims, frames, and heads and are stored in a chiller room until required. Gut is delivered by tanker and pumped directly into the feed tank.

The key processes of the rendering operation are:

- Blending of the feed materials;
- Grinding to a uniform size for effective pre-heating;
- Cooking under steam;
- Separation of the solid and liquid materials;
- The wet solids are dried in a drier and the water evaporated to retrieve residual protein;
- The dry product being milled for meal; and
- Polishing of the oil retrieved in the cooking process.

The Facility is accessed by a road from the main property boundary on the Tasman Highway and occupies approximately 2 hectares at 8731 Tasman Highway. The rendering plant is housed in a building of approximately 3,000m<sup>2</sup> with an attached office and amenities. The facility is surrounded by a large gravel hardstand area.

Semi-trailer vehicles delivering plant feedstock access and egress the building via large roller doors on either side. Dispatch of product (fish meal and fish oil) is via a separate roller door on the northern side of the building.

## Triabunna Annual Environmental Review July 2021 – June 2022

The building (rendering plant room) is negatively pressurised to avoid fugitive emissions. Fumes are drawn under negative pressure from the building into a purpose built biofilter that scrubs odours. The biofilter is located on the western side of the building.

Water for the rendering process is supplied by the Rostrevor Dam. This is a private dam located approximately 3km to the south-east of the Facility.

Wastewater at the Facility is derived from the following processes and are directed to the water reuse dam (Irrigation Dam)

- Water filtrate
- Reverse osmosis concentrate
- Cooling tower blowdown
- Boiler blowdown
- Condensed evaporated water from the cooking processes
- Cleaning & disinfection washdown water
- Biofilter water

The irrigation dam has a capacity of 21 ML. Water is passed through the disinfection plant and subsequently used for irrigation. Irrigation is undertaken at two sites on the property east of the Tasman Highway, in accordance with an approved Irrigation and Environmental Management Plan.

### 3. Complaints in Reporting Period (G11.1.2)

A public complaints register is maintained by Tassal. During the reporting period there were no complaints regarding the Facility.

### 4. Environment related Procedural or Process Changes (G11.1.3)

The *Triabunna Rendering Facility Biosecurity Management Plan* was finalised and approved within the reporting period. Further detail is provided in section 7.3 of this report.



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## 5. Waste (G11.1.4)

The Facility accepts fish waste to generate fish meal and fish oil product. Within this process, waste is generated. The waste streams include stickwater from the centrifuge, wastewater, general waste and rejected product. These are outlined in further detail below.

### 5.1 Stickwater

In attempt to continually improve our waste management, land spreading of the stickwater from the centrifuge has been adopted. When land spreading is not a suitable option, stickwater is sent to the composting facility at Interlaken, Tasmania. The Grindstone, Strathburn and St Peters Pass properties are all approved by their respective council for land spreading and are listed on Tassal's Fish Movement Permit. Volumes of each disposal method of the stickwater from Triabunna in the reporting period are outlined below.

**Table 1: Volumes of disposal methods of stickwater from the Facility.**

Site	Compost Facility	Grindstone	St Peters Pass	Strathburn	Total
<b>Tonnage (T)</b>	22	3635	454	522	4633
<b>Volume (ML)</b>	0.22	3.64	0.46	0.52	4.63ML

### 5.2 Irrigated wastewater

Tassal operates a wastewater reuse scheme in accordance with an Irrigation Management Plan (IEMP) approved under condition E5 of the Permit. The scheme allows the controlled irrigation of fodder crops using wastewater generated by the Facility. All wastewater streams report to the wastewater reuse dam (Irrigation Dam). Prior to its use for irrigation, the water passes through a disinfection system to reduce coliforms present in the water to below the required 1,000 cfu/100mL.

Pivot irrigators are used to irrigate two areas (Area 1 and Area 2) covering 15 ha each. The system, including the storage capacity of the dam, is designed for a 1:10 year rainfall event.

A total of 17.2ML of reuse water was used to irrigate Area 1 and 16.4ML to irrigate Area 2 during the reporting period. Table 3 outlines the volume of water used to irrigate Area 1 and Area 2 each month. As per the current Irrigation Management Plan, irrigation volumes are determined by the ongoing weekly review of soil moisture data by Pinion Advisory.

The 2021 annual soil monitoring and compliance audit was undertaken in October 2021 and the associated report was submitted to the EPA for review on the 24<sup>th</sup> of December 2021.

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**Table 2: Irrigation Volumes**

Month	Pivot 1 (15 Ha) Volume (ML)	Pivot 2 (15 ha) Volume (ML)	Rainfall (mm)*
Jul-21	0.24	0.00	4.4
Aug-21	1.08	0.00	10.4
Sep-21	1.94	0.00	32.4
Oct-21	0.00	0.00	191.4
Nov-21	0.00	0.00	44.8
Dec-21	3.91	3.93	16.0
Jan-22	0.00	3.85	47.6
Feb-22	0.00	7.92	16.0
Mar-22	2.66	0.32	125.0
Apr-22	1.69	0.00	55.2
May-22	2.76	0.41	86.0
Jun-22	2.89	0.00	36.2
<b>Total</b>	<b>17.18</b>	<b>16.43</b>	<b>665.4</b>
<b>Application rate (ML/ha)</b>	<b>1.15</b>	<b>1.10</b>	

\*Rainfall data taken from BOM weather station Grindstone Point – ID: 92149

Irrigation activities are managed in accordance with the Tassal Triabunna Irrigation Procedure. The procedure contains an approved irrigation schedule, an internal approval process to commence irrigation, monitoring, recording and reporting requirements as well as the specification of all information to be communicated to the landowner.

A detailed task breakdown procedure has been developed for the operation of the disinfection and irrigation system. Moisture probes have been installed on both irrigation areas. The probes record continuous data that can be accessed on a real-time basis. The irrigation schedule is revised by Pinion Advisory on a weekly basis and adjusted in accordance with soil moisture, reuse water quality and soil quality data.

5.3 Bin liners and general waste

Approximately 12 tonnes of general waste (including bin liners) is removed annually from the Facility.

5.4 Rejected product

The process for managing fish material that is deemed unsuitable for rendering is as follows:

- If identified at Marine operation sites, material is transported directly to an approved composting facility.

## Triabunna Annual Environmental Review July 2021 – June 2022

- If fish material is received at Triabunna that is not suitable for rendering it is stored in leak proof, lidded containers in a refrigerated area until the bins are emptied into slide top hook lift bins that are then transported to an EPA licenced composting facility.
- The maceration system for unsuitable fish waste is also maintained as a back-up system.
  - If it is used in the future, records will be kept in accordance with the approval for the maceration system.

General refuse arrangements are in place with a licenced contractor for the collection and disposal of general waste. All waste streams are disposed of at EPA approved facilities.

### 5.5 Initiatives to reduce waste.

In aim to reduce waste generated by the Facility, multiple initiatives are being discussed.

1. The installation of an evaporator to process stickwater. If this proceeds, this will reduce the volume of stickwater that is either spread across approved land or sent to composting.
2. Conducting a trial that reuses wastewater in the boiler. If this proceeds, this will reduce overall water usage of the facility and reduce the volume of wastewater transferred to the dam.
3. Increasing the Facilities capacity to enable more fish waste to be processed. If this proceeds, this will reduce the volume of fish waste that needs to be passed onto composting facilities.
4. A partnership with a Biogas company is being investigated. Should this proceed, it will be an alternative to composting. The Facility would then utilise the biogas produced for operations.
5. A partnership with a local windfarm is also being discussed. If this is to proceed, the electricity the Facility generated will be provided by the windfarm. As such, this would reduce the greenhouse gas emissions from the Facility.

## 6 Environmental Incidents (G11.1.5)

There have been no incidents, notifiable under section 32 of *Environmental Management and Pollution Control Act 1994*, at the facility during the reporting period.

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## 7. Monitoring Data (G11.1.6)

### 7.1 Production Volumes (condition Q1)

The Permit authorises Tassal to process 20,000 tonnes of fish by-product annually at a maximum rate of 4,999 kg per hour. During the reporting period the Facility processed 13,836 tonnes of fish by-product. In the reporting period, the plant was operating at an average of 1,529 kg per hour (considering 10 days of planned maintenance shutdown). This is lower than the previous reporting period during which the facility processed 14,177 tonnes of fish by-product at an average rate of 1,696 kg per hour.

The facility produced 1,713 tonnes of fish meal product and 3,303 tonnes of fish oil product for the 2021/2022 reporting period.

Materials received and processed for FY2021/2022 are summarised in Table 3 below.

**Table 3: Fish Materials received from all facilities FY2021/2022**

Fish Material	Tonnes of material accepted	Tonnes of material diverted to compost
Solids – heads, frames, trims, skins and mortalities	8279	3030
Viscera (gut)	5257	7
Total	13536	3037

### 7.2 Environmental Management Plan (condition G12)

Condition G12 of the Permit requires development of an Environmental Management Plan and subsequent review at five-year intervals.

The Triabunna Environmental Management Plan - Operations was submitted to the EPA in March 2019 and approved in April 2019. This plan remains active until 2023.

### 7.3 Biosecurity (condition G13)

Under condition G13 of the permit, the facility is required to operate under a biosecurity management plan approved both by the EPA and the Chief Veterinary Officer of Biosecurity Tasmania.

The original approved plan, dated 2015, was updated and approved by the Chief Veterinary Officer in August 2021. The plan, *Biosecurity Management Plan - Triabunna Fish Rendering Facility* (Tassal, August 2021) was subsequently approved by the EPA in August 2021.

The plan describes the obligations and associated procedures Tassal is required to fulfil to effectively manage biosecurity at the Facility to ensure pathogens are not transferred between biosecurity regions. It also addresses requirements specified by current permit issued under Section 37 of the *Animal Health Act 1995* for the movement of fish and fish products (Rainbow trout and Atlantic Salmon) within Tasmania.

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7.4 Odour (condition A1-A4)

Conditions A1 to A4 of the Permit define the odour emission limits for the Facility as well as associated monitoring and modelling requirements.

In April 2021, the biofilter was increased in physical size and capacity to improve odour reduction from the facility. All media was replaced, and the monitoring equipment inspected or replaced. An evaluation of system performance was completed, and adjustments were made to maximise odour reduction.

In December 2021, during a period of full production, Assured Environmental conducted odour sampling for the Facility’s odour sources in alignment with the 2019 sampling. Tarkarri Engineering subsequently conducted the modelling of the Facility’s odour impact. Tassal submitted the odour emission modelling report in May 2022.

7.5 Wastewater Irrigation Monitoring (as per the Irrigation Management Plan, condition E1 – E5)

7.5.1 Monitoring

Monitoring is required to determine the quality of the reuse water at the Facility. Irrigation water is to be sampled during each month that irrigation takes place. The Wastewater Quality Investigation Levels are presented in Table 4.

Tassal was granted an extension for the short-term investigation levels by the EPA (1<sup>st</sup> November 2021). As such, the long-term investigation levels, outlined in table 4, do not come into effect until the 5<sup>th</sup> of November 2022.

**Table 4: Wastewater Quality Investigation Levels**

Parameter	Short-term Investigation Level (Years 1 and 2)	Long-term Investigation Level (Year 3)
<i>Dates effective</i>	<i>5<sup>th</sup> Nov 2020 to 4<sup>th</sup> Nov 2022</i>	<i>5<sup>th</sup> Nov 2022 to 4<sup>th</sup> Nov 2023</i>
BOD (mg/L)	500	300
pH units	6.5-10	6.5-10
Total Suspended Solids (mg/L)	750	500
Ammonia N (mg/L)	140	100
Total N (mg/L)	200	120
Total P (mg/L)	10	5
Electrical Conductivity (µS/cm)	4000	2000
Thermotolerant Coliforms (cfu per 100 mL)	1000	1000

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7.5.2 Irrigation Reuse Water Quality

A summary of the 2021-2022 analysis results, and a comparison of the previous reporting period, is presented in Table 5a and 5b.

The current approved IEMP accounts for the reuse water quality and ensures appropriate controls are implemented to prevent adverse impacts to irrigated pasture and livestock. No analytes exceeded the maximum limit during the reporting period.

**Table 5a: Summary of Irrigation Water Quality July 2021 – June 2022**

Date	pH	EC uS/cm	TSS mg/L	Adjusted SAR	Ammonia mg/L	Total Nitrogen mg/L	Total Phosphorus mg/L	BOD mg/L	Total Coliforms cfu/100mL
30/8/21	7.6	2230	243	7.54	110	160	5.28	190	<10
23/9/21	7.5	2180	364	7.3	120	150	6.84	290	<10
2/12/21	7.4	1750	234	5.44	65	110	5.3	50	<10
31/1/22	7.1	2070	345	7.34	100	150	7.66	270	<10
25/2/22	7.2	2420	368	9.11	130	180	8.25	310	<100
28/3/22	7.2	2430	204	8.96	140	160	7.35	270	<10
24/5/22	7.7	2300	110	8.66	120	120	6.54	37	<10
2/6/22	7.4	2240	98	9.2	130	140	4.67	<5	<10

**Table 5b: Summary Statistics of the 2021/2022 and the 2020/2021 reporting periods.**

	pH	EC	TSS	Adjusted SAR	Ammonia	Total Nitrogen	Total Phosphorus	BOD	Total Coliforms
<i>2021/2022 Reporting Period</i>									
Average	7.4	2202.5	245.8	7.9	114.4	146.3	6.5	177.4	10.6*
Max	7.7	2430.0	368.0	9.2	140.0	180.0	8.3	310.0	50.0*
Med	7.4	2235.0	238.5	8.1	120.0	150.0	6.7	230.0*	5.0*
<i>2020/2021 Reporting Period</i>									
Average	7.8	3077	401	7.9	102	158	6	108	3860*
Max	7.9	3490	727	10.3	140	240	10.9	170	12000*
Med	7.8	2965	368.5	7.64	97	145	4.535	105	5*

\*Please note that in instances where the results were below the reporting level for AST (e.g. the result was <5, <10 or <100). The value was halved. This is consistent with other reporting across the business and allows for relevant statistical data to be extracted.

7.5.3 Soil Monitoring

Monitoring of soil in irrigation pivot areas 1 and 2 is undertaken by Pinion Advisory. The topsoil and sub-soil have been monitored annually for the past 6 years to establish a robust data set. The results did not indicate any significant emerging issues. Salinity continues to require close monitoring at the sites.

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### 7.5 Groundwater (condition M1-M7)

Pinion Advisory undertook groundwater bore sampling at the Facility in October 2021. This was the seventh sampling event since bore installation in March 2015. A comparison of results indicate that the irrigation and recycled water does not have adverse effects on groundwater quality.

### 7.6 Noise (condition N1-N3)

Noise from the Facility must not exceed the following limits specified by Condition N1 of the Permit:

- Day (7am to 6pm) 45 dBA
- Evening (6pm to 10pm) 40 dBA
- Night (10pm to 7am) 35 dBA

The last Noise Survey was conducted in February 2018 by Environmental Dynamics. The survey was approved by the EPA in September 2018 and satisfied all noise requirements in the Permit.

The main sources of noise from the Facility are still the cooling tower and the intermittent truck movements.

### 7.7 Receipt of fish waste (condition OP2)

Any fish product that arrives at the Facility in a putrid state, is directed to the approved composting facility. These are recorded and contain all the information as per condition OP2.3.

Further detail is provided in section 5 of this report.

## 8 Breaches of Limits (G11.1.7)

There were no breaches of any regulatory limit at the Facility in the reporting period.

## 9 Other Issues (G11.1.8)

There have been no other issues at the Facility in the reporting period.

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## 10 Environmental Commitments (G11.1.9)

### 10.5 2021/2022 Commitments

The following commitments were made by Tassal in the 2020/2021 Annual Review. The commitments and their status are outlined below.

1. Review and update *Triabunna Rendering Facility Biosecurity Management Plan* in 2021.

The revised *Biosecurity Management Plan* for Triabunna was submitted to NRE and EPA on the 11<sup>th</sup> of August 2021.

Approval was received from the EPA on the 26<sup>th</sup> of August 2021, stating that it met the requirements of condition G13 in the EPN.

2. Conduct odour sampling in late 2021/early 2022 during a peak production and summer weather conditions.

Tassal submitted the Triabunna Rendering Facility Odour Modelling Report to the EPA on the 25<sup>th</sup> of May 2022 for review. The results indicate that the odour emission levels are compliant with condition A1 of the permit, with the exception of the wastewater dam. Work has subsequently been carried out to reduce this odour source.

EPA has acknowledged receipt of this report, however, at the time of this report, are yet to provide their assessment.

### 10.6 2022/2023 Commitments

Tassal is committed to the following in 2022/2023:

1. Trial an enzyme treatment to enhance the performance of the grease trap and hence reduce the fat accumulation on the dam.
2. To trial reusing water from the condenser in the boiler to reduce water consumption.

## 11 Community (G11.1.10)

Part of our commitment to operating responsibly is to develop, maintain and strengthen our relationships with stakeholders.

We collaborate with a broad range of stakeholders to identify and manage business risks and opportunities, to advocate for positive outcomes and to ultimately create long-term value. We use a process of ongoing formal and informal engagement methods, which are



## Triabunna Annual Environmental Review July 2021 – June 2022

based on a set of principles that ensure we are proactive, respectful, transparent and uphold the highest ethical standards.

Most of our engagement is through open and transparent dialogue and discussion that takes place as part of normal business practice. We value diverse perspectives and embrace new communication platforms, including social media and virtual meeting tools. Engagement is focused on:

- **Transparency:** responding with facts and lived experience to enquiries.
- **Flexibility:** needing to change course or stay on course.
- **Trust:** goes both ways – we won't engage in false or misleading claims.

### LOCAL COMMUNITIES

We are committed to being a responsible neighbour and having a positive impact in the communities where we live and work.

### COMMUNITY SENTIMENT RESEARCH

We commission regular third-party research to understand community sentiment towards the aquaculture industry and our operations. Our most recent community survey determined that 78 per cent of respondents supported or had a neutral view of the industry, with positive contributions including regional employment, economic benefits, and the production of healthy food.

### MATERIALITY STAKEHOLDER INCLUSIVENESS

Conducting a materiality assessment ensures that we identify economic, social and environmental topics that matter most to our business and our stakeholders. Our 2022 materiality assessment was undertaken by an independent third-party and included local communities and neighbours, customers and suppliers in our areas of operations.

### COMMUNITY ADVISORY GROUPS (CAGS)

We have established Community Advisory Groups (CAGs) in our key areas of operation. CAGs act as an opportunity for information exchange and facilitate open and transparent dialogue with our local communities. In the reporting period we commenced a review of our CAG terms of reference and membership structure to ensure clear purpose and appropriate representation. Our intent is to finalise this process and re-calibrate our CAGS in the first half of FY23.

In 2021 and 2022, Spring Bay Community Advisory Group meetings were held:

- May 2021
- April 2022

### COMMUNITY SUPPORT

We partner with a number of local groups to support activities within the community, including the following in FY22:

- Triabunna Football Club;

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- Spring Bay Clay Target Club;
- Orford Bowls Club;
- Orford District and Riding Club;
- Buckland Church (support for trivia night);
- Orford Primary School;
- Swansea Bowls Club;
- Swansea Primary School; and
- Participation in Triabunna Education, Training and Employment Expos organised through the East Coast Regional Development Organisation (ERDO).

### **MARINE RESCUES**

We spend more time on the water than most, and we are proud of our marine farming crew for ensuring safety is our number one priority every day, not just for us, but for everyone at sea. In FY22 our crews attended the below rescues in the Spring Bay area:

- Orford – propped vessel response
- East Coast – vessel recovery
- Spring Bay – vessel adrift
- Orford – recovery of pontoon
- Spring Bay – vessel in distress response

## 12 Forecasted Changes (G11.1.11)

Aside from the waste initiatives and commitments outlined earlier in the report, there are no forecasted changes at the Facility that will impact the environment.

RTI - DL - RELEASE - EPA