



# Environmental Standards

FOR TASMANIAN MARINE FINFISH FARMING 2023

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# This document is the Environmental Standards for Tasmanian Marine Finfish Farming 2023

These Environmental Standards are made pursuant to Division 1B of Part 7 of the *Environmental Management and Pollution Control Act 1994*.

I, the Honourable Roger Jaensch, Minister for Environment and Climate Change, make, under section 96Q of the *Environmental Management and Pollution Control Act 1994*, the Environmental Standards for Tasmanian Marine Finfish Farming 2023.

The Environmental Standards for Tasmanian Marine Finfish Farming 2023 come into effect on 18 October 2023.

A handwritten signature in blue ink, consisting of a large, stylized 'R' followed by 'Jaensch' written in a cursive script.

Hon Roger Jaensch MP  
**Minister for Environment and Climate Change**

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# Part 1. Preliminary

## Objectives

These Environmental Standards are made under the *Environmental Management and Pollution Control Act 1994* (the Act). They are limited by the objectives and jurisdiction of the Act.

Marine finfish farming is also regulated under other Acts of Parliament<sup>1</sup>, and these Environmental Standards operate within the overall legislative system that regulates aquaculture in Tasmania.

The main objective of these Environmental Standards is to ensure a robust, contemporary, and transparent framework for the environmental regulation of marine finfish farms by the Environment Protection Authority (EPA) in Tasmania. The EPA is responsible for carrying out environmental assessments and regulation of marine finfish farms in Tasmania.

## Purpose

The purpose of these Environmental Standards is to set out the environmental management conditions that will be imposed on environmental licences issued to marine finfish farmers. The Environmental Standards also set out the environmental offence provisions that all marine finfish farmers must follow to be compliant with the Act.

## Application

These Environmental Standards apply to holders of leases, environmental licences and permits for marine finfish farming.

These Environmental Standards do not apply to land-based or freshwater finfish farms.

Transitional arrangements will apply to existing lease and licence holders. Many of the provisions within these Environmental Standards will be implemented over time.

The EPA is responsible for the implementation of these Environmental Standards.

## Scope

These Environmental Standards are part of a suite of policy and legislative changes aimed at supporting a sustainable marine finfish farming industry as set out in the Tasmanian Government's Salmon Industry Plan that was released in 2023: [Tasmanian Salmon Industry Plan](#).

These Environmental Standards are designed to reduce the risk of causing environmental harm to the Tasmanian marine and coastal environment from marine finfish farming. This will further strengthen the current environmental regulatory system and provide for the regulation of potential nuisance impacts upon Tasmanian coastal communities.

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<sup>1</sup> See the Tasmanian Regulatory Framework for Finfish Aquaculture at [Salmon Planning and Regulation | \(nre.tas.gov.au\)](https://nre.tas.gov.au)



These Environmental Standards include, in accordance with section 96O of the Act:

- a) provisions that are necessary or convenient for the effective operation of these Environmental Standards; and
- b) Environmental Standards offence provisions; and
- c) Environmental Standards conditions.

The Environmental Standards reference Technical Standards that describe specific requirements and acceptable methods regarding monitoring, evaluation and assessment, data management and other relevant processes.

## Structure of this Document

**Part 2** contains provisions enabling the Director to determine or approve certain things that are necessary for implementation of these Environmental Standards.

**Part 3** sets out ***Environmental Standards offence provisions*** that apply to all licence holders, or to lease and permit holders as specified in the provisions. Failure to comply with an *Environmental Standards offence provision* is an offence against section 96U(4) of the Act.

**Part 4** sets out the ***Environmental Standards conditions*** which are provisions that may be imposed as a condition or restriction on an environmental licence. These conditions are to manage environmental issues specific to individual lease or permit areas.

The purpose of Part 4 is to provide a consistent and clear set of environmental licence conditions in a transparent way. This enables environmental licence conditions to have standard wording, and a consistent approach to operation, assessment, and monitoring protocols.

***Environmental Standards conditions*** may be imposed on an environmental licence by reference to the number and name of the condition.

Failure to comply with a condition, including an ***Environmental Standards condition*** made under Part 4 of this instrument, imposed in an environmental licence, is an offence against section 42C(4) of the Act.

# Interpretation

In these Environmental Standards –

**Act** means the *Environmental Management and Pollution Control Act 1994*;

**ADCP** means Acoustic Doppler Current Profiler;

**ambient noise** means the all-encompassing sound at a point, being the composite of sound from near and far. Ambient noise is described using the  $L_{Aeq,T}$  descriptor;

**authorized officer** means an authorized officer under section 20 of the Act;

**A-weighted sound pressure level** has the same meaning as in the Australian Standard AS1055.12-1997 *Acoustics -Description and measurement of environmental noise – General Procedures*;

**background noise**, for a time interval T, means the  $L_{A90,T}$  sound pressure level for that time interval in the absence of the sound under investigation;

**baseline environmental assessment** means a scientific investigation to characterise the environment and establish the initial environmental condition;

**baseline environmental assessment report**, in relation to a lease or permit, means an interim baseline environmental assessment report or a final baseline environmental assessment report that is approved in relation to the lease or permit under section 17 of these Environmental Standards;

**bathymetry** means the measurement of water depth above the seabed corrected for tide and adjusted to Mean Sea Level and presentation of the results in a form analogous to topographical maps;

**benthic condition index (BCI)** means a semi-quantitative video scoring technique to assess and evaluate the condition of the benthic ecosystem using key visual features of soft sediment ecosystems;

**benthic ecosystem** means that part of the seabed, including the seabed surface and sub-surface, that interfaces with the water column and in which significant biological activity occurs;

**biogeochemical model** means a model that couples hydrodynamic, sediment transport and wave models to simulate how abiotic (e.g. anthropogenic nutrients) and biotic variables (e.g. seagrass, macroalgae, phytoplankton, zooplankton, nutrients, detritus and microphytobenthos) interact through time and space;

**biomass** means the total live weight of farmed finfish held in a given location;

**biota** means animals and plants living in a particular place, time, or habitat;

**blackwater** means waterborne waste of human origin containing faecal matter and urine;

**bloodwater** means a wastewater stream containing blood from the harvesting and processing of fish;

**Board** means the Board of the Environment Protection Authority established under section 13 of the Act;

**Broadscale Environmental Monitoring Program (BEMP)**, in relation to a lease area, means the Broadscale Environmental Monitoring Program specified by the Director under section 23 in relation to the lease area;

**compliance site** means a location determined under section 9 to detect impacts of marine finfish farming activities at which certain environmental indicators are measured which can be compared against compliance thresholds for such environmental indicators, including corresponding reference conditions;

**controlled waste** means controlled waste as defined under section 3 of the Act;

**coordinate reference system** means a reference system specified by the Director under section 20 of these Environmental Standards (e.g., GDA94 / MGA Zone 55);

**dB(A)** means decibel when stating the A-weighted sound pressure level;

**depositional zone**, in relation to a lease or permit, means the area extending from the boundary of the Farm Zone to 35 metres beyond the boundary of the lease or permit area;

**detailed sediment survey** means the sampling of the seabed to characterise the physico-chemical (e.g. redox and sulphide) and biological composition of the sediments;

**Director** means the Director, Environment Protection Authority appointed under section 18 of the Act;

**dissolved nitrogen output** means the portion of feed-derived nitrogen taken to be released to the environment in dissolved form. Dissolved nitrogen output is a calculated value, using standardised methods which reflect feed nitrogen content and accepted values from scientific literature regarding the fate of nitrogen;

**electronic map** means a map supplied in a Geographic Information System (GIS) transferable format in a defined datum using an agreed GIS platform;

**environmental harm** means environmental harm as defined under section 3 of the Act;

**environmental indicator** means a measurable or quantifiable characteristic relevant to the environment;

**environmental licence** means an environmental licence granted under Part 3, Division 8 of the Act, in relation to marine finfish farming only (excluding land-based or freshwater fish farming);

**environmental monitoring** means collection of data through observations, measurements or collection of samples for further analysis to characterise environmental conditions;

**environmental nuisance** means environmental nuisance as defined under section 3 of the Act;

**exceedance** means a measured value being above a threshold numerical value, where that threshold has an upper bound, or being below a numerical threshold value, where that threshold has a lower bound;

**farm zone**, in relation to a lease or permit area, means the area bounded by the shortest line connecting the outer edges of a group of pens placed next to each other (noting that there may be more than one farm zone within a lease or permit area if more than one pen bay grid is present);

**feed spill event** means the release of feed that results in a mound or contiguous layer of feed pellets on the seabed;

**finfish farming** means marine finfish farming as defined under section 5C of the Act;

**greywater** means wastewater that is generated from domestic processes such as dishwashing, laundry and bathing, but does not include blackwater;

**Investigative Trigger Value (ITV)** means a water quality performance criterion which, if exceeded, triggers an investigation into potential adverse effects on the receiving environment;

**$L_{A90,T}$**  for a specified time interval T, means the A-weighted sound pressure level that is equalled or exceeded for 90% of that time interval;

**$L_{Aeq,T}$**  for a specified time interval T, means the time average A-weighted sound pressure level, within the meaning given by Australian Standard AS1055.1, of that time interval;

**lease** means –

- (a) a lease granted under Part 4 of the *Marine Farming Planning Act 1995*; or
- (b) if there is a sub-lease in relation to the lease, the sub-lease;

**lease area** means the area which is the subject of a lease;

**lease boundary**, in relation to a lease, means the perimeter of the lease area;

**lease holder** means –

- (a) a person to whom a lease has been granted; or
- (b) if there is a sub-lessee in relation to the lease, the sub-lessee;

**licence holder** means the holder of an environmental licence as defined under section 42B of the Act in relation to marine finfish farming (excluding land-based or freshwater fish farming);

**management zones** means Farm Zones and Depositional Zones;

**marine** means relating to the sea and includes estuaries that are affected by tides;

**Marine Farming Development Plan area** means the area to which a Marine Farming Development Plan, approved under section 31(3)(a) or section 42(4) of the *Marine Farming Planning Act 1995*, relates;

**monitoring site** means a site for measuring environmental indicators for any purpose related to these Environmental Standards;

**new lease** means a lease in relation to a lease area or part thereof within which there has not previously been any marine finfish farming carried out;

**Noise Measurement Procedures Manual** means the *Noise Measurement Procedures Manual* published by the Environment Division of the Tasmanian Department of Environment, Parks, Heritage and the Arts in 2008 (second edition) or any subsequent update of that document;

**Noise Sensitive Premises (NSP)** means residences and residential zones (whether occupied or not), schools, hospitals, caravan parks or similar land uses at which people are present for extended periods other than in the course of their employment or recreation;

**normal ambient noise** means ambient noise excluding the sound under investigation. Normal ambient noise is described using the  $L_{Aeq,T}$  descriptor;

**nutrient dispersal modelling** means the use of high-resolution models to predict the dispersion of dissolved nutrients on a local and/or regional scale;

**opportunistic algae** means fast growing and reproducing algal species that are adapted to exploit available nutrients and transient habitats;

**particulate depositional modelling** means the use of high-resolution models to predict the deposition of particulate waste (faeces and uneaten feed) from marine finfish farms on a local and/or regional scale;

**pen** (also fish pen) means the physical structure in which fish are kept, typically consisting of a floating collar and attached net or nets;

**pen bay** refers to a defined location within a pen bay grid where a pen may be placed;

**pen bay grid** means infrastructure that creates a collection of pen bays placed next to each other.

**permit** means a permit granted under section 13(1) *the Living Marine Resource Management Act 1995* but does not include a permit for marine farming of fish for research purposes pursuant to an arrangement under section 161 of that Act;

**permit area** means the area which is the subject of a permit;

**primary production**, in ecology, means the production of organic matter from inorganic materials;

**production cycle**, in relation to a lease or a pen bay grid, means the period of time from stocking a lease or a pen bay grid with finfish to the time of harvest or removal of those fish or, where a lease or pen bay grid is continuously stocked, means each 12-month period ending on a date specified by the Director;

**protected environmental values** means the value or use for which it has been determined that a given area of the environment should be protected under the *State Policy on Water Quality Management 1997*;

**reference conditions** means reference conditions determined by the Director under section 7 of these Environmental Standards;

**reference site** means a reference site determined by the Director under section 7 of these Environmental Standards at which certain environmental indicators are measured;

**regional area** means a Marine Farming Development Plan area or an area determined by the Director under section 2 of these Environmental Standards;

**scientific advisory panel** means a panel established in accordance with section 15 of these Environmental Standards;

**spontaneous gas bubble** means the release of a gas bubble from the seabed without disturbance of the seabed;

**sub-lessee**, in relation to a lease, means the person to whom the lease has been sub-leased, in accordance with the grant, by the Minister responsible for the *Marine Farming Planning Act 1995*, of an application for approval of the sub-lease under section 74 of that Act;

**therapeutants** means chemical substances used on veterinary advice for the purpose of combating animal diseases (e.g., antibiotics);

**threatened species** means a taxon of flora or fauna that is listed in Schedule 3, 4 or 5 of the *Threatened Species Protection Act 1995*;

**Total Permissible Dissolved Nitrogen Output (TPDNO)** means a limit on the amount of dissolved nitrogen taken to be emitted from marine finfish farming over a 12-month period, as determined by the Director under section 25 of these Environmental Standards;

**waste** means waste as defined under section 3 of the Act.

# Part 2. Determinations by the Director

## Division 1. Regional Areas

### 1. Purpose and Application

- (1) The purpose of this Division is to enable the Director to determine regional areas within which appropriate regional requirements, such as a Broadscale Environmental Monitoring Program (BEMP), may be imposed.
- (2) A regional area may contain an individual lease or permit area or a group of lease or permit areas.

### 2. Determination of Regional Areas

- (1) The Director may determine a regional area.
- (2) Unless otherwise determined by the Director under subsection (1), the Marine Farming Development Plan area is the regional area.
- (3) The Director is to notify each licence holder who holds a lease or permit within a newly determined regional area of the determination of that regional area.

## Division 2. Reference Conditions, Reference Sites and Environmental Indicators

### 3. Purpose and Application

- (1) The purpose of this Division is to provide the Director with powers to make determinations about reference conditions, environmental indicators, and reference sites.
- (2) Such determinations are to be made for different seabed habitat types (e.g. reef, seagrass and soft sediment habitats) where present in a regional area.

### 4. Reference Conditions

- (1) Reference conditions provide the basis against which various environmental impacts arising from marine finfish farming can be assessed.
- (2) The purpose of setting reference conditions is to describe what the environment is like with little or no impact from marine finfish farming.
- (3) Reference conditions are described by measuring a variety of environmental indicators.
- (4) Scientists measure and describe reference conditions in three main ways. These are measurements taken:
  - (a) during a baseline environmental assessment undertaken before the commencement of marine finfish farming in a lease or permit area; or



- (b) at a reference site far enough away from marine finfish farms so that impacts are unlikely or are very minor; or
  - (c) along a gradient leading away from marine finfish farms.
- (5) To assess compliance with the Environmental Standards, measurements taken at a compliance site close to a finfish lease or permit area will be compared to reference conditions.

## 5. Reference Sites

Several reference sites may be chosen to allow for natural variability in the environment. The aim is to select reference sites that have similar physiochemical and biological characteristics compared to a corresponding compliance site.

## 6. Environmental Indicators

Measurement of environmental indicators is required to describe reference conditions. Examples of environmental indicators include nitrogen concentration in water or percentage cover of opportunistic algae attached to reef vegetation (known as epiphytic algae).

## 7. Determination of Reference Conditions, Reference Sites and Environmental Indicators

- (1) The Director is to determine reference conditions, reference sites and environmental indicators in relation to a lease or permit area in accordance with any Technical Standards made for the purpose of reference conditions, reference sites and environmental indicators. The determination is to consider:
- (a) the findings of any baseline environmental assessment in relation to the lease or permit area; and
  - (b) the results of any environmental monitoring carried out under a Broadscale Environmental Monitoring Program (BEMP) that is relevant to the lease or permit area including measurements of any environmental indicator taken at reference sites under that BEMP; and
  - (c) measurements of any environmental indicator taken along a gradient leading away from marine finfish farms that point to reference conditions; and
  - (d) any other information that is deemed relevant by the Director to the Director's determination.
- (2) A reference site is a site that the Director considers suitable to act as a comparison site to a compliance site in relation to the lease or permit area.
- (3) The Director may seek advice from a Scientific Advisory Panel established under section 15 of these Environmental Standards in the determination of reference conditions, reference sites and environmental indicators for a lease or permit area.
- (4) Reference sites and environmental indicators are to be specified in the BEMP or the environmental licence that applies to the lease or permit area.



## Division 3. Compliance Sites

### 8. Purpose and Application

- (1) This Division enables the Director to set compliance sites for different seabed habitat types (e.g. reef, seagrass and sediment habitats) where they are present in a regional area. Compliance sites are sites in or near a marine finfish farm that are selected to detect impacts of marine finfish farming activities beyond the depositional zone.
- (2) Environmental indicators are to be measured at compliance sites and compared against ecological standards set out in Part 4 these Environmental Standards.

### 9. Determination of Compliance Sites

- (1) The Director is to determine compliance sites in relation to a lease or permit area.
- (2) When determining compliance sites in relation to a lease or permit area, the Director is to consider a range of available information, including:
  - (a) baseline environmental assessment data; and
  - (b) bathymetry; and
  - (c) hydrodynamics; and
  - (d) outputs of dispersal, depositional and biogeochemical modelling; and
  - (e) substrate and habitat types that may be impacted; and
  - (f) any other relevant scientific information.
- (3) Compliance sites for each potentially impacted habitat type are to be specified in the environmental licence that applies to a lease or permit area and may be altered by notice in writing from the Director.

## Division 4. Broadscale Environmental Monitoring Program

### 10. Purpose and Application

- (1) The purpose of this Division is to enable the Director to determine environmental monitoring programs to capture potential broadscale and cumulative impacts of marine finfish farming across a regional area.
- (2) Broadscale Environmental Monitoring Programs (BEMPs) are designed to monitor potential impacts during the operational phase of marine finfish farming. They may apply to an individual lease area or group of lease areas within a regional area.
- (3) BEMP design is to consider:
  - (a) the findings of baseline environmental assessments; and
  - (b) best available scientific information, including modelling outputs.

- (4) Monitoring of environmental indicators at reference sites that have been determined by the Director under section 7 of these Environmental Standards will be incorporated into the BEMP.
- (5) BEMPs are to be reviewed every five years, and findings from ongoing monitoring are to be considered in such reviews.

## 11. Broadscale Environmental Monitoring Program

- (1) The Director is to determine a Broadscale Environmental Monitoring Program (BEMP) for a regional area. The BEMP is to be developed in accordance with any Technical Standards made for the purpose of BEMPs.
- (2) A BEMP is to:
  - (a) be specific to habitats extending across the regional area in which marine finfish farming is being undertaken and is to include, where present, monitoring of the following habitats:
    - (i) water column; and
    - (ii) soft sediments; and
    - (iii) rocky reefs; and
    - (iv) seagrass beds; and
    - (v) any other habitat type or species specified by the Director; and
  - (b) include a list of environmental indicators to be measured or sampled and analysed in each of the habitats included in the BEMP; and
  - (c) set out the number and location of monitoring sites, considering the following:
    - (i) bathymetry; and
    - (ii) hydrodynamics; and
    - (iii) locations at which deposition is expected to accumulate; and
    - (iv) outputs from any dispersal, depositional and biogeochemical modelling which may have been undertaken; and
    - (v) substrate types; and
    - (vi) habitats; and
    - (vii) any other relevant scientific information; and
  - (d) set out the duration, frequency and timing of environmental monitoring; and
  - (e) include a list of water quality Investigative Trigger Values (ITVs) determined in accordance with any Technical Standards made for the purpose of water quality monitoring; and
  - (f) include any relevant monitoring required by the Director for the purposes of section 7 and ongoing monitoring of reference sites as specified by the Director; and
  - (g) be reviewed every five years by a recognised scientific research institution, approved by the Director, with expertise in temperate marine environments and the impacts of aquaculture on the marine environment.

## Division 5. Water Quality Investigative Triggers

### 12. Purpose and Application

- (1) This Division enables the Director to determine Investigative Trigger Values (ITVs) for water quality indicators in defined regional areas.
- (2) It is intended that ITVs determined by the Director for regional areas are designed to safeguard identified protected environmental values within that regional area.
- (3) The establishment of ITVs for regional areas is also to protect marine finfish farming activities in that regional area from adverse changes in water quality arising from adjacent land-based activities or other activities in the regional area.
- (4) Managing and regulating ITVs for regional areas will be undertaken either within individual environmental licences or as part of the Broadscale Environmental Monitoring Program (BEMP) for that regional area.

### 13. Determination of Water Quality Investigative Trigger Values

- (1) The Director is to determine Investigative Trigger Values (ITVs) in relation to a lease or permit area or a group of lease or permit areas in a regional area.
- (2) ITVs are to be determined in accordance with any Technical Standard made for the purpose of water quality monitoring.
- (3) The Director is to include ITVs in relevant environmental licences or BEMP.
- (4) The Director is to provide a response framework in relation to observed exceedances of ITVs. The framework is to be documented within a Technical Standard made for the purpose of water quality monitoring.

## Division 6. Scientific Advisory Panel

### 14. Purpose and Application

The purpose of this Division is to enable the Director to seek external expertise where appropriate to support the Director's determinations under Part 2.

### 15. Determination of Scientific Advisory Panel

- (1) Where the Director requires external expert advice, the Director is to establish a Scientific Advisory Panel (the Panel) to provide expert advice to support decision making on matters relating to the Environmental Standards, including determination and review of:
  - (a) regional areas; or
  - (b) reference conditions and reference sites; or
  - (c) monitoring requirements for any habitat type or species; or
  - (d) any other matter relevant to the Environmental Standards.
- (2) The Panel is to consist of three or more persons with expertise and experience in:

- (a) marine ecology; or
- (b) water quality; or
- (c) environmental monitoring, or
- (d) any other area of expertise or experience determined relevant by the Director.

# Part 3. Environmental Standards Offence Provisions

## Division 1. Baseline Environmental Assessments

### 16. Purpose and Application

- (1) The purpose of this Division is to ensure that adequate baseline environmental assessments are carried out before marine finfish farming occurs on a new lease area (including a new portion of an existing lease area), in an area subject to a permit, or where an existing lease area has not been farmed for five years or longer.
- (2) The collected information will support the Director to:
  - (a) determine reference conditions, reference sites and environmental indicators; and
  - (b) assess the potential presence of threatened species or sensitive habitats and to identify suitable restrictions and management requirements for incorporation into environmental licences; and
  - (c) establish thresholds against which future monitoring data can be compared to provide an assessment of change over time.
- (3) Baseline environmental assessments need to be undertaken in accordance with specifications determined by the Director to ensure that the collected information adequately supports future decision-making.
- (4) Baseline environmental assessments need to be undertaken before the commencement or recommencement of marine finfish farming on lease or permit areas.
- (5) This Division applies to lease, licence, and permit holders.

### 17. Baseline Environmental Assessments to be Undertaken

- (1) Unless there is an emergency application under Regulation 4 of the *Environmental Management and Pollution Control (Environmental Licences) Regulations 2019* in relation to a lease or permit area, the requirements specified in this section apply to:
  - (a) the holder of a new lease; or
  - (b) the permit holder; or
  - (c) the licence holder for a lease area on which fish have not been held for five years or longer ('dormant lease area').
- (2) The lease or permit holder must not deploy marine finfish farming infrastructure, including moorings, pen bay grids and pens into the new lease or permit area, until:
  - (a) a baseline environmental assessment has been undertaken in accordance with the requirements in section 18 of these Environmental Standards, and
  - (b) an interim baseline environmental assessment report containing the results of that baseline environmental assessment has been provided to, and approved by, the Director.

- (3) The lease or permit holder must not cause or allow finfish to be placed onto the new lease area, permit area or dormant lease area until a final baseline environmental assessment report has been provided to, and approved by, the Director.
- (4) Failure to comply with subsections (1), (2) or (3) is an offence against section 96U(4) of the Act.

## 18. Baseline Environmental Assessment Specifications

- (1) A baseline environmental assessment must be undertaken in accordance with any:
  - (a) Technical Standards made for the purpose of baseline environmental assessment; and
  - (b) written requirements of the Director.
- (2) The baseline environmental assessment must be undertaken at specified:
  - (a) monitoring sites; and
  - (b) duration and frequency of monitoring.
- (3) Information collected during previous environmental assessments conducted in the regional area may be incorporated into the baseline environmental assessment as approved by the Director.
- (4) Unless otherwise approved in writing by the Director, the baseline environmental assessment must include the following components:
  - (a) Hydrodynamic measurements; and
  - (b) bathymetric survey; and
  - (c) dispersion and depositional modelling; and
  - (d) seabed characteristics or habitat types; and
  - (e) water quality sampling; and
  - (f) sediment chemistry sampling; and
  - (g) benthic fauna sampling; and
  - (h) video seabed observations; and
  - (i) threatened species surveys; and
  - (j) seagrass habitat surveys; and
  - (k) reef habitat surveys; and
  - (l) any other specified information required to support the Director's determination of reference sites, environmental indicators, and reference conditions.
- (5) The lease or permit holder must ensure that all raw data, video footage and other supporting information collected under a baseline environmental assessment is made available to the Director in a format and at a time specified in a writing by the Director.
- (6) Failure to comply with subsections (1), (2), (4) or (5) is an offence against section 96U(4) of the Act.

## Division 2. Mapping and Modelling

### 19. Purpose and Application

- (1) The purpose of this Division is to define the Director's requirements for the provision of maps of the lease or permit area and surrounds.
- (2) Lease or permit holders must provide the Director with accurate maps in relation to the lease area, including but not limited to:
  - (a) seabed bathymetry; and
  - (b) management zone boundaries; and
  - (c) location of monitoring and compliance sites; and
  - (d) the location of pen bay grids and associated pen bays.
- (3) This Division also allows for the Director to be provided with the results from modelling undertaken to determine the deposition of particles and the dispersal of dissolved nutrients within the environment.
- (4) Modelling outputs can be used as a resource by the Director and lease or permit holders to facilitate and manage environmental monitoring.
- (5) This Division applies to lease and permit holders.

### 20. Maps of Management Zones and Monitoring Sites

- (1) The Director will notify the lease or permit holder in writing of the monitoring site locations.
- (2) Where required by the Director in writing, the lease or permit holder must provide accurate electronic maps of the lease or permit area and surrounds prepared using a coordinate reference system. Such maps must show:
  - (a) all management zones in relation to the lease or permit area; and
  - (b) depth contours; and
  - (c) compliance sites; and
  - (d) monitoring sites; and
  - (e) habitat types identified within 1km of the lease or permit area; and
  - (f) in relation to each Farm Zone, show locations of:
    - (i) pen bay grids; and
    - (ii) centroids of pen bays; and
    - (iii) water depth between the bottom of nets and the seabed at low tide; and
  - (g) a unique identifier ascribed to each pen bay location.
- (3) The maps specified in subsection (2) must be provided within 60 days from the date of the request, unless otherwise specified.
- (4) The lease or permit holder must make available to the Director updated electronic maps generated in accordance with subsection (2) within 60 days of becoming aware of any of the following:

- (a) the lease boundary is modified; or
  - (b) pen bay grids within the lease or permit area are physically moved; or
  - (c) monitoring or compliance sites change; or
  - (d) pen net dimensions change.
- (5) Failure to comply with subsections (2), (f)(iii) or (4) is an offence against section 96U(4) of the Act.

## 21. Environmental Modelling Requirements

- (1) Unless otherwise approved in writing by the Director, a lease or permit holder must:
- (a) undertake particulate depositional modelling and nutrient dispersal modelling; and
  - (b) undertake biogeochemical modelling; and
  - (c) provide results of the modelling in the form required to the Director by a date specified by the Director.
- (2) The lease or permit holder must ensure that the particulate depositional modelling and nutrient dispersal modelling meet the following criteria:
- (a) modelling tools consist of acceptable techniques and current practices; and
  - (b) up-to-date, site-specific hydrodynamic and habitat/bathymetry data are used; and
  - (c) input data to the models are either accepted values from scientific literature or actual measured values; and
  - (d) models are calibrated to the local environment in which the model is being applied; and
  - (e) models use at least six weeks of Acoustic Doppler Current Profiler (ADCP) data collected in the local environment to which the model is being applied, and address seasonal variation; and
  - (f) modelling scenarios consider unusual climatic conditions such as storm events and other conditions likely to result in sediment disturbance and transport off-site; and
  - (g) a range of finfish production scenarios are modelled.
- (3) Failure to comply with subsections (1) and (2) is an offence against section 96U(4) of the Act.

## Division 3. Broadscale Environmental Monitoring Program

### 22. Purpose and Application

- (1) The purpose of this Division is to ensure that comprehensive environmental monitoring to capture potential broadscale and cumulative impacts of marine finfish farming within a regional area is undertaken.
- (2) Broadscale Environmental Monitoring Programs (BEMP) are determined by the Director under section 11 of these Environmental Standards.



- (3) A BEMP may apply to an individual lease area or group of lease or permit areas within a regional area. The undertaking of the BEMP is the responsibility of the licence holder(s) issued with the notice.
- (4) This Division allows for a BEMP to apply jointly and severally to multiple licence holders.

## 23. Broadscale Environmental Monitoring Program

- (1) The Director is to issue a notice requiring a Broadscale Environmental Monitoring Program (BEMP) determined under section 11 to be undertaken by one or more licence holders. Such a notice applies jointly and severally to the licence holder(s).
- (2) The BEMP must commence by a date specified in the notice received from the Director under subsection (1) and must be undertaken in accordance with that notice.
- (3) The BEMP must be undertaken by a suitably qualified person with sound knowledge and relevant experience.
- (4) The licence holder must submit monthly and annual monitoring reports prepared in accordance with any Technical Standards made for the purposes of the BEMP and any written requirements of the Director.
- (5) The licence holder must ensure that all raw data, video footage and other supporting information collected under a BEMP in relation to the lease or permit area is made available to the Director in an agreed format upon request or as specified in writing by the Director.
- (6) If the Director forms the view, having considered the scientific data available, that a BEMP needs updating, the Director may, by notice in writing to the licence holder(s), update the BEMP. The original BEMP is considered revoked once the updated BEMP has been specified by the Director.
- (7) Failure to comply with subsections (2), (3), (4) or (5) is an offence against section 96U(4) of the Act.

## Division 4. Total Permissible Dissolved Nitrogen Output

### 24. Purpose and Application

- (1) This Division provides for the setting of a Total Permissible Dissolved Nitrogen Output (TPDNO) which limits the scale of marine finfish production within a regional area. Setting TPDNO at an appropriate level provides a management tool to ensure sustainable operation of marine finfish farms in Tasmanian waters.
- (2) TPDNO is determined with consideration of the physical and ecological capacity of the receiving environment, taking into account biogeochemical modelling outputs where required. Calculations of dissolved nitrogen output are compared against the TPDNO to determine compliance.
- (3) This Division addresses the EPA Board assessment of significant proposed increases in TPDNO.
- (4) This Division applies to lease holders.

## 25. Total Permissible Dissolved Nitrogen Output

- (1) The Director is to determine the Total Permissible Dissolved Nitrogen Output (TPDNO) for each marine finfish farm within a specified area and for specified time periods.
- (2) A specified area is to be the regional area, unless otherwise specified in writing by the Director.
- (3) The Director may apportion the TPDNO between the lease holders within the specified area or, if a lease area within the specified area is subleased, to the sub-lessee of the lease.
- (4) An apportionment referred to in subsection (3) may:
  - (a) be nil; or
  - (b) be made in respect of two or more lease holders of different leases or sub-lessees, as if they were a single lease holder.
- (5) If the Director makes an apportionment with respect to a lease holder or a sub-lessee in relation to a lease, the Director is to give notice in writing of the apportionment to the lease holder or the sub-lessee.
- (6) The lease holder or sub-lessee to whom a notice of an apportionment has been given under subsection (5) must ensure that the dissolved nitrogen output, when calculated in accordance with any Technical Standards made for the purpose of TPDNO, does not exceed the amount specified in the apportionment.
- (7) One or more lease holders or sub-lessees may apply to the Director to increase a TPDNO determined under this section. Where such application would result in a 10 percent or greater increase in TPDNO or an apportionment thereof, the Director must refer the application to the EPA Board for assessment pursuant to section 73 of the Act. The Director must make any resultant determination under this section in accordance with the advice of the EPA Board.
- (8) Failure to comply with subsection (6) is an offence against section 96U(4) of the Act.

## Division 5. Therapeutant Management

### 26. Purpose and Application

- (1) The purpose of this Division is to set out a notification and monitoring framework for the use of therapeutants in the marine finfish farming environment. Antibiotics are a subgroup of therapeutants and in recent practice, have been the only type of therapeutants prescribed in relation to marine finfish farming in Tasmania.
- (2) Therapeutants are prescribed by registered veterinary surgeons under the *Agricultural and Veterinary Chemical (Control of Use) Act 1995* and are generally administered through medicated feed.
- (3) The role of the EPA is to receive notification of medication events, to specify relevant antibiotic residue monitoring requirements and to receive reports and data. Monitoring is required to allow an assessment of therapeutant residues in the environment.
- (4) This Division applies to licence holders.

## 27. Prior Notification of Planned Therapeutant Use

- (1) A licence holder must provide the Director with a notice of the proposed treatment before any fish in the area to which the licence applies are treated with therapeutants.
- (2) A notice under subsection (1) must be accompanied by a copy of the Medication Authority (MA) or Veterinary Authority (VA) issued by the prescribing veterinary surgeon in relation to the proposed therapeutant medication event. The MA or VA must specify:
  - (a) date of issue of the MA or VA; and
  - (b) marine finfish farm – lease or permit name and number on which the therapeutant will be administered; and
  - (c) fish species to be treated; and
  - (d) type of disease diagnosed or suspected; and
  - (e) number of pens to be medicated, including pen bay identification; and
  - (f) estimated number and biomass of fish to be treated; and
  - (g) treatment period: anticipated commencement date and duration; and
  - (h) name of therapeutant to be utilised; and
  - (i) dose rate (milligram active ingredient per kilogram of biomass); and
  - (j) total amount of active ingredient to be utilised; and
  - (k) total amount of medicated feed to be utilised; and
  - (l) application method; and
  - (m) prescribed withdrawal period (number of degree days); and
  - (n) notes regarding any off-label use of medication.
- (3) Failure to comply with subsections (1) or (2) is an offence against section 96U(4) of the Act.

## 28. Monitoring and Reporting Requirements in Relation to Therapeutant Use

- (1) A licence holder must undertake therapeutant residue monitoring in accordance with:
  - (a) any Technical Standards made for the purposes of therapeutant management; and
  - (b) the written requirements of the Director.
- (2) As soon as practicable after therapeutant residue monitoring is completed, or as specified by the Director in writing, the licence holder must submit to the Director a therapeutant residue monitoring report. This report must provide the following information:
  - (a) all sampling locations; and
  - (b) a summary of all monitoring results and corresponding laboratory reports; and
  - (c) analysis and interpretation of results, in written and graphical form, to show trends over time and comparison against any relevant thresholds which may have been established by the Director; and
  - (d) a short evaluation of the factors contributing to the need for medication, including:

- (i) potential seasonal/environmental factors; and
  - (ii) history of therapeutant use and its cause on the lease area in the previous 10 year period; and
  - (iii) any known issues with batches of fish involved in the medication event, including vaccination status with reference to the disease requiring medication; and
- (e) any other information as specified in writing by the Director.
- (3) Failure to comply with subsections (1) or (2) is an offence against section 96U(4) of the Act.

## **Division 6. Wastewater Management**

### **29. Purpose and Application**

- (1) The purpose of this Division is to protect the environment from wastewater generated by marine finfish farming activities.
- (2) This Division applies to lease areas as well as vessels transiting between lease areas and utilising land-based infrastructure adjacent to the marine environment.

### **30. Wastewater Management**

- (1) A licence holder must not release any of the following into the environment:
  - (a) bloodwater, or
  - (b) blackwater.
- (2) The licence holder must not:
  - (a) reuse any types of wastewater referred to in subsection (1); or
  - (b) dispose of it in any manner except to a wastewater treatment plant or other facility approved to receive that type of wastewater.
- (3) Failure to comply with subsections (1) or (2) is an offence against section 96U(4) of the Act.

## **Division 7. Light Attenuation**

### **31. Purpose and Application**

- (1) The purpose of this Division is to allow the Director to require the preparation of management plans to mitigate the impact of obtrusive light on neighbouring residential communities, while recognising the need for artificial lighting for the operation of the industry.
- (2) Marine finfish aquaculture infrastructure and vessels operating within and around a lease area use artificial outdoor lighting to enable operations to occur and to mitigate health and safety risks to workers.
- (3) Light spill and glow generated directly from artificial lighting, or indirectly from reflection, has the potential to become an environmental nuisance to coastal neighbours.

- (4) For the purposes of this Division, 'sensitive receptors' refers only to sensitive receptors relevant to 'environmental nuisance' under the Act.
- (5) This Division applies to licence holders.

## 32. Light Attenuation Management Plan (LAMP)

- (1) A licence holder who receives a notice in writing from the Director stating that light emissions may be causing environmental nuisance must engage a person with expertise in light pollution to prepare a Light Attenuation Management Plan (LAMP).
- (2) The licence holder must ensure that a LAMP is submitted to the Director for approval within 60 days after receiving the written notice referred to in subsection (1), or by a date otherwise specified in writing by the Director.
- (3) Where the Director requires the submitted LAMP to be amended, the licence holder must amend and resubmit the LAMP within 21 days or by a date otherwise specified in writing by the Director.
- (4) The LAMP must contain:
  - (a) a description of all sources of light emissions over 1,000 lumens from the marine finfish farming activity, including temporary and permanent farming infrastructure and vessels operating at or near the activity, including:
    - (i) luminous flux (light output) of each light source measured in lumens; and
    - (ii) predicted luminous flux per m<sup>2</sup> at likely sensitive receptors measured in lux; and
    - (iii) light colour (kelvin scale) where this may contribute to environmental nuisance; and
  - (b) a description of the purpose of each light source; and
  - (c) a map showing the location of sensitive receptors that may be impacted by light emissions; and
  - (d) an assessment of the risk of light emissions causing environmental nuisance, taking into account the following:
    - (i) environmental nuisance as defined in the Act; and
    - (ii) Australian Standard AS/NZ 4282:2019 Control of the obtrusive effects of outdoor lighting; and
    - (iii) any other standard specified in writing by the Director; and
  - (e) proposed mitigation measures to reduce emissions of light toward sensitive receptors where a risk of environmental nuisance caused by light emissions is identified, which measures may include (but are not limited to) reducing light output, adjusting orientation of lights or installation of shrouding or restriction of operating hours; and
  - (f) a proposed methodology for monitoring light emissions and assessment of results; and
  - (g) an implementation timetable for mitigation measures proposed in the LAMP and a regular reporting program to the Director of the results of the plan; and
  - (h) any other matter specified in writing by the Director.
- (5) A licence holder must implement, and act in accordance with the approved LAMP, or if the Director approves a variation or substitution of the LAMP, with the LAMP, as varied or substituted in accordance with the approval.

(6) Failure to comply with subsections (1), (2), (3), (4) or (5) is an offence against section 96U(4) of the Act.

## Division 8. Noise Management (Vessel Traffic)

### 33. Purpose and Application

- (1) The purpose of this Division is to allow the Director to require licence holders to investigate and, where appropriate, undertake measures to limit the effect of noise from vessel movements to and from a marine finfish farming lease or permit area.
- (2) This Division applies to vessels operating some distance away from the lease or permit area.
- (3) Vessels on or near the lease or permit area will be regulated via licence conditions as specified in Part 4, Division 6 of these Environmental Standards.
- (4) If the Director forms the view that noise emissions from vessels moving outside the lease or permit area may be causing environmental nuisance, the licence holder may be directed to undertake an investigation to assess and adequately manage such emissions.
- (5) This Division applies to licence holders.

### 34. Noise Measurement

- (1) The licence holder must ensure all noise measurements required under this Division are conducted and analysed in accordance with any Technical Standards made for the purpose of noise management, or, if there are no such Technical Standards, the *Tasmanian Noise Measurement Procedures Manual*.
- (2) Failure to comply with subsection (1) is an offence against section 96U(4) of the Act.

### 35. Nuisance Investigation, Assessment and Reporting

- (1) A licence holder who receives a notice in writing from the Director stating that noise emissions from one or more vessels travelling to or from a lease or permit area may be causing environmental nuisance must undertake a nuisance investigation and impact assessment in accordance with the written requirements of the Director.
- (2) An investigation required under subsection (1) in relation to a vessel must include:
  - (a) a description of the vessel, including functions undertaken on or from the vessel and typical hours of operation of the vessel; and
  - (b) measurement of noise emissions from the vessel for a representative range of operating conditions; and
  - (c) typical transit routes taken by the vessel when travelling to and from the lease or permit area and the proximity of the vessel to Noise Sensitive Premises (NSPs); and
  - (d) noise predictions or measurements to determine noise emissions from the vessel at relevant NSPs, representative of relevant periods of the day and operating conditions.
- (3) The licence holder must undertake an assessment of noise impacts to determine whether audible noise emissions from a vessel, at any NSPs owned by a person other than the licence



holder, exceed the following noise levels (expressed as the equivalent continuous A-weighted sound pressure level):

- (a) 45 dB(A) between 0700 hours and 1800 hours (Day time); and
- (b) 37 dB(A) between 1800 hours and 2200 hours (Evening time); and
- (c) 32 dB(A) between 2200 hours and 0700 hours (Night-time).

Note: If the combined level of noise from the vessel and the normal ambient noise exceeds a noise level specified under subsection (3), the level will not be considered to be exceeded if the licence holder can demonstrate that noise emissions from the vessel exceed background noise levels by less than 5 dB(A).

- (4) The time interval over which noise levels are averaged must be 10 minutes or an alternative time interval as specified in writing by the Director to the licence holder.
- (5) The licence holder must ensure the assessment of noise impacts identifies mitigation measures to avoid exceedance of the specified noise levels, giving special consideration to avoidance or reduction of dominant or intrusive noise characteristics impacting on NSPs.
- (6) The licence holder must prepare a *Noise Impact Assessment Report – Vessels* which must include:
  - (a) the results and interpretation of the modelling, measurements and assessments required by this Division; and
  - (b) a map of typical vessel travel routes, with NSPs and noise measurement locations clearly marked on the map; and
  - (c) any other information that will assist with interpreting the results and whether the activity is likely to cause environmental nuisance; and
  - (d) recommendations by the licence holder of appropriate mitigation measures to manage any noise problems identified by the noise impact assessment; and
  - (e) any other matter specified in writing by the Director.
- (7) The licence holder must submit the *Noise Impact Assessment Report – Vessels* to the Director within 60 days from the notice under subsection (1) or by a date otherwise specified in writing by the Director.
- (8) The licence holder must implement the mitigation measures set out in a *Noise Impact Assessment Report - Vessels* that are approved by the Director. If the Director approves a variation or substitution of the mitigation measures, the licence holder must implement the mitigation measures as varied or substituted in accordance with the approval.
- (9) Failure to comply with subsections (1), (2), (3), (4), (5), (6), (7) or (8) is an offence against section 96U(4) of the Act.

## Division 9. Decommissioning

### 36. Purpose and Application

- (1) The purpose of this Division is to require the preparation of a decommissioning plan by licence holders and for the implementation of those plans when marine finfish farming permanently ceases in an area to which an environmental licence relates.

- (2) The aim of decommissioning plans is to minimise environmental harm during and after the decommissioning phase and to provide for ongoing monitoring to demonstrate seabed recovery after decommissioning.
- (3) This Division applies to licence holders.

## 37. Decommissioning Plan

- (1) The licence holder must notify the Director within 30 days of becoming aware of any event or decision that is likely to give rise to marine finfish farming permanently ceasing in a lease or permit area to which an environmental licence relates.
- (2) If the Director receives a notification under subsection (1), or if the Director reasonably suspects that a marine finfish farm is likely to permanently cease operating, the Director may require the licence holder to submit a decommissioning plan, that complies with subsection (4), for approval by the Director within 60 days or by a date otherwise specified in writing by the Director.
- (3) The licence holder must comply with a direction given under subsection (2).
- (4) The decommissioning plan must:
  - (a) set out actions to ensure removal of all fish stock, equipment, vessels, infrastructure (e.g., pens and moorings) and debris together with a timeframe for completion of the removal; and
  - (b) propose strategies to mitigate potential environmental harm or nuisance arising from decommissioning activities including removal and reuse, recycling or disposal of waste materials including feed, chemicals, fuels, and oils; and
  - (c) identify ongoing environmental monitoring and reporting of environmental condition, including the presence of invasive species, during and after decommissioning to demonstrate recovery of the seabed; and
  - (d) where required by the Director, include proposed measures to restore the receiving environment; and
  - (e) include any other matter specified in writing by the Director.
- (5) The licence holder must carry out decommissioning in accordance with the approved decommissioning plan, or if the Director approves a variation or substitution of the decommissioning plan, with the decommissioning plan as varied or substituted in accordance with the approval.
- (6) The licence holder must continue to carry out environmental monitoring and reporting of the environmental condition of the lease or permit area during and after decommissioning until the Director notifies the licence holder in writing that the seabed has recovered to the satisfaction of the Director.
- (7) Failure to comply with subsections (1), (2), (3), (4), (5) or (6) is an offence against section 96U(4) of the Act.



# Part 4. Environmental Standards Conditions

## Division 1. Water Depth Beneath Finfish Pens

### 38. Purpose and Application

- (1) The purpose of this Division is to establish a minimum distance between the bottom of finfish pen nets and the seabed to:
  - (a) allow water to flow underneath nets thus providing for movement of oxygenated water across the seabed which promotes breakdown and assimilation of organic waste; and
  - (b) ensure that nets do not cause physical disturbance of the seabed; and
  - (c) prevent abrasion of nets that may lead to fish escapes.

### 39. Water Depth Beneath Finfish Pens

- (1) For marine finfish farming lease or permits granted after 18 October 2023:
  - (a) The licence holder must ensure that there is at least five metres of water depth between the bottom of nets and the seabed at low tide.
- (2) For marine finfish farming lease or permits granted before 18 October 2023:
  - (a) the licence holder must ensure that there is at least one metre of water depth between the bottom of nets and the seabed at low tide; and
  - (b) unless otherwise approved by the Director, where a pen bay has less than five metres of water depth between the bottom of nets and the seabed at low tide, the licence holder must undertake seabed video surveys in accordance with these conditions at that pen bay for every production cycle.

## Division 2. Ecological Standards and Environmental Monitoring

### 40. Purpose and Application

- (1) The purpose of this Division is to set out ecological standards for the seabed within the Farm Zone, and for soft sediment habitats and reef habitats located at and extending beyond the boundary of the Depositional Zone. This Division also sets out the environmental monitoring requirements for these habitats.
- (2) Within the Farm Zone, a large proportion of particulate waste settles directly to the seafloor and is not fully mixed or dispersed into the receiving environment. Ecological standards established

within the Farm Zone are intended to ensure that the seabed environment is sufficiently biologically active to have the capacity to break down and assimilate the deposited organic material.

- (3) Ecological standards apply at and extending beyond the boundary of the Depositional Zone and are intended to ensure that particulate and dissolved wastes settling or dispersing beyond the boundary of the Depositional Zone do not significantly impact the ecological functioning of seabed environments. This includes soft sediment habitats and reef habitats.
- (4) Water quality indicators are to be monitored beyond the boundary of the Depositional Zone to determine if recognised water quality guideline values are being achieved.
- (5) Contemporary environmental monitoring requirements set out in this Division and Technical Standards made for the purposes of this Division will enable the Director to assess compliance with the conditions below and monitor change within other habitat types, including seagrass beds.

## 41. Peak Feed Input Period

- (1) For the purposes of this Division:
  - (a) the peak feed input period is the 30-day period beginning on and including the day on which the licence holder has discharged into the Farm Zone 80 percent of the total feed that the licence holder intends to discharge during the production cycle; and
  - (b) if more than one Farm Zone is present in the area to which the licence applies, the peak production period is to be determined separately for each Farm Zone.
- (2) Before introducing fish into a Farm Zone at the commencement of a production cycle, the licence holder must notify the Director of:
  - (a) the amount of feed that the licence holder intends to discharge into the Farm Zone during the production cycle; and
  - (b) the period during which the licence holder anticipates peak feed input to occur.
- (3) The licence holder must notify the Director if any changes occur during the production cycle that are likely to materially alter the period during which peak feed input is occurring or is to occur.
- (4) The licence holder must advise the Director of the expected video survey date no later than one week prior to that date. This advice must be accompanied by information in writing, in a format specified by the Director, in relation to:
  - (a) the total amount of feed discharged to each pen bay within the Farm Zone in the current production cycle; and
  - (b) net cleaning activity (number of events and method) in relation to each pen bay within the Farm Zone in the current production cycle.

## 42. Monitoring and Assessment Methods

- (1) The licence holder must ensure that all:
  - (a) seabed video surveys are conducted, analysed, and reported in accordance with any Technical Standards made for the purpose of seabed video surveys and any written requirements of the Director; and

- (b) detailed sediment surveys are conducted, analysed, and reported in accordance with any Technical Standards made for the purpose of detailed sediment surveys and any written requirements of the Director; and
- (c) reef surveys are conducted, analysed, and reported in accordance with any Technical Standards made for the purpose of reef surveys and any written requirements of the Director; and
- (d) seagrass surveys are conducted, analysed, and reported in accordance with any Technical Standards made for the purpose of seagrass surveys and any written requirements of the Director.

## 43. Farm Zone Monitoring

- (1) The licence holder must conduct seabed video surveys:
  - (a) at individual pen bays during each peak feed input period; and
  - (b) when required to do so under these conditions; and
  - (c) if required by the Director in writing, at individual pens at any other time specified by the Director.
- (2) Within 30 days of undertaking a survey required under subcondition (1), the licence holder must provide a video survey report prepared in accordance with any written requirements of the Director.
- (3) The video survey report must be accompanied by a copy of the digital footage specific to the survey and the tabulated results of the video survey, including Benthic Condition Index (BCI) values.

## 44. Farm Zone Ecological Standards

- (1) The licence holder must ensure that:
  - (a) no spontaneous gas bubbles are released from the sediment; and
  - (b) no feed spill events occur; and
  - (c) the benthic condition index (BCI) value of any surveyed pen bay is greater than or equal to zero.

## 45. Farm Zone Response Requirements

- (1) Unless otherwise approved by the Director, if gas bubbles are released from the sediment under a pen bay, the licence holder must fallow that pen bay as soon as practicable and must notify the Director within seven days.
- (2) The licence holder must not restock a pen bay that has been fallowed under subcondition (1) until the Director advises the licence holder in writing that sediments have satisfactorily recovered.
- (3) If the benthic condition index (BCI) value of a pen bay is less than zero, the licence holder must not restock that pen bay until the Director advises the licence holder in writing that sediments have satisfactorily recovered.

- (4) Unless otherwise approved by the Director, if the median BCI value of all pen bays surveyed within a Farm Zone is less than zero, the licence holder must as soon as practicable fallow all pen bays that have a benthic condition index value less than zero and undertake any further actions as specified in writing by the Director.
- (5) The licence holder must conduct repeat seabed video surveys of individual pen bays after those pen bays have been fallowed in accordance with a requirement of this condition.

## 46. Soft Sediment Monitoring

- (1) The licence holder must:
  - (a) conduct seabed video surveys at soft sediment compliance sites at or beyond the boundary of the Depositional Zone and at soft sediment reference sites during each peak feed input period; and
  - (b) if required by the Director in writing, conduct seabed video surveys at soft sediment compliance sites at any other time(s) specified by the Director; and
  - (c) within 30 days of undertaking a seabed video survey, provide a video survey report prepared in accordance with any written requirements of the Director.
- (2) The video survey report required under subcondition (1)(c) must be accompanied by a copy of the digital footage specific to the survey and the tabulated results of the video survey, including benthic condition index (BCI) values.

## 47. Soft Sediment Ecological Standards

- (1) The licence holder must ensure that at any soft sediment compliance site the benthic condition index (BCI) value is not below the lowest reference condition BCI value.
- (2) The licence holder must ensure that at any soft sediment compliance site there are no:
  - (a) gas bubbles arising from the sediment; or
  - (b) fish feed pellets on the sediment.
- (3) The licence holder must ensure that the median BCI value, when calculated for all soft sediment compliance sites combined, does not significantly change from the reference conditions for that lease or permit area.
- (4) The licence holder must ensure that at any soft sediment compliance site, when compared with reference conditions, there are no:
  - (a) significant changes in sediment redox potential or sulphide concentration; or
  - (b) significant changes in sediment infauna diversity, richness, or abundance.

## 48. Soft Sediment Response Requirements

- (1) The licence holder must conduct a detailed sediment survey at soft sediment compliance sites and soft sediment reference sites if:
  - (a) the median benthic condition index (BCI) value, when calculated for all soft sediment compliance sites combined, differs significantly from the established reference conditions; or
  - (b) it has been five years since the previous detailed benthic survey.

- (2) The licence holder must provide a detailed sediment survey report prepared in accordance with any written requirements of the Director within 30 days of the survey date or by a date otherwise specified by the Director in writing.

## 49. Reef Habitat Monitoring

- (1) The licence holder must conduct reef surveys as follows:
- (a) the licence holder must conduct rapid visual assessment surveys of inshore reefs twice per year at inshore reef compliance sites; and
  - (b) the licence holder must conduct inshore reef biodiversity assessment surveys every five years at reef compliance sites; and
  - (c) the licence holder must conduct qualitative reef biodiversity assessment surveys annually at deep reef compliance sites; and
  - (d) the licence holder must conduct quantitative reef biodiversity assessment surveys at deep reef compliance sites every five years; and
  - (e) the licence holder must provide a reef monitoring report for any reef survey required under these conditions, prepared in accordance with any written requirements of the Director, within 30 days of undertaking the survey or by a date otherwise specified in writing by the Director.

## 50. Reef Habitat Ecological Standards

- (1) The licence holder must ensure that at any reef compliance site, when compared with reference conditions, there is no:
- (a) significant and persistent increase in the presence of opportunistic algae; or
  - (b) significant change in canopy cover; or
  - (c) significant change in abundance and composition of key taxa; or
  - (d) significant change in composition of reef communities.

## 51. Reef Habitat Response Requirements

- (1) If a non-compliance is identified via a rapid visual assessment survey at an inshore reef compliance site, the licence holder must conduct a reef biodiversity assessment at that compliance site by a date specified in writing by the Director.
- (2) If a non-compliance is identified via a qualitative reef biodiversity assessment survey at a deep reef compliance site, the licence holder must conduct a quantitative reef biodiversity assessment at that compliance site by a date specified in writing by the Director.
- (3) The licence holder must provide a reef monitoring report prepared in accordance with any written requirements of the Director for any reef survey required under this condition within 30 days of undertaking the survey or by a date otherwise specified in writing by the Director.

## 52. Seagrass Habitat Monitoring

When required in writing by the Director, the licence holder must undertake seagrass monitoring, extent mapping, assessment and reporting in accordance with any Technical

Standards made for the purpose of seagrass surveys and any written requirements of the Director.

## 53. Other Habitat Monitoring

The licence holder must undertake other habitat monitoring when required in writing by the Director in accordance with the Director's written requirements.

## 54. Water Quality Monitoring

- (1) The licence holder must conduct monthly water quality surveys at selected monitoring sites in accordance with any Technical Standards made for the purpose of water quality monitoring and any written requirements of the Director.
- (2) The licence holder must implement the response framework provided by the Director when the Investigative Trigger Values (ITVs) determined by the Director are exceeded at any of the water quality monitoring sites.

# Division 3. Feed and Calculated Nitrogen Output Reporting

## 55. Purpose and Application

The purpose of this Division is to establish recording and reporting procedures to provide the Director with accurate and timely information regarding dissolved nitrogen outputs. This information is to allow the Director to verify compliance with the Total Permissible Dissolved Nitrogen Output (TPDNO) that has been apportioned to the licence holder.

## 56. Feed and Calculated Nitrogen Output Reporting Conditions

- (1) The licence holder must accurately record the amount of feed discharged into the lease or permit area to which the licence relates, for each day and each pen bay.
- (2) The licence holder must ensure that representative samples from each feed type and batch used in a production cycle are analysed at a laboratory approved by the Director to determine the protein content of the feed and must calculate the dissolved nitrogen output of the feed and must make this information available to the Director upon written request.
- (3) The licence holder must submit a report to the Director which details dissolved nitrogen outputs from the lease or permit area for each calendar month. The report must be submitted within 14 days after the end of each calendar month in a format and in a manner specified in writing by the Director.
- (4) The report must specify feed input data, aggregated to monthly totals, along with the amount of each feed type utilised and its corresponding protein content and any other information which may be required by the Director to demonstrate the accuracy of the calculated monthly dissolved nitrogen outputs.
- (5) The report information must be supported by a self-assessment report to facilitate assessment of compliance against the specified TPDNO. Compliance is to be assessed in accordance with



the most recent version of the [TPDNO Explanatory Paper: Compliance Assessment Methodology](#) published by the Director.

- (6) The licence holder must ensure that reports referred to under subconditions (2), (3) and (5) contain the information that the Director sets out in any Technical Standards made for the purposes of dissolved nitrogen output reporting.
- (7) The licence holder must maintain a database containing all raw data and other supporting information required to support TPDNO calculations for the last five years of production and must make this information available to the Director upon written request.

## Division 4. Waste Management Plan (WMP)

### 57. Purpose and Application

- (1) The purpose of this Division is to set out the requirement for a Waste Management Plan (WMP) to minimise the potential environmental impacts of waste resulting from marine finfish farming. The WMP is to include waste generated during the course of marine finfish farming activities. The requirements are applicable to waste generated in this manner regardless of their discharge or disposal location.
- (2) The requirements of the WMP contribute to operational transparency and effective regulation of waste management.

### 58. Waste Management Plan Conditions

- (1) A licence holder must, within 60 days of this condition coming into effect or by a date otherwise specified in writing by the Director, submit a Waste Management Plan (WMP) for the Director's approval.
- (2) The WMP must describe the management of waste generated by the licence holder's marine finfish farming activity and must specifically address the following waste types:
  - (a) feed waste; and
  - (b) medicated feed waste; and
  - (c) fish mortalities within typical range; and
  - (d) potential mass fish mortalities significantly above typical range; and
  - (e) biofouling removed from vessels or infrastructure; and
  - (f) nets and other marine finfish farm infrastructure waste; and
  - (g) blackwater and greywater; and
  - (h) bloodwater; and
  - (i) fish bathing water; and
  - (j) effluent resulting from the operation of reverse osmosis plants; and
  - (k) vessel biosecurity washdown water containing disinfectant/chemicals; and
  - (l) any other waste specified by the Director.

- (3) For each of the above waste types identified in subcondition (1), the WMP must provide details of:
- (a) the source of the waste within the marine finfish farming activity; and
  - (b) the typical composition of the waste; and
  - (c) the estimated quantity of waste including a description of lower and higher periods of waste generation; and
  - (d) any treatment and handling of the waste within the area to which the licence relates; and
  - (e) environmental controls in place for any storage of waste within the area to which the licence relates including, location, containment measures, spill management, odour management, vermin control, maximum storage volume and duration; and
  - (f) intended destination of the waste and any relevant authorisations to receive and manage the waste at that destination; and
  - (g) any intentional discharge or depositing of waste to the marine environment, including while transiting between lease or permit areas, and associated monitoring of the receiving environment; and
  - (h) record keeping for monthly quantities of wastes removed for reuse, recycling or disposal.
- (4) The licence holder must implement and act in accordance with the approved WMP or, if the Director approves a variation or substitution of the WMP, with the WMP as varied or substituted in accordance with the approval.

## Division 5. Finfish Mortality

### 59. Purpose and Application

- (1) The purpose of this Division is to set out requirements for the removal of dead fish, and the reporting and recording of fish mortalities by the licence holder.
- (2) This Division provides the Director with timely information on significant mortality events that may result in increased controlled waste that, due to the nature of the waste, poses an increased risk of causing environmental harm or environmental nuisance.

### 60. Finfish Mortality Conditions

- (1) The licence holder must remove dead fish from pens as soon as practicable.
- (2) The licence holder must notify the Director of any mortality incident that affects, or is likely to have affected, in any individual pen, more than 0.25 percent of fish per day for three consecutive days or more than 0.5 percent of fish on one day. Such notification must be provided as soon as practicable and no later than 24 hours after becoming aware of the mortality incident.
- (3) The licence holder must keep records of the combined weight of dead fish arising from marine finfish farms each month and must submit this information to the Director within 14 days of the end of each month.



## Division 6. Noise Management

### 61. Purpose and Application

The purpose of this Division is to require assessment and management of any noise emissions from marine finfish farming that have the potential to cause nuisance at Noise Sensitive Premises (NSP).

### 62. Noise Measurement

The licence holder must ensure all noise measurements required under this Division are conducted and analysed in accordance with any Technical Standards made for the purpose of noise management, or, if there is no such Technical Standard, the [Tasmanian Noise Measurement Procedures Manual](#).

### 63. Noise Limits

- (1) The licence holder must ensure noise emissions (expressed as the equivalent continuous A-weighted sound pressure level) from the marine finfish farming activity at any Noise Sensitive Premises (NSP) owned by a person other than the licence holder, do not exceed:
  - (a) 45 dB(A) between 0700 hours and 1800 hours (Day time); or
  - (b) 37 dB(A) between 1800 hours and 2200 hours (Evening time); or
  - (c) 32 dB(A) between 2200 hours and 0700 hours (Night-time).
- (2) The limits under subcondition (1) will not be breached unless noise emissions from the marine finfish farming activity are audible.
- (3) If the combined level of noise from the marine finfish farming activity and the normal ambient noise exceeds a limit under subcondition (1), the limit will not be considered to be breached if the licence holder can demonstrate that noise emissions from the activity exceed background noise levels by less than 5 dB(A).
- (4) If the combined level of noise from the marine finfish farming activity and one or more vessels travelling to and from the marine finfish farm exceeds a limit under subcondition (1), the limit is taken to be breached.
- (5) The time interval over which noise levels are averaged must be 10 minutes or an alternative time interval as specified in writing by the Director to the licence holder.
- (6) The licence holder must comply with any written direction issued by the Director requiring a noise compliance assessment to be carried out. The compliance assessment can be conducted either by noise modelling or noise monitoring or a combination of both.

### 64. Noise Impact Assessment and Mitigation Plan

- (1) The licence holder must submit to the Director a noise impact assessment report before implementing any changes to the marine finfish farming activity that may cause or increase the emission of noise and have the potential to cause environmental nuisance.
- (2) The noise impact assessment report must contain an evaluation of the effects of noise emissions from the marine finfish farming activity on Noise Sensitive Premises (NSP), assess

compliance with the noise limits specified in these conditions and provide the following information:

- (a) a description of noise sources and the receiving environment that must include:
  - (i) a map of the area to which the licence relates and relevant NSP; and
  - (ii) an inventory of all noise sources that may be operating on a permanent or temporary basis on the area to which the licence relates; and
  - (iii) a description of the expected sound power levels emitted by any machinery and equipment identified through the inventory; and
- (b) an assessment of noise impacts that includes:
  - (i) noise predictions or measurements that have been undertaken to determine noise emissions from the marine finfish farming activity, including the proposed changes, at relevant NSP; and
  - (ii) an evaluation of the effects of predicted or measured noise emissions from the marine finfish farming activity on relevant NSP, including compliance with specified noise limits; and
  - (iii) consideration of key items of equipment as well as cumulative noise emissions. Noise emissions must be presented separately for daytime, evening, and night-time.
- (3) If the noise impact assessment report identifies that noise limits may be exceeded the licence holder must prepare a Noise Mitigation Plan (NMP) that sets out feasible noise attenuation measures and/or improved operational practices and submit the NMP to the Director for approval.
- (4) The licence holder must, in preparing a NMP, give special consideration to measures to avoid or reduce dominant or intrusive noise characteristics impacting on NSP.
- (5) A NMP must specify implementation timeframes for measures contained in the NMP, and recommendations regarding post-commissioning noise surveys to confirm effectiveness of the measures.
- (6) The licence holder must implement and comply with a NMP that is approved by the Director or, if the Director approves a variation or substitution of the NMP, with the NMP as varied or substituted in accordance with the approval.
- (7) Unless otherwise approved by the Director, the licence holder must not implement the proposed change(s) under subcondition (1) until the Director has accepted the noise impact assessment report and, where applicable, a NMP in relation to the change(s).

## 65. Noise Surveys

- (1) The Director may issue the licence holder with a notice in writing requiring the licence holder to:
  - (a) carry out a noise survey in accordance with subconditions (2) and (3) and any written requirements of the Director contained in the notice; and
  - (b) prepare a *Noise Survey Report* in relation to that noise survey in accordance with subconditions (4) and (5) and any written requirements of the Director contained in the notice.

- (2) A noise survey under subcondition (1) must measure at locations which are to be representative of Noise Sensitive Premises (NSP):
  - (a) cumulative noise emissions from all sources of noise within the area to which the licence relates, and
  - (b) noise from vessels travelling to and from the area to which the licence relates.
- (3) A noise survey under subcondition (1) must be conducted within the timeframe specified by the Director in the notice and must include:
  - (a) noise measurements carried out during relevant periods of the day/evening/night that are representative of typical and plausible worse-case operating conditions; and
  - (b) observations recorded of noise-generating activities during the survey period, including vessel movements to and from the area to which the licence relates.
- (4) A *Noise Survey Report* under subcondition (1) must include:
  - (a) an evaluation of the effects of noise emissions from the marine finfish farming activity on NSP; and
  - (b) an evaluation of the compliance of the noise emissions from marine finfish farming activity with the noise limits specified in these conditions.
- (5) The licence holder must submit the *Noise Survey Report* to the Director within 30 days of when the survey was required to be conducted, in accordance with the direction in subcondition (1).



Tasmanian  
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