



Consultation Summary Report

Draft Environmental Standards for Tasmanian Marine Finfish Farming 2023

Contents

Introduction	4
Background	4
Written Submissions	5
Submission Recommendations and NRE Tas Response	6
Part 1 – Preliminary	6
Purpose and Objectives	6
Interpretation	7
Part 2 – Determinations by the Director	9
Division 1. Reference Sites and Reference Values	9
Division 2. Regional Areas	12
Part 3 – Provisions to Which the Director and Board Must Have Regard	13
Division 1. Baseline Environmental Assessment (BEA)	13
Part 4 – Environmental Standards Offence Provisions	15
Division 1. Baseline Environmental Assessment (BEA)	15
Division 2. Mapping and Monitoring Stations	15
Division 3. Broadscale Environmental Monitoring Program (BEMP)	17
Division 4. Seabed	20
Division 5. Total Permissible Dissolved Nitrogen Output (TPDNO)	23
Division 6. Therapeutant Management	24
Division 7. Wastewater Management	25
Division 8. Light Attenuation	25
Division 9. Noise	26
Division 10. Decommissioning	27
(Other matters related to Part 4 comments)	28
Part 5 – Environmental Standards Conditions	28
Division 1. Baseline Environmental Assessment	28
Division 2. Finfish Pens	29
Division 3. Seabed Monitoring	29
Division 4. Feed and Calculated Nitrogen Output Reporting	29

Division 5. Waste Management Plan	30
Division 6. Noise Conditions	30
Division 7. Finfish Mortality	31
Other Issues	32
Online Survey	34
Responses to the Survey Statements	34

Introduction

This report provides a summary of issues, recommendations and comments made in submissions to the [Consultation Draft](#) Environmental Standards for Tasmanian Marine Finfish Farming 2023.

It should be read alongside the revised Environmental Standards and associated Companion Paper, which provides further explanatory detail on their scope and intent.

The Consultation Draft was prepared in accordance with [sections 96O to 96S](#) of the *Environmental Management and Pollution Control Act 1994* (EMPCA). It was released by the Department of Natural Resources and Environment Tasmania (NRE Tas) on Thursday 2 February 2023, together with an [Explanatory Paper](#) and [Frequently Asked Questions](#). The six-week consultation period closed on 21 March 2023.

Members of the public and industry were invited to either make written submissions on the Consultation Draft or to complete an online survey seeking a response to five statements, including an option to provide additional comments.

NRE Tas has carefully considered in depth all of the submissions received as part of this process. The table below outlines NRE Tas's response to the matters raised during public consultation process and notes where matters are out of scope or to be addressed through a different mechanism, for example Technical Standards, or Wildlife Interactions Standards. Changes have been made to the revised Environmental Standards in response to matters raised during public consultation.

Background

The Tasmanian Government is developing a suite of Aquaculture Standards to ensure the sustainability of marine finfish farming in Tasmania. These include the Environmental Standards for Marine Finfish Farming. The Aquaculture Standards are a priority deliverable of the [Tasmanian Salmon Industry Plan](#), which was released on 1 May 2023.

The Aquaculture Standards are also part of a continuous improvement process which builds on existing regulatory requirements and voluntary measures undertaken by the aquaculture industry. They are designed to ensure consistency of environmental regulation and other management controls across all aquaculture sectors.

Members of the public have previously been invited to comment on three draft Aquaculture Standards released by NRE Tas, covering the interrelated areas of marine farming operations, biosecurity and environmental management. These are the:

- Draft Standardised Marine Farming Management Controls 2022
- Draft Biosecurity Program: Tasmanian Salmonid Industry 2022
- Consultation Draft Environmental Standards for Tasmanian Marine Finfish Farming 2023

The Government has also committed in the Salmon Industry Plan to develop Aquaculture Standards for Wildlife Interactions and Freshwater Finfish Farming.

Written Submissions

Thirteen written submissions were received from the following individuals and organisations and are published on the NRE Tas website.

Submission No.	Name / Organisation
1	Susan Cowgill
2	Chris Wells
3	John Pitt
4	Neighbours of Finfish Farming
5	Cape Herbert Pty Ltd
6	Tasmanian Independent Science Council
7	Confidential
8	Aquenal Pty Ltd
9	Salmon Tasmania
10	Environmental Defenders Office
11	Institute for Marine and Antarctic Science
12	Confidential
13	Cherrie Consulting

Submission Recommendations and NRE Tas Response

The headings in the following table are those used in the Consultation Draft of the Environmental Standards, referred to as the 'Consultation Draft'. The second column refers to headings and section numbers used in the revised Environmental Standards, referred to in the table as the 'revised Standards'.

Part 1 – Preliminary

Purpose and Objectives

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> • Include provisions for freshwater finfish farms and hatcheries, and the welfare of marine wildlife and salmon stocks. 	<p>NRE Tas is developing new Standards for Wildlife Interactions (including seals) and Freshwater Finfish Farming (including hatcheries). These are near term priority actions (3 months to 2 years) in the Tasmanian Salmon Industry Plan 2023.</p> <p>The Seal Management Framework and Minimum Requirements will also be updated.</p>
<ul style="list-style-type: none"> • Include a regular review process and timeline for the Environmental Standards, as well as an opportunity for third-party appeals. 	<p>Section 96W of EMPCA requires all Environmental Standards created under the Act to be reviewed after 10 years, which is consistent with other statutory instruments such as Regulations. Earlier reviews can be undertaken at the discretion of the Minister.</p> <p>Any proposed amendments to Environmental Standards made under the Act and the reasons for making them will be made available to the public and key stakeholders, providing an opportunity for all parties to comment and contribute to the review.</p> <p>Consultation will be followed by Parliamentary tabling of any revised Environmental Standards made by the Minister.</p> <p>Third party appeal processes remain in place for the Environment Protection Authority (EPA) Board assessment process as per section 3 of the Companion Paper.</p>
<ul style="list-style-type: none"> • The Consultation Draft reduces the levels of environmental monitoring and regulation currently provided for in Marine Farming Development Plans and Environmental Licences. 	<p>All current requirements of environmental licences for marine finfish farming are either carried forward or strengthened in the revised ES. The EPA director will ensure that any site-specific and generic conditions are carried forward when varying the environmental licences.</p>

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> The Environmental Standards should apply to lease holders, subcontractors, agents, suppliers and related entities. 	<p>Part 1 of the revised ES ('Preliminary') has been amended to clarify that they apply to holders of leases, environmental licences and marine finfish farming permits, noting that Part 2 applies to determinations by the EPA Director.</p> <p>Holders of leases, permits and environmental licences are responsible for the actions of subcontractors, agents, and suppliers acting on their behalf.</p>
<ul style="list-style-type: none"> The Consultation Draft advantages current lease and licence holders and dissuade new entrants to the marketplace. Current and new operations should have the same level of regulation. Explain how current marine finfish leases are incorporated into the Environmental Standards, in addition to new leases and decommissioned leases. 	<p>Current and new operations will all be regulated under the Environmental Standards.</p> <p>The requirements for current and new operations have been standardised.</p> <p>For example, current and new operations will have the same level of regulation and the same environmental monitoring requirements.</p> <p>New and improved elements of environmental regulation are described in Section 4 (Tables 1 and 2) of the Companion Paper.</p>
<ul style="list-style-type: none"> Include a comprehensive scope statement covering all industry operations, setting out exactly which are covered by these Environmental Standards. 	<p>Part 1 ('Preliminary') of the revised ES has been amended to explain the objectives, purpose, application, and scope.</p> <p>Further information on the regulatory framework for marine finfish farming is provided in Part 3 of the Companion Paper.</p>

Interpretation

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> Include a map of the management zones referred to in the Consultation Draft. 	<p>Definitions of the management zones have been included into the revised ES. An updated schematic diagram showing the Farm and Depositional Zones has been provided in Figure 2 (Section 5) of the Companion Paper.</p>
<ul style="list-style-type: none"> Provide definitions or explanations of various terms used throughout the Consultation Draft. 	<p>Technical and regulatory definitions in the 'Interpretation' section of Part 1 have been revised to clarify their meaning and reflect changes to section numbering.</p> <p>Definitions of the following terms have been added:</p> <ul style="list-style-type: none"> benthic condition index biogeochemical model

Summary of stakeholder recommendations and comments

NRE Tas response

- compliance site (*replaces 'compliance point'*)
- coordinate reference system
- detailed sediment survey
- environmental indicator
- environmental harm
- exceedance
- feed spill event
- investigative trigger value
- lease holder (*replaces 'holder of a lease'*)
- marine
- monitoring site
- Noise Measurement Procedures Manual
- nutrient dispersal modelling
- particulate depositional modelling
- Protected Environmental Values
- reference conditions
- Scientific Advisory Panel
- threatened species
- waste

Note that 'Emergency lease' is defined in [Part 3 of the Marine Farming Planning Act 1995](#) as an emergency lease in force under section 63 of that Act, which defines the duration of such a lease.

An explanation of the term 'significant change' will be included in the [Technical Standards](#). Further detail is also provided in Part 6 of the [Companion Paper](#).

- Explain water quality compliance sites.

The revised ES does not refer to compliance sites for water quality. Rather, the ES has been modified to incorporate Investigative Trigger Values (ITVs) that will be applicable for regions within which marine finfish farming is being undertaken. Water quality measurements conducted at monitoring locations within these regions will be compared against the appropriate ITVs.

If ITVs are exceeded, an investigation into the underlying factors for such exceedances will be triggered. The purpose of ITVs is to protect identified Protected Environmental Values and associated water quality guideline values.

- Explain what is meant by the terms 'to the extent practicable', 'as soon as practicable' and 'as soon as reasonably practical'.

The revised ES does not use the terms 'extent practicable' and 'reasonably practicable'. The term 'as soon as practicable' is considered to be legally enforceable.

- Define offshore finfish farming as aquaculture

Offshore finfish farming is outside the scope of the Environmental Standards. The Government's general policy on offshore farming is

Summary of stakeholder recommendations and comments	NRE Tas response
<p>occurring in Commonwealth Waters.</p>	<p>described on page 3 of the Overview – Tasmanian Salmon Industry Plan 2023.</p>
<ul style="list-style-type: none"> • Include tourism accommodation, rural farm residences, premises, holiday homes, State and National heritage tourism sites within the definition of noise sensitive premises. 	<p>The definition of ‘noise sensitive premises’ has been retained in the revised ES. The definition is <i>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</i>, therefore would include many of the sites and premises described in the submission comments.</p>
<ul style="list-style-type: none"> • Refer specific issues to their relevant Acts within the Environmental Standards (e.g., Marine Debris is administered through the Living Marine Resources Management Act 1995). 	<p>Information on management of marine debris, including reporting of debris, operator requirements, inspections, and offences, is provided on the NRE Tas website.</p> <p>The marine farming debris webpage explains that offences and penalties are given in the <i>Marine Farming Planning Act 1995</i> and the <i>Marine Farming Planning Regulations 2016</i>. Therefore, it is not appropriate that these issues be included as conditions in the Standards.</p>
<ul style="list-style-type: none"> • Refer to ‘antibiotics’ rather than ‘therapeutants’ (as per definitions in the Biosecurity Standard). 	<p>Antibiotics are a sub-class of the wide range of chemicals that can be used to manage disease. The word ‘therapeutants’ has therefore been retained in the revised ES.</p> <p>However, to improve clarity, the definition of ‘therapeutants’ has been amended to “...chemical substances used on veterinary advice for the purpose of combating animal disease.”</p>

Part 2 – Determinations by the Director

Division 1. Reference Sites and Reference Values

Summary of stakeholder recommendations and comments	NRE Tas response
<p>Purpose</p>	
<ul style="list-style-type: none"> • Consider mentioning plankton communities and their protection in the regional zone. 	<p>Phytoplankton communities make up an important component of the water column habitat. The ES introduce the measurement of water quality either through licence conditions and/or broad scale environmental monitoring requirements.</p> <p>The use of plankton communities as biological endpoints for elevated dissolved nutrients will be part the water quality <u>Technical Standard</u> (See Appendix 1 in the <u>Companion Paper</u>).</p>
<p>Reference Sites</p>	

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> Clarify the current terminology around 'reference sites'. 	<p>An amended definition of 'reference sites' has been included in the revised ES, together with a new definition of 'reference conditions'.</p>
<ul style="list-style-type: none"> Provide examples of how reference sites will be established, including at the regional scale, and define a consistent methodology for doing so. Establish appropriate reference sites outside the impact zone of the existing operations. Consider using regional "sentinel site" monitoring of broadscale changes to seagrass and reef habitats, as done in Storm Bay. Involve companies in selecting reference sites relative to their operations. 	<p>Examples of reference sites and a methodology will be included in the <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).</p> <p>Reference sites and their selection are explained in section 7.4 of the <u>Companion Paper</u>.</p> <p>The Broadscale Environmental Monitoring Program (BEMP) will include reference sites and will be designed to assess cumulative impacts from multiple nutrient sources into the region.</p>
<p>Reference Values, Conditions & Compliance Sites (<i>called 'points' in the Consultation Draft</i>)</p>	
<ul style="list-style-type: none"> Engage a scientific panel to provide advice to support the Director's determination of reference values. 	<p>The EPA will continue to seek advice from scientific institutions when required. For example, the Environmental Standards require that BEMPs are reviewed every five years by a recognised scientific research institution. This provides the opportunity for all data collected within these programs to be scientifically evaluated and assessed.</p> <p>The Consultation Draft gave the EPA Director discretionary powers to establish a two person Scientific Advisory Panel to provide advice on the determination of reference values.</p> <p>In the light of comments made in the submissions, Part 2, Division 6 (section 15) in the revised ES expands on those powers to allow for a Panel of three or more people with expertise and experience in marine ecology, water quality, environmental monitoring, or any other area of expertise determined relevant by the EPA Director.</p> <p>The role of a Panel will be to support decision making on any matter related to the Environmental Standards, including determination and review of regional areas, reference conditions and sites, and monitoring standards and ecological standards for any habitat type or species.</p> <p>The revised ES states that the EPA Director 'is to' establish a Scientific Advisory Panel.</p>

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> • Explain how reference conditions will be established at the regional scale. • Focus on establishing reference conditions: <ul style="list-style-type: none"> - via comparable sites that are unimpacted by finfish farming activity; or - from conditions established through the baseline environmental assessment; or - using a gradient design and /or other lines of evidence (e.g., model outputs, indicator specificity, timing, proximity, tracers) to attribute change. • Clarify where compliance sites will be located relative to the depositional and lease boundaries • Clarify impact definitions and related matters in an Explanatory Paper. 	<p>The section about reference values and reference sites has been redrafted to focus on reference conditions, and the mechanisms by which these can be established including using a gradient approach when ideal reference sites cannot be established.</p> <p>Reference sites will be established at locations where there is little or no impact from finfish farming.</p> <p>The process for establishing reference conditions and reference sites will be further explained in the <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).</p> <p>Compliance sites will be located across different habitat types including soft sediments, and reefs where present at or beyond 35m from the lease boundary. Seagrass habitat monitoring sites will be located at the nearest habitat outside of the Depositional Zone Boundary.</p>
<ul style="list-style-type: none"> • Use a regional gradient approach, particularly for areas with existing operations, or (preferably) use monitoring data collected as part of a comprehensive baseline survey. 	<p>A gradational approach to determining reference conditions has been included in section 4 of the revised ES.</p>
<p>Zones</p>	
<ul style="list-style-type: none"> • Justify how the various zones will provide improved environmental outcomes. • Provide an explanation of how and why a dispersal zone of 100m from the depositional zone boundary has been defined, as current literature does not reference 	<p>The revised ES now refers to two management zones – the Farm Zone (pen bay area) and the Depositional Zone (out to 35m beyond the lease boundary), instead of the four zones in the Consultation Draft.</p> <p>Definitions of both zones are given in Part 1 ('Interpretation') of the revised ES.</p> <p>After consideration of the submissions, it is considered that the Dispersal Zone is no longer required; rather, the focus will be on determining compliance sites for seabed habitats wherever they are present at or beyond 35 m from the lease boundary.</p>

Summary of stakeholder recommendations and comments	NRE Tas response
<p>100 m as an applicable distance.</p>	<p>Both zones now have ecological standards that prevent significant change.</p> <p>The EPA Director intends to ensure that significant change is defined to:</p> <ul style="list-style-type: none"> • be biologically relevant to habitats being monitored; • prevent irreversible habitat change; and • prevent loss of structure and ecological functioning of the habitats. <p>Further information on management zones is provided in Section 5 of the Companion Paper.</p>

Division 2. Regional Areas

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> • In section (1) 'Determination of Regional Areas', replace 'The Director may determine a regional area' with "The Director will determine a regional area". • Explain how Regional Areas are determined, and how they relate to recognised geographical areas, MFDP areas and biosecurity zones. • Define Regional Areas as a functional (biophysical) region and at a scale to prevent the under reporting of near field impacts. 	<p>Part 2 of the revised ES ('Determinations by the Director') clarifies that, unless otherwise determined by the EPA Director, the Regional Area will be the Marine Farming Development Plan area.</p> <p>In addition, the EPA Director is required to notify each affected licence holder in a newly determined regional area.</p> <p>Salmonid Biosecurity Zones are defined in Part 2 of the Biosecurity (Salmonid Biosecurity Zones) Regulations 2022.</p>
<ul style="list-style-type: none"> • Manage seagrass areas as 'High conservation/ecological value' and apply stricter Default Guideline Values for water quality, consistent with the State Water Quality Policy and ANZECC Guidelines. Manage these areas for "no change from ambient conditions" rather the poorly defined regulatory threshold of "no significant change". 	<p>High conservation/ecological value habitats typically relate to marine parks and conservation areas. Generally, the marine environment where salmon farming occur is referred to as modified (not pristine), therefore the suggested management category and 'change' descriptor is not considered to be appropriate.</p> <p>The revised ES now includes provisions to require investigative trigger values for water quality within all finfish farming regions and these will be determined in accordance with state and national water quality policies.</p>

Part 3 – Provisions to Which the Director and Board Must Have Regard

Division 1. Baseline Environmental Assessment (BEA)

Summary of stakeholder recommendations and comments	NRE Tas response
<p>For <u>existing</u> leases and/or permits:</p> <ul style="list-style-type: none"> Establish the existing environmental condition within the existing operational impact zone; Develop an Environmental Management Plan that returns impact zone environmental condition to that existing at the reference sites; and Maintain this new baseline condition thereafter. 	<p>Baseline environmental information has been measured for all current leases.</p> <p>Once finfish farming has commenced, it is no longer possible to measure baseline conditions, as the measured conditions would reflect impacted conditions. In those situations, a comparison against (unimpacted) reference conditions is the only practical approach.</p>
<ul style="list-style-type: none"> Include the following requirement for a 'Baseline Regional Assessment': <p>"In the case of existing lease areas under 25 metres deep the Director will choose and monitor a site similar to the existing lease and from an assessment over a two-year period compare this with activity on the existing lease site. From that time the new standards apply. Or if the existing lease holder is not comfortable with the new standards the lease can be closed and a new lease area negotiated."</p> 	<p>The submission makes the comment under the heading 'baseline regional assessment', but is referring to existing, operating leases for which baseline conditions can no longer be measured.</p> <p>Under the revised ES, it is intended that compliance sites will be established for relevant habitats (e.g.; soft sediment and reefs.). Comparison of conditions measured at those sites against reference conditions will be undertaken.</p> <p>Criteria for significant change are outlined at a generic level in the Ecological Standards within the revised ES. These will be further detailed in the associated <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).</p>
<ul style="list-style-type: none"> Apply some elements of baseline surveys to emergency leases [see s.40 of Div. 1] e.g., proximity to sensitive habitats and protected species, and ensure this is done well ahead of any emergency. Clarify what constitutes an 'emergency' and how long the lease can be occupied. 	<p>Such circumstances are rare, and therefore, it is appropriate that emergency applications, orders, plans and permit conditions, including the period of lease occupation, should be considered on a case-by-case basis by the EPA and NRE Tas.</p> <p>In general terms, an emergency will be an unforeseen event that falls outside the normal range of operation, e.g.; an extreme or catastrophic weather event or significant disease event.</p>
<ul style="list-style-type: none"> Clarify when the Baseline Environmental Assessments will be required for existing operations that are seeking to expand (Currently seems to suggest that Baseline Environmental Assessments will not always be a requirement for new or changed leases). 	<p>This has been clarified in subsection 17 (1) of the revised ES. Note that the 'new lease' definition in Part 1 of the revised ES refers to part of a lease on which finfish farming has not previously been undertaken. This addresses the aspect of lease variation including changed lease shape or size, expansion, or relocation.</p>

<ul style="list-style-type: none"> • State how the EPA Director or Board are to use the Baseline Environmental Assessments to inform their decision-making regarding the grant of an Environmental Licence, or for conditioning. For example, are these assessments relevant to the question of whether a licence should be issued, or only to conditions? • Provide clear guidance within the Environmental Standards on how the decisions that would be informed by the Baseline Environmental Assessment. • Include what findings from the Baseline Environmental Assessments would be the basis for the refusal of an Environmental Licence e.g., critically endangered species within the vicinity of the lease. 	<p>The detailed requirements of Baseline Environmental Assessments (BEAs) are given in sections 17 and 18 of the revised ES.</p> <p>Section 16 describes the purpose and application of BEAs, which in summary are required to support EPA decision making before the commencement or recommencement of marine finfish farming. A flowchart illustrating the BEA procedure is provided in section 7.1 of the <u>Companion Paper</u>.</p>
<ul style="list-style-type: none"> • Make available the technical requirements for Baseline Environmental Assessment, including details of methods and sampling frequency. • Incorporate detailed bathymetry and seabed habitat mapping into environmental monitoring and management decisions, along with current modelling to help inform the location of seabed sampling. 	<p>The technical requirements for Baseline Environmental Assessments will be explained in the <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).</p> <p>Monitoring locations will be informed by the best available scientific information, which includes data on bathymetry, seabed habitats and depositional and dispersal models. This is covered in sections 16 – 18 of the revised ES.</p>
<ul style="list-style-type: none"> • Include sociocultural and non-salmon farming economic consideration in the Baseline Environmental Assessment. 	<p>The Baseline Environmental Assessment is intended to address environmental conditions prior to finfish farming.</p> <p>Sociocultural and non-salmon farming economic considerations are considered during the public Environment Impact Statement released during the marine farming planning process.</p>

Part 4 – Environmental Standards Offence Provisions

Division 1. Baseline Environmental Assessment (BEA)

Summary of stakeholder recommendations and comments	NRE Tas response
Application of a BEA	
<ul style="list-style-type: none"> • Include existing lease and licence holders in Part 4. 	Lease, Licence and Permit holders are now included in the requirements for BEA.
BEA scope and requirements	
<p>Explain:</p> <ul style="list-style-type: none"> • whether details of the assessment will be part of the future Technical Standards; • the difference between ‘interim’ and ‘final’ baseline environmental assessment reports referred to in Parts 3 and 4; and • when assessments will be required for existing operations that are seeking to expand. <p>Include the following requirements in baseline environmental assessments:</p> <ul style="list-style-type: none"> • length of the interim or final assessment including different climatic conditions; • frequency of sampling and reporting, including assessment limitations and the data used to support the conclusions; and • water clarity logging for existing and new finfish farms. 	<p>Baseline environmental assessments and their requirements will be included in the <u>Technical Standards</u>.</p> <p>See response in the table above, under Part 3, Division 1 for details on the requirements of BEA.</p> <p>Specific water quality parameters to be used will be determined in accordance with the relevant <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).</p> <p>They will be selected with reference to the maintenance of Protected Environmental Values.</p>

Division 2. Mapping and Monitoring Stations

Summary of stakeholder recommendations and comments	NRE Tas response
Selection of Monitoring Stations	
<ul style="list-style-type: none"> • In subsection (1) – ‘Selection of Monitoring Stations’ - replace “A holder of a new lease must” with “A holder of any lease must”. 	The reference to ‘new’ lease has been removed from this subsection. Lease holders must undertake modelling when required by the Director.

<ul style="list-style-type: none"> Publicly release any Baseline Environmental Assessment data, as well as modelling, mapping and monitoring information. 	<p>The EPA has developed a policy on the release of monitoring data and other information and has an active program underway to implement the policy. Details of the policy and program are available on the EPA's website.</p>
<ul style="list-style-type: none"> Clarify whether an available biogeochemical model for a region will satisfy the requirement for nutrient dispersal modelling. Use a risk and evidence-based approach to determine if the proposed monitoring strategy is applicable to the salmon farming region. Make biogeochemical modelling mandatory. Clarify whether particulate dispersal modelling other than DEPOMOD will be accepted. 	<p>Environmental modelling requirements are defined in section 21 of the revised ES.</p> <p>The development of a biogeochemical model is a significant undertaking and would usually only apply to the development of a new region or a significant increase in the allocation of TPDNO in a region.</p> <p>Instead of requiring the use of a particular software package, subsection 21(4) specifies the performance criteria that models must meet.</p>
<ul style="list-style-type: none"> Select the location of monitoring stations by identifying and marking sensitive receptors. Reconsider if it is appropriate for the lease holder to make recommendations for the location of monitoring stations (PART 4, Division 2, 1b), given this is inconsistent with elsewhere that states the Director will specify the locations of monitoring stations. 	<p>Compliance and BEMP monitoring sites will be determined by the EPA Director (see sections 8 and 11 of the revised ES).</p>
<p>Management Zone Maps</p>	
<ul style="list-style-type: none"> Clarify the purpose of the dispersal zone. Refer only to depositional impacts within the farm and depositional zone and dissolved nutrient related impacts within the dispersal zone. Do not include the new 'dispersal zone' because it does not meet international best practice and would allow impacts to extend beyond those allowed by existing ELs. Scrap the depositional and dispersal zones (the latter is only a widening of the AZE by 100m). Review the dispersal and regional zone distances; consider increasing the former from 100m to 500m or using hydrodynamic/nutrient dispersal models to determine the dispersal zone. Extend the Depositional zone as far as the impact manifests. Extend the Dispersal zone to the extent of the impact, not 100m or at the discretion of the Director. 	<p>Zone descriptions and distances are explained in section 5 of the Companion Paper.</p> <p>The revised ES now refers to two management zones – the Farm Zone (pen bay area) and the Depositional Zone (out to 35m beyond the lease boundary), instead of the four zones in the Consultation Draft.</p> <p>Definitions of both zones are given in Part 1 ('Interpretation') of the revised ES.</p> <p>After consideration of the submissions, it is considered that the Dispersal Zone is no longer required; rather, the focus will be on determining compliance sites for seabed habitats wherever they are present at or beyond 35 m from the lease boundary.</p> <p>Both zones now have ecological standards that prevent significant change to key habitats including the water column, soft sediments and reefs.</p> <p>Subsection 20(2) of the revised ES requires lease holders to include habitats on maps of the lease area.</p>

<ul style="list-style-type: none"> • Include the location of habitats on the management zone maps. 	
Comments relating to compliance sites	
<ul style="list-style-type: none"> • Establish compliance sites to monitor the proposed Dispersal Zone and demonstrate that physical and chemical thresholds show no change (comment relates to the Okehampton Seagrass Community). • Clarify where the compliance sites will be located in relation to the zones. 	A new Division (sections 8 & 9) has been added to the revised ES which explains the nature and role of compliance sites, and the principles for their selection.
<ul style="list-style-type: none"> • Explain the level of change that is acceptable in each zone. 	Criteria for no significant change are outlined at a generic level in the Ecological Standards within the revised ES (see Part 4, Division 2). These will be further detailed in the associated <u>Technical Standards</u> .

Division 3. Broadscale Environmental Monitoring Program (BEMP)

Summary of stakeholder recommendations and comments	NRE Tas response
Subsection 1:	
<ul style="list-style-type: none"> • Mandate the Director’s issuing of a notice to prepare a BEMP. 	<p>The wording in section 23(1) of the revised ES has been changed to:</p> <p><i>The Director <u>is to</u> issue a notice requiring a Broadscale Environmental Monitoring Program (a ‘BEMP’)...to be undertaken by one or more licence holders.</i></p>
Subsection 2(b) – monitoring habitats:	
<ul style="list-style-type: none"> • Require monitoring of all reef communities. • Clarify whether it is intended to apply all proposed habitat types for each BEMP region. If so, provide adequate justification for their inclusion in some instances, based on results from current BEMP monitoring. 	Where present, monitoring of reef communities and other habitat types will be included in BEMP monitoring (See section 7 of the <u>Companion Paper</u>).
Subsections 2(c) to 2(e) – monitoring, including parameters and locations	
<ul style="list-style-type: none"> • Define ‘depositional hotspot’. • Require biogeochemical modelling for benthic and nutrient dispersion modelling; and clearly linked to the establishment of carrying capacity assessment and the setting of TPDNO limits. • Explain why monitoring isn’t required in the dispersal zone. 	<p>The term ‘depositional hotspot’ has been replaced by ‘locations at which deposition is expected to accumulate’ (see subsection 11(2) of the revised ES).</p> <p>At and beyond the boundary of the depositional zone, licence holders are required in the revised ES to meet ecological standards for soft sediment and reef habitats.</p> <p>Rapid visual assessment remains an acceptable method for biannual inshore reef surveys (see section 49 of the revised ES).</p>

<ul style="list-style-type: none"> Continue to use the efficient rapid assessment methodology for rocky reef assessment. 	
<ul style="list-style-type: none"> Consider nutrient dispersal and broader biological impacts (nuisance algae, impacts on reefs and seagrass) on the dispersal and regional zones. Explain whether potential cumulative environmental effects are related to multiple leases and other ecosystem or anthropogenic sources of DIN, and how attribution be determined. Clarify if monitoring of the broader environment will occur during peak production or required during specified climatic, seasonal or biological important periods 	<p>The BEMPs will be undertaken to measure effects on a range of habitats (e.g. reefs and seagrass beds) and on water quality. Monitoring at broadscale sites, including reference sites, is designed to detect cumulative impacts.</p> <p>There will also be compliance measurements for habitats where present at or beyond the depositional zone.</p> <p>The BEMP will be conducted monthly or when it is biologically meaningful (e.g. seasonal). BEMP is not intended to align with peak production. It is important that monitoring should be done at the same period of time each year for consistency purposes.</p> <p>Monitoring of the broader environment will be further explained in the <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).</p>
<p>Subsections 2(f) & (g) – investigative trigger values:</p>	
<ul style="list-style-type: none"> Explain how investigative trigger values will be determined. 	<p>Investigative trigger values will be determined in accordance with state and national water quality policies and will included in the relevant <u>Technical Standard</u> (see Appendix 1 in the <u>Companion Paper</u>).</p> <p>For further information, see the Water Quality Guideline Values for Aquatic Ecosystems of Tasmania EPA Tasmania</p>
<p>Review of BEMPs – subsection 2(k)</p>	
<ul style="list-style-type: none"> Amend 2(k) to require a five yearly review of BEMP by a recognised service provider (not necessarily a research institution) approved by the Director. Amend 2(k) to require 5-yearly review of BEMPs by independent scientific research institutions. 	<p>The requirement for BEMPs to be reviewed at 5-yearly intervals remains in place, as this is necessary to ensure that monitoring programs remain fit-for-purpose.</p> <p>It is appropriate that these reviews are undertaken by independent scientific institutions, rather than private or industry service providers.</p>
<ul style="list-style-type: none"> Include and make more explicit the potential requirement for the monitoring of key species (e.g., mobile invertebrates, commercial, threatened and endangered species). 	<p>BEMP requirements have been modified in subsection 11(2)(v) of the revised ES, allows for any other habitat or species to be included into a BEMP.</p> <p>Additional detailed requirements will be specified within a <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).</p>
<ul style="list-style-type: none"> Include prescriptive requirements concerning water quality monitoring, to achieve Water Quality Objectives (under State Policy on Water Quality Management 	<p>Water quality monitoring is required as part of the BEMP at broadscale sites (see Section 11) and at other sites determined by the EPA Director (see section 54).</p> <p>Investigative Trigger Values (ITV) intended to achieve water quality guideline values will be determined under</p>

<p>1997), informing site-/region specific investigative levels.</p>	<p>section 13 and exceedances of ITVs require a response under section 54.</p> <p>See also section 7.13 of the <u>Companion Paper</u>.</p>
<p>Rewrite Div. 3, Part 4, subsection (3) as follows:</p> <p><u>“If the Director form the view, based on the best available scientific data, that a BEMP in relation to a licence holder requires updating, and/or if recommended by the independent scientific research institution upon the 5 yearly review, the Director must, by notice in writing to the licence holder, update the BEMP.”</u> [additional words are underlined]</p>	<p>Subsection 23(6) in Part 3 Division 3 of the revised ES has been amended to read:</p> <p><i>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.</i></p> <p>In addition:</p> <ul style="list-style-type: none"> • Subsection 10(3) in the revised ES clarifies that BEMP design considers the findings of baseline environmental assessments and best available scientific information, including modelling outputs, • Subsection 11(2) requires a BEMP to 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.
<ul style="list-style-type: none"> • Provide information on cost apportionment for creating and monitoring a regional BEMP. • Require BEMP to be designed by an independent scientific body and assessed and approved by a scientific panel NOT the Director. • Publish BEMP data reviews and make them available in a similar manner to the Derwent Estuary Program reports. 	<p>The licence holders are jointly responsible for the cost of the BEMP.</p> <p>NRE Tas considers that it is appropriate for the EPA Director to retain their independent statutory role, supplemented by review and advice from a Scientific Advisory Panel (see Part 2, Division 6 of the revised ES).</p> <p>BEMP Reports are already published on the EPA website.</p> <p>The EPA has developed a policy on the release of monitoring data and other information and has an active program underway to implement the policy. Details of the policy and program are available on the EPA’s website.</p>
<ul style="list-style-type: none"> • Review the confusing use of water quality ‘compliance’ sites. 	<p>The term ‘compliance site’ is no longer used in the context of water quality Investigative Trigger Values. A response framework is to be set out in the Technical Standards.</p>
<ul style="list-style-type: none"> • Improve monitoring of potential increases in harmful algal blooms arising from finfish farms. Require weekly sentinel shellfish monitoring, analysis and reporting so risk is publicly known. 	<p>Current BEMPs already include the measurement of phytoplankton cell types (including harmful algae) and chlorophyll concentrations. These requirements will be consistently applied across all regions.</p>

Division 4. Seabed

Summary of stakeholder recommendations and comments	NRE Tas response
General comments on Division 4	
<ul style="list-style-type: none"> Explain the rationale for the various monitoring requirements in the various zones, and what constitutes signs of overstocking (gas, bacterial mats, feed pellets, polychaetes). 	<p>Monitoring requirements for the two zones (Farm Zone and Depositional Zone) are included in the <u>Companion paper</u> to the Environmental Standards. The Farm zone focuses on the seabed underneath cages to ensure the seabed can assimilate and breakdown the organic waste. At and beyond the depositional zone, soft sediments, reef, and seagrass habitats are monitored to ensure that particulate and dissolved wastes from finfish farming do not significantly change the structure and function of these habitats. For more information see the <u>Companion Paper</u> to the Environmental Standards.</p>
<ul style="list-style-type: none"> Use broadscale 'sentinel' monitoring as an alternative to the impact site vs reference site design. 	<p>The EPA intends to consider sentinel site monitoring as part of the BEMPs. This is referred to in section 7.7 of the <u>Companion Paper</u>.</p>
Significant Change/Impact	
<ul style="list-style-type: none"> Include a clear and scientifically robust analytical framework in the Technical Standards for attributing 'significant change' to marine farming activities over-and-above those attributable to natural variability. Document and acknowledge any similarities and differences between test sites and reference sites when assessing 'significant impacts'. Explain how ecosystem recovery will be achieved if a significant impact is detected. Ensure that "significant impact" is fully understood before Technical Standards are developed and implemented. Explain how requirements to achieve appropriate rocky reef or seagrass recovery after significant impact can be specified without any detailed background information. 	<p>Criteria for significant change are outlined at a generic level in the Ecological Standards within the revised ES. These will be further detailed in the associated <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>). Additional information is provided in Part 6 of the <u>Companion Paper</u>.</p> <p>Following and/or reduction of TPDNO limits are actions that would be required to be undertaken to support recovery.</p>
Farm Zone	
<ul style="list-style-type: none"> Change the reference to 'gas bubbling' in subsection (3) to 'spontaneous gas bubbling' [to be consistent with wording in subsection (1)]. Specify that 'a licence holder must ensure there is no spontaneous gas bubbling upon 	<p>EPA advises the different wording in the two sections is intentional, as spontaneous gas bubbling and bubbling on disturbance indicate different degrees of organic enrichment of the sediment.</p> <p>The requirements in the revised ES are:</p>

<p>disturbance', given conditions required for spontaneous gas bubbling without disturbance are typically quite extreme.</p>	<p>Section 44 – no spontaneous gas bubbling to occur under pen bays (same as Consultation Draft Div. 4 Farm zone 1).</p> <p>Section 45 (1) if any gas bubbling is observed, the pen bay must be followed as soon as practicable, unless otherwise approved by the Director, which allows for consideration of specific circumstances.</p> <p>Section 47 – no gas bubbling to occur at soft sediment compliance sites (same as Consultation Draft Div. 4 Dispersal zone 1(b)).</p>
<ul style="list-style-type: none"> Clarify the definitions of 'excessive feed spillage' [see subsection (2)] and 'extensive bacterial mats' [see subsection (3)]. Quantify these triggers to make them relevant to the specific receiving environment (sheltered vs exposed sites) - refer to FRDC project 024. 	<p>'Excessive feed spillage' has been changed to 'feed spill event' and definition added to interpretation section.</p> <p>Reference to bacterial mats has been removed from Environmental Standards and will be incorporated into the BCI.</p>
<ul style="list-style-type: none"> Define the Median Benthic Condition Index (MBCI) and how it will be established. Review the use of a Benthic Condition Index median value for the entire lease as it may be inadequate. Clarify whether the MBCI is based on the best available science and explain how it helps in regulation of environmental performance. <p>[Note: The MBCI is referred to in subsection (4) of 'Farm Zone'.]</p>	<p>The establishment, use and basis of the median BCI will be explained in the <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).</p> <p>See sections 4 and 7.9 of the <u>Companion Paper</u> for a short description of the benthic condition index and how it is designed based on the best available scientific information for Tasmania.</p>
<p>Dispersal Zone</p>	
<ul style="list-style-type: none"> Change the reference to 'gas bubbling' in subsection (1) to 'spontaneous gas bubbling' [see comment above]. Specify that 'a licence holder must ensure there is no spontaneous gas bubbling upon disturbance', given conditions required for spontaneous gas bubbling without disturbance are typically quite extreme. [see comment above] 	<p>See comments above in relation to the Farm Zone.</p>
<p>Regional Zone</p>	
<ul style="list-style-type: none"> Amend subsection (1)(b) [<i>relating to deep rocky reef ecosystems</i>] to read as follows: "a significant decline in the abundance and a change in the composition of reef communities and/or abundance of key taxa composition of the ten most dominant biota on deep rocky reef ecosystems; is measured 	<p>The requirements relating to reefs are in the following sections of the revised ES:</p> <p>Section 11 and 23: Broadscale Environmental Monitoring.</p> <p>Section 17 and 18: Baseline surveys.</p> <p>Section 49 and 50: Ecological Standards and Environmental Monitoring.</p>

compared to established reference conditions reference values at reference sites in relation to the lease, when measured in accordance with any technical standard made for the purposes of this environmental standard.”

See Appendix 2 in the [Companion Paper](#) for further context.

Rocky reef and seagrass beds

- Conduct a literature review of seagrass to identify the extent of knowledge (and knowledge gaps) about the ecology and monitoring of seagrass in temperate Australia (and Tasmania in particular) and its appropriateness as an indicator for the effects of marine finfish farming (e.g. Crawford et al. 2006). If necessary, defer prescriptions in the Environmental Standards relating to seagrass until study has been completed.
- Take into account challenges in the attribution of observed changes in reef and seagrass habitats to marine farming activities when generating compliance measures within the Environmental Standard.
- Provide for seagrass and rocky reef compliance points to be located within the dispersal zone (not the regional zone).
- Explain whether similar requirements for biodiversity assessments and monitoring requirements in “regional zones” are undertaken in other international jurisdictions.
- Explain how natural variation and/or other natural and anthropogenic sources of nutrients (in relation to rocky reef and/or seagrass beds) will be accounted for in the Standards without triggering a biodiversity assessment.
- Explain how the dynamics variation of seagrass distribution will be accounted for when selecting reference sites.
- Apply caution when considering seagrass bed dynamics as an indicator of potential impacts.
- Do not locate rocky reef and seagrass compliance sites in the regional zone.
- Ensure that management actions that impact future production levels to manage farming impacts are not based solely on the

The ES has been reviewed and modified to take into account sentiments on the variability of seagrass habitats and the need to further our understanding.

As such, the revised ES now requires monitoring and extent mapping for seagrass habitats where present, but that monitoring programs will be individually developed based on baseline data of the seagrass beds to tailor monitoring.

The EPA Director will seek advice from the Scientific Advisory Panel to provide advice on seagrass habitats to support their decision making regarding environmental monitoring requirements.

Explanatory material on rocky reefs and seagrass beds is included in sections 4, 7.11 and Appendix 2 of the [Companion Paper](#).

<p>presence of an ephemeral species like <i>Beggiatoa</i> at the pen bay scale.</p> <ul style="list-style-type: none"> Clarify what is considered future production, and whether it is the same year class of the next year class. 	
<ul style="list-style-type: none"> Provide a safeguard to ensure that following of the pen 'as soon as reasonably practicable' does not extend out to the end of the production cycle, which could be months. Reduce reliance on visual indicators in favour of physiochemical parameters. Determine dispersal and regional zone impacts from physiochemical parameters instead of proposed over reliance on visual impacts which will only be noticed after a long period of [excessive] nutrient release. Define peak period for production by ACTUAL feed, stocking density and biomass, rather than planned feed as advised by the operators. Remove the focus on deep reefs only. As discussed elsewhere, habitat or data may not exist to establish these, with reference values needing to be constructed in other ways. 	<p>Visual indicators have been established using long standing scientific advice from IMAS. These indicators are directly linked to biological and physiochemical responses to organic enrichment of the sediment.</p> <p>A general explanation of following requirements is given in sections 2.2 and 2.3 of the <u>Companion Paper</u>.</p> <p>The role of physiochemical parameters will be explained in the <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>). These parameters will be required to monitored regularly.</p> <p>Section 41 ('Peak Production Period') of the revised ES provides details of feed discharge requirements.</p> <p>NRE Tas considers that the licence holder's intended feed discharge is an appropriate measure, which is further supported by the requirements to notify the EPA Director of any changes.</p> <p>Note that there is now a uniform requirement for seabed monitoring to be undertaken at peak feed input when impacts are likely to be greatest. This provides the best opportunity to detect impacts on the seabed from finfish farming activities. To date monitoring at peak feed input has not been consistently applied across all marine finfish farming regions.</p> <p>See comments on the previous page in relation to reefs.</p> <p>The revised ES contains requirements for ecological standards and environmental monitoring in both inshore and deep reef habitats (see Part 4, Division 2).</p>

Division 5. Total Permissible Dissolved Nitrogen Output (TPDNO)

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> Determine the real total permissible dissolved nitrogen output, not based on models. Apply precautionary principles when setting Total Permissible Dissolved Nitrogen Output (TPDNO). Do not make retrospective changes to licence conditions when TPDNO exceedances have occurred. 	<p>TPDNO is a limit set be the EPA Director or the EPA Board. Dissolved nitrogen output is a calculation based on scientific knowledge of the total nitrogen in feed, utilisation of the feed by salmon and the fate of the nitrogen to the environment.</p> <p>The process for determination of TPDNO will be explained in the <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).</p> <p>The EPA does not intend to make retrospective changes. If an exceedance has occurred, fines can be issued.</p>

<ul style="list-style-type: none"> Set caps on maximum biomass, feed inputs and/or dissolved nitrogen for both regions and individual leases, applying to both existing and future operations (initially based on rigorous modelling of carrying capacity that takes into account sensitive areas and habitats). 	<p>The revised ES establishes a consistent and transparent way TPDNO is to be set for a particular region. The Director may also set a limit for an individual lease.</p> <p>TPDNO is considered the most appropriate measure to limit the scale of farming as it allows control of total nitrogen entering the marine environment.</p>
<ul style="list-style-type: none"> Specify that the EPA Director's role is to set TPDNO below a cap imposed by the Marine Farming Development Plan (MFDP), and provide clear, science-based criteria for the Director's TPDNO limit decisions below the MFDP cap. 	<p>Section 25 of the revised ES requires the EPA Director to determine the TPDNO for marine finfish farms within a specified area and for specified time periods. The independent EPA Director remains the appropriate person to set TPDNO.</p> <p>The EPA Director intends to issue a statement of reasons when issuing new or increased TPDNO.</p> <p>The process for calculating dissolved nitrogen output will be included in the Technical Standards (see Appendix 1 in the Companion Paper).</p>
<p>Penalties</p>	
<ul style="list-style-type: none"> Provide penalties when there have been non-compliances with TPDNO limits. Consider increasing the special penalty for exceeding TPDNO limits (\$150,000 per tonne) to temporary or permanent loss of lease access, as a more persuasive deterrent. 	<p>Section 25 of the revised ES includes an offence to exceeding an apportioned TPDNO. Refer to section 96U(4) of the Act for the penalty amounts, which are consistent with similar provisions in the Act.</p>

Division 6. Therapeutant Management

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> Notify public of therapeutants / antibiotic use, including warnings prior to administration and ongoing warnings during post administration monitoring. Promptly inform the public when therapeutics have been released into the environment. 	<p>Public notification of therapeutant use lies outside of the scope of these Environmental Standards. Public reporting of therapeutant use will be considered through the review of the Salmon Data Portal.</p> <p>Note that section 28 the revised ES requires licence holders to submit a therapeutant residue monitoring report as soon as practicable after residue monitoring is completed, or as otherwise specified by the Director.</p>
<ul style="list-style-type: none"> Restrict the release of antibiotics into the marine environment. 	<p>Use of antibiotics as part of finfish farming activities is regulated by Biosecurity Tasmania. The EPA's responsibility is to ensure that the use of antibiotics in finfish farming does not cause environmental harm.</p>
<ul style="list-style-type: none"> Change 'therapeutants' to 'antibiotics' to align with the Biosecurity Standard. 	<p>Antibiotics are a sub-class of the wide range of chemicals that can be used to manage disease.</p>

<ul style="list-style-type: none"> The definition should be: Antibiotic is a registered medicine that will selectively kill, prevent or inhibit growth of susceptible bacteria and other microbes. These chemicals are listed in the World Health Organisation AWaRe Classification of Antibiotics to be found at: https://www.who.int/publications/i/item/2021-aware-classification. 	<p>The word ‘therapeutants’ has therefore been retained in the revised ES.</p> <p>However, to improve clarity, the definition of ‘therapeutants’ has been amended to “...chemical substances used on veterinary advice for the purpose of combating animal disease.”</p>
<ul style="list-style-type: none"> Properly specify therapeutant residue monitoring. 	<p>The process for undertaking therapeutant residue monitoring and reporting will be detailed in the relevant <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).</p>

Division 7. Wastewater Management

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> Include desalination brines in waste management plans. Clarify if waste includes biofouling, bathing water and disinfectants (presumably also from well boat operations). Regulate and monitor fish bathing in inshore areas and stop the release of this high turbidity pollution release into the sensitive receiving environments (seagrass and reef communities). 	<p>Section 58 of the revised ES contains detailed and specific requirements relating to waste management plans, which include but are not limited to biofouling, bathing water, and disinfectants.</p> <p>Section 9 of the <u>Companion Paper</u> provides a general description of waste management requirements.</p>
<ul style="list-style-type: none"> Retain the requirement under existing ELs to have greywater appropriately treated prior to discharge, rather than the proposed onerous land storage and disposal, which is inconsistent with MARPOL Annex V and is also unnecessary due to low environmental risk. 	<p>Section 58 of the revised ES requires waste management plans to include greywater management, including any treatment and disposal. Plans are to be approved by the EPA Director.</p>

Division 8. Light Attenuation

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> Include light emitted by vessels in transit, or from land-based aquaculture facilities. Prohibit directional spotlight use from finfish farms and vessels onto private properties. Differentiate between diffuse and directional (spot lighting) light sources. 	<p>Section 32 in the revised ES contains detailed requirements for preparing Light Attenuation Management Plans for finfish infrastructure and vessel traffic. This is a new requirement.</p>

<ul style="list-style-type: none"> Require collection of baseline data on background light prior to establishment of aquaculture sites. 	An explanation of baseline data requirements is included in the Companion Paper to the Environmental Standards.
<ul style="list-style-type: none"> Include light impacts on marine life. Include standards around how light affect marine animals, with reference to the National Light Pollution Guidelines for Wildlife (Australian Government Department of the Environment and Energy, 2020 in Becroft et al. 2020) 	NRE Tas is developing new Standards for Wildlife Interaction which will include the impacts of noise and light on wildlife. These Standards are described in the Tasmanian Salmon Industry Plan 2023 as near term priority actions (3 months to 2 years).

Division 9. Noise

Summary of stakeholder recommendations and comments	NRE Tas response
General recommendations	
<ul style="list-style-type: none"> Rewrite the noise related sections from technical language into “plain language” to facilitate communication with the public. 	The wording in the noise-related sections has been reviewed, and where possible amended to be more accessible to a wider audience.
Specific recommendations for including other noise provisions:	
<p>Include provisions for:</p> <ul style="list-style-type: none"> Proactively specifying noise conditions. Extended noise monitoring. Noise produced by vessels in transit, noise generated by equipment on the leases and noise from land-based aquaculture facilities. Surveys of sensitive noise receptors prior to operation; to include harmonics and infrasound as these are causes of significant nuisance. Short term noise emission limits - under ‘Nuisance Investigation (vessel traffic)’, subsection (3), consider using short term noise emission limits; e.g., LA_{max} or LA₁₀ that are more suitable for transient vessel noise. Require collection of baseline data on background noise prior to establishment of aquaculture sites. Extended noise monitoring. Defining measurement times for noise. Other noise sensitive premises such as include tourism accommodation and 	<p>Noise impacts from proposed new leases are assessed during the planning phase of new or amended Marine Farming Development Plans, specifically within Environmental Impact Statements to be prepared with reference to NRE Tas Guidelines.</p> <p>When determining whether a noise limit has been exceeded, the EPA refers to the methodology outlined in the Noise Measurement Procedures Manual, which provides a standardised approach for activities regulated by the EPA. The procedures in the Manual stipulate adjustment factors for tonality, impulsiveness, modulation and low frequency. Different adjustments are applicable to different tonal features, with the total adjustment (penalty) to be up to 10dB.</p> <p>Making these limits applicable to all marine finfish farms through conditions in Environmental Licences is a significant step up in terms of environmental regulation.</p> <p>The definition of noise sensitive premises in the Environmental Standards is not restricted to residences and residential zones but includes any type of residence (whether rural or urban), as well as “...schools, hospitals,</p>

venues, and holiday homes (shacks), rural residencies, and cultural sites and to not allow noise [from fish farming] to exceed natural background noise.

- Noise limits that reflect the nature of the noise profile of the surrounding environment for each lease.
- Vessels travelling away from the lease area should be regulated by general arrangements that apply to all marine traffic.
- Noise impacts on marine life (e.g., acoustic impacts of seal bombs on seals, dolphins, whales and other marine life).

caravan parks... at which people are present for extended periods other than in the course of their employment or recreation.”

Impacts of a transient nature on the other hand may be considered acceptable, consistent with the principle of ‘reasonableness’.

Noise impacts on marine life will be considered during the development of new environmental standards for Wildlife Interaction, described in the [Tasmanian Salmon Industry Plan 2023](#) as a near term priority action (3 months to 2 years).

Requests for further information and explanation:

- Review noise regulation in other Australian jurisdictions as a benchmarking exercise to determine the reasonableness of any framework applied.
- Clarify how noise limits will apply in working ports where there are other vessels operating and whether other commercial vessels operating around farming areas subject to similar noise controls (issue of equity).
- Explain why a distinction has been made land-based noise emissions generated on a particular site (where noise related permit conditions apply) and noise emissions made by vehicles operating on the public road network that service that site (where conditions do not apply).
- Explain what information was used to derive the proposed noise emission limits at noise sensitive premises, and how equity issues with respect to other noise emitting industries will be addressed.
- Explain how the background noise be determined for the purposes of investigating a potential breach under point (3) and how it would be interpreted if the limit was exceeded by a vessel in transit but is less than 5 dBA above the background level.

Section 35 of the revised ES empower the EPA Director to impose noise management requirements on vessels travelling to or from a fish farm (this includes well boats). This section will be triggered when credible complaints cannot be resolved by other means.

Sections 63 – 65 of the revised ES enable the Director to impose uniform noise limits on all active marine finfish farming leases, rather than only on those leases that have been identified as problematic.

(Note: where noise from a lease area and vessels travelling to or from that lease area can both be heard at noise sensitive premises, sections 63 to 65 will apply.)

Division 10. Decommissioning

Summary of stakeholder recommendations and comments

NRE Tas response

<ul style="list-style-type: none"> • Include a provision for decommissioning should a lease holder be wound up or is otherwise unable to fund decommissioning or to monitor after-effects. 	Preparation of a decommissioning plan and monitoring until recovery of the seabed has been demonstrated, is required where marine finfish farming ceases. The EPA Board has the power to require financial assurances in certain circumstances.
---	---

(Other matters related to Part 4 comments)

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> • Increase penalties for marine debris arising from finfish farms. 	Marine debris is managed pursuant to the <i>Marine Farming Planning Act 1995</i> and therefore lies outside of the scope of these Environmental Standards.
<ul style="list-style-type: none"> • Prevent use of ‘seal crackers’ and other deterrents that may be causing death and disturbance of EPBC protected marine mammals at Okehampton Bay and elsewhere. 	NRE Tas is developing new Standards for Wildlife Interactions (including seals). These are described in the Tasmanian Salmon Industry Plan 2023 as near term priority actions (3 months to 2 years).

Part 5 – Environmental Standards Conditions

Division 1. Baseline Environmental Assessment

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> • Include more detail in Part 5 on what information is required, as is the case in Parts 1 – 4 of the Consultation Draft 	More details of the assessment requirements will be provided in the <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>).
<ul style="list-style-type: none"> • Improve monitoring of known sensitive receiving environments, such as inshore areas. 	Inshore areas will be subject to the same, strengthened environmental monitoring requirements outlined in the revised ES. See Appendix 1 in the <u>Companion Paper</u> .
<ul style="list-style-type: none"> • Regulate and monitor fish bathing in inshore areas. 	Section 58 of the revised ES contains requirements relating to waste management plans, which include but are not limited to biofouling, bathing water, and disinfectants.

Division 2. Finfish Pens

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none">Review international best practice for minimum seabed clearance and justify the figure used.	<p>In addition to the minimum standard of one metre separation distance between the bottom of pen nets and the seafloor for existing farms, the revised ES requires a separation distance of at least five metres for all new farms.</p> <p>For all existing leases with net pens that do not achieve this five metre separation, increased video monitoring of the seabed will be required.</p>
<ul style="list-style-type: none">Define offshore finfish farming as aquaculture occurring in Commonwealth waters.Include an end date to existing shallow water farms.	<p>The Government's general policy on 'offshore' farming is described on page 3 of the Overview – Tasmanian Salmon Industry Plan 2023.</p>

Division 3. Seabed Monitoring

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none">Explain how variation in benthic impacts with changes in stocking density and water flows will be recognised in the assessment of benthic conditions.Reconsider timing of benthic surveys to be representative of average conditions and to recognise how variation in stocking density and water flows alters benthic impacts.	<p>Benthic surveys and assessment of conditions will be included in the Technical Standards.</p>

Division 4. Feed and Calculated Nitrogen Output Reporting

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none">Require reporting be provided in a regular, timely and transparent manner, and include biomass levels, feed inputs and/or nutrient loads associated with specific regions and leases.	<p>The revised ES contains the following reporting requirements for Feed and Calculated Nitrogen Output (section 56(3)):</p> <p><i>The licence holder must submit a report to the Director which details dissolved nitrogen outputs from the lease 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.</i></p>

Reporting requirements are summarised in Appendix 2, table 2 of the [Companion Paper](#).

Division 5. Waste Management Plan

Summary of stakeholder recommendations and comments	NRE Tas response
Waste Management Plan (WMP) Conditions	
<ul style="list-style-type: none"> • Increase the insufficient 60-day timeframe [subsection (1)] for completion of a WMP. • Require a WMP to be supplied PRIOR to commencement, not within 60 days of operation. (Current proposal does not align with standards applied to other sectors such as mining and breaches the State Policy for Water Quality Management). 	<p>A WMP will generally be required as part of an Environmental Impact Assessment for new farms. The 60-day timeframe allows current operators time to prepare a WMP, the EPA Director has discretion to extend this timeframe.</p>
<ul style="list-style-type: none"> • Specify what is 'typical range' in relation to mass fish mortalities [subsection 3(e)]. 	<p>The Waste Management Plan approved by the EPA Director will need to include details of 'typical range', provided by the marine finfish farm operator.</p>
<ul style="list-style-type: none"> • Include desalination brines in waste management plans. • Explain why fish bathing water [subsection 3(i)] is considered to be a waste type. 	<p>Section 58 of the revised ES contains detailed and specific requirements relating to waste management plans, which include desalination brines.</p> <p>Section 9 of the Companion Paper provides a general description of waste management requirements.</p> <p>Used fish bathing water released to the environment is considered to be a waste and should therefore be included in waste management plans.</p>
<ul style="list-style-type: none"> • Require all plastic items used on farms to be specified, tracked and contained. 	<p>This issue lies outside the scope of the Environmental Standards.</p>

Division 6. Noise Conditions

Summary of stakeholder recommendations and comments	NRE Tas response
Purpose	
<ul style="list-style-type: none"> • Apply noise restrictions to all salmon farm activities. 	<p>The noise conditions specified in Part 5, Division 6 are applicable to all marine Environmental Licences, including all noise sources present and operating within the lease. Land-based facilities are not within the scope of this Environmental Standard.</p>
<i>Noise Limits</i>	

<ul style="list-style-type: none"> • Prevent fish farm noise from exceeding natural normal ambient sounds by 5dB(A) when ambient sounds are above the proposed salmon standards: 32dB(A) at night, 37 dB(A) in the evening and 45 dB(A) in the daytime. • Do not permit any night-time noise from salmon farming that is a nuisance, or preferably reduce it to zero - (32dB(A) limit under 'Noise Limits, section 1(c)' is inadequate. • Ensure that any limits applied reflect the nature of the noise profile of the surrounding environment for each lease. • Explain how background noise would be determined under point 3), as for recommendation under Part 4 Division 9. 	<p>The principle that noise limits are not considered to be breached unless more than 5 dB(A) above natural background is consistent with noise regulation of other level 2 premises. The rationale is that the noise impacting on a receptor is unlikely to generate a nuisance unless clearly noticeable and distinguishable from background noise.</p> <p>The proposed set of limits for noise generated by marine farming lease activities is stricter than limits more routinely imposed by the EPA, i.e., 45 daytime / 40 evening / 35 night-time, expressed as dB(A). The reason for setting stricter limits is to provide adequate protection for noise sensitive premises located in areas characterised by quiet background conditions.</p> <p>In these situations, background noise levels would typically be modelled, rather than measured.</p>
<ul style="list-style-type: none"> • Review noise regulation in other Australian jurisdictions as a benchmarking exercise to determine the reasonableness of any framework applied. • Undertake further technical review of the proposed noise provisions, including expert input, with a focus on how they will be practically applied and assessed. 	<p>The noise management framework reflected in the Consultation Draft is generally consistent with other jurisdictions.</p>
<p>Noise impact assessment report & noise mitigation plan</p>	
<ul style="list-style-type: none"> • Include a provision for extended noise monitoring. 	<p>Details regarding noise monitoring requirements will be further detailed in the Technical Standards (see Appendix 1 in the Companion Paper).</p>
<p>Other</p>	
<ul style="list-style-type: none"> • Include noise impacts on marine life (e.g., acoustic impacts of seal bombs on seals, dolphins, whales and other marine life). 	<p>Noise impacts on marine life will be considered during the development of Standards for Wildlife Interaction, described in the Tasmanian Salmon Industry Plan 2023 as a near term priority action (3 months to 2 years).</p>

Division 7. Finfish Mortality

Summary of stakeholder recommendations and comments	NRE Tas response
<ul style="list-style-type: none"> • Set the trigger level for fish mortality at the mass of dead fish that would constitute a risk of environmental harm, instead of the 0.25% of fish per day which is only relevant to the surveillance requirements of the Biosecurity Standard. 	<p>NRE Tas considers that it is not feasible to quantify the mass of dead fish that would constitute a risk of environmental harm. Factors such as weather, tidal and wave conditions, water chemistry and water temperature will all influence the environment within a lease area.</p>

	Given these constraints, it is considered reasonable to use the notification requirements in subsection 60(2) of 'more than 0.25 percent of fish per day for three consecutive days or more than 0.5 percent of fish on one day'.
<ul style="list-style-type: none"> Explain whether the recording of the weight of dead fish will require actual weighing or can be estimated from average fish mass. 	Section 60 of the revised ES ('Finfish Mortality Conditions') requires licence holders to keep records of the combined weight of dead fish arising from marine finfish farms each month, and to submit this information to the EPA Director within 14 days of the end of each month. Estimates of fish mass will be acceptable.

Other Issues

Summary of stakeholder recommendations and comments	NRE Tas response
Release any determinations made by the Director and the reasons for these.	<p>The EPA already publishes the Director's determinations and reasons and will continue to do so.</p> <p>The EPA has developed a policy on the release of monitoring data and other information and has an active program underway to implement the policy. Details of the policy and program are available on the EPA's website.</p>
<p>Include requirements for public reporting in the Standards (incl. biomass levels, feed inputs and/or nutrient loads associated with specific regions and leases; monitoring results and visual footage at the 35 m compliance boundary, fish escapes and mortalities, use of antibiotics, etc.)</p> <p>Include material on stocking densities and fallowing (or confirm these will be covered in the TS).</p> <p>Include reporting requirements/criteria for salmon escapes.</p>	<p>See comments above under Division 4 'Feed and Calculated Nitrogen Output Reporting' which provide details of formal reporting requirements in the revised ES.</p> <p>Details of the required information and reporting processes for baseline environmental monitoring, as well as therapeutant residue, nitrogen and feed monitoring will also be included in the Technical Standards (see Appendix 1 in the Companion Paper).</p> <p>Note that the EPA has developed a policy on the release of monitoring data and other information and has an active program underway to implement the policy. Details of the policy and program are available on the EPA's website.</p>
Remove the current recreational fishing limits on escaped salmon (bag limit of 12).	This issue lies outside the scope of the Environmental Standards.
Replace the Standard's over-reliance on Director discretion with specific requirements.	<p>Part 2 of the revised Standards ('Determinations by the Director') contains specific requirements for the Director. To provide certainty and clarity, the Director 'may' has been changed to 'is to' in relation to:</p> <ul style="list-style-type: none"> Establishing the Scientific Advisory Panel; Determination of regional areas;

	<ul style="list-style-type: none"> • Determining TPDNO limits; • Requiring a BEMP.
<p>Include trigger values and define operational actions for those trigger values.</p> <p>Include provisions that deal with existing lease areas and the slow degradation of waterways.</p>	<p>Response requirements that limit the level of acceptable change to key habitats including the water column, soft sediments and reefs (see Part 4 of the revised ES). These cover existing lease areas.</p> <p>Further information on management zones is provided in section 5 of the <u>Companion Paper</u>.</p>
<p>Provide technical detail so that specialists can comment.</p>	<p>Technical details on monitoring and assessment methodologies will be provided in the <u>Technical Standards</u> (see Appendix 1 in the <u>Companion Paper</u>). The EPA intends to provide technical specialists the opportunity to comment during the development of the Technical Standards.</p>
<p>Establish a broader role for the Board in the review and approval of new leases or significant modifications, as this offers an avenue for deeper consideration and for third party appeals that is currently lacking under the <i>Marine Farming Planning Act 1995</i>.</p>	<p>New finfish farm proposals and significant changes to existing finfish farms must be referred to the EPA Board for public assessment in accordance with:</p> <ul style="list-style-type: none"> • <i>Environmental Management and Pollution Control (Environmental Licence) Regulations 2019</i>; • Section 25 of the revised ES; and • Sections 42N, 42O and 42P of <i>Environmental Management and Pollution Control Act 1994</i>. <p>This process allows for third party appeals.</p>

Online Survey

Survey respondents were asked to select their level of agreement with each of the following five categorised statements:

Protection of the environment and ecosystems

- I think the environmental management requirements in the draft Environmental Standards will support the protection of the environment and ecosystems.

Sustainable growth

- I think the draft Environmental Standards will adequately strengthen the framework to support growth of the marine finfish farming industry in Tasmania in an environmentally sustainable manner.

Areas of interest

- I think the draft Environmental Standards adequately address my areas of interest in the environmental management of marine finfish farming in Tasmania

Activities that require assessment and regulation

- I think that the draft Environmental Standards adequately captures all marine finfish farming activities that require assessment and regulation.

Adequate offence provisions

- I think the draft Environmental Standards provide adequate offence provisions for the regulation of marine finfish farming.

Responses to the Survey Statements

There were 68 unique responses to the survey, which are summarised in the following table as number of responses and approximate percentages for each statement.

The results show that most respondents (in the range 84% to 90%) disagreed or strongly disagreed with all the statements.

Statement Category	Strongly agree	Agree	Neutral / Not sure	Disagree	Strongly Disagree	No Response
Protection of the Environment and Ecosystems	3 (4%)	2 (3%)	4 (6%)	11 (16%)	48 (71%)	0
Sustainable Growth	4 (6%)	2 (3%)	1 (1%)	8 (12%)	53 (78%)	0
Areas of Interest	4 (6%)	1 (1%)	2 (3%)	13 (19%)	47 (70%)	1 (1%)
Activities that Require Assessment & Regulation	4 (6%)	2 (3%)	5 (7%)	12 (18%)	45 (66%)	0
Adequate Offence Provisions	4 (6%)	1 (1%)	2 (3%)	9 (13%)	52 (77%)	0



Department of Natural Resources and Environment Tasmania
Environment Strategic Business Unit

Email:
Environment.Policy@nre.tas.gov.au

www.nre.tas.gov.au