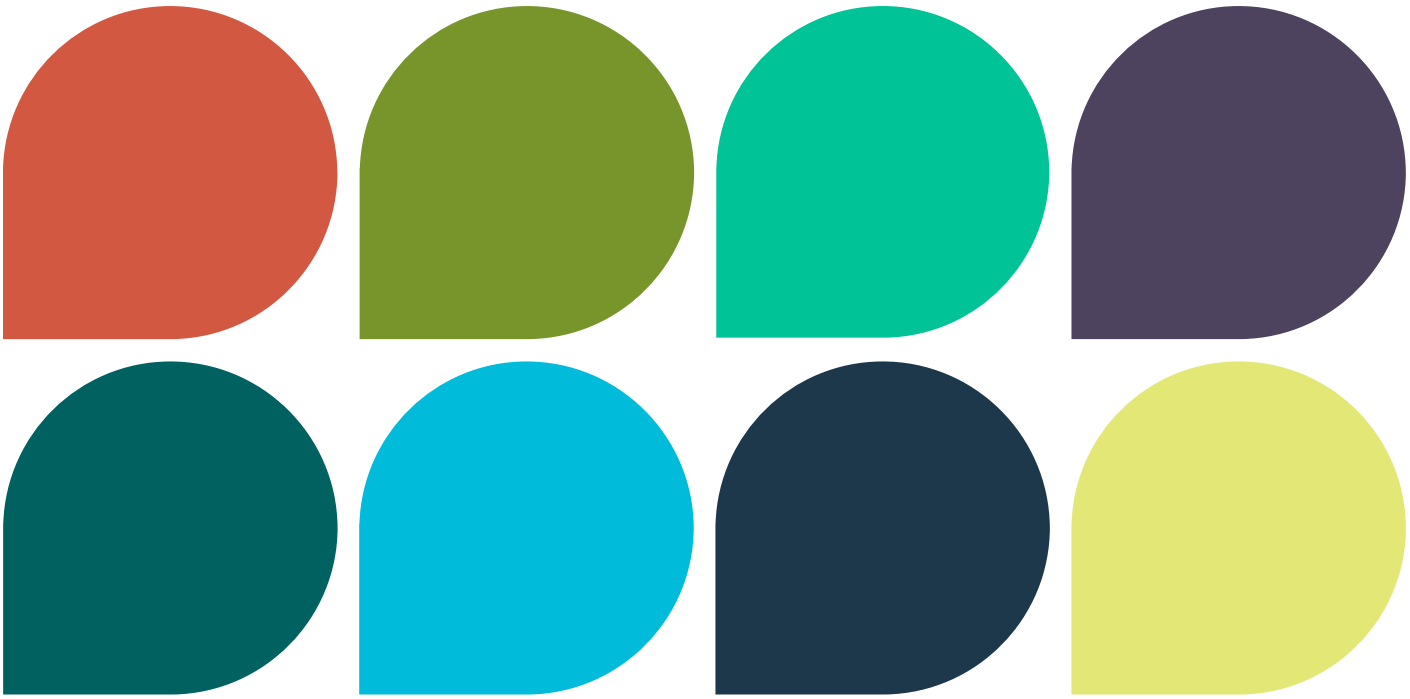


Submissions

DRAFT STANDARDISED MARINE FARMING MANAGEMENT CONTROLS

Department of Natural Resources and Environment Tasmania

Tasmanian Government

Submission No.	Name
1	Oysters Tasmania
2	RSPCA
3	Confidential
4	Tasmanian Independent Science Council
5	Neighbours of Fish Farming
6	Huon Aquaculture
7	Tasmanian Alliance for Marine Protection
8	Surfing Tasmania
9	Environmental Defenders Office

Submission 1

Oysters Tasmania

Oysters Tasmania
Submission on the Proposed New
Marine Farming Management Controls

Thank you for the opportunity to provide a written submission regarding the proposed new marine farming management controls.

Oysters Tasmania is the peak body representing oyster growers in Tasmania.

Tasmania's oyster farming industry produces around $30 million worth of oysters each year, employs around 300 Tasmanians, and — unlike other industries — pays more than $1 million in industry-specific fees and levies to the State Government while having minimal environmental impact. The industry also has significant growth prospects provided the right regulatory arrangements.

The proposal for standardised marine farming management controls represents an increase in regulation for the majority of Tasmania's shellfish farming industry. This is the case because the management controls in the proposed standard represent increased regulation compared to the management controls in those Marine Farming Development Plans that were written or updated prior to 2016 — Plans that cover the majority of Tasmania's shellfish farming industry.

- Each of the eight pre-2016 Plans cover shellfish, but six of them do not cover finfish. These Plans are referred to in this submission as the 'longstanding, shellfish-specific Plans'.
- Each of the six post-2016 Plans cover finfish, but three of them do not cover shellfish.

The onus should be on the Government to justify a new regulation, rather than on the industry to justify why new regulation should not be imposed. Yet the Government has not explicitly argued that management controls affecting shellfish farming should be tightened.

Even if there is a case for tight management controls to apply to finfish farming, this does not mean there is a case for them to apply to shellfish farming. The finfish and shellfish industries are like chalk and cheese, with the impacts of shellfish farming generally being small, both in absolute terms and relative to finfish farming.

Consider some of the tight management controls that are clearly directed at finfish, but that would also be imposed on shellfish farming under the Government's proposed standardisation. These controls relate to light, noise, odour, chemical, blood, mortality, waste, benthic, escape, and wildlife-interaction impacts. Each of these impacts are significant for finfish farming but negligible

for shellfish farming. It makes no sense for the regulatory powers regarding these impacts to be identical across the distinct shellfish and finfish farming industries. In many instances the application of standardised controls would lead to farcical results, such as treating the 'escape' of 500 oysters as akin to an escape of 500 salmon.

The growth of the environmentally-friendly oyster farming industry is threatened whenever shellfish farming gets caught up with the increasing regulation of finfish farming. It would be ironic if regulators concerned about issues such as by-catch were themselves guilty of regulatory by-catch.

Oysters Tasmania recommends that the draft standardised marine farming management controls not be implemented in their current form. Either existing management controls should be maintained, or those management controls in the proposed standard that differ from the controls currently applying to the majority of the shellfish farming industry should be applied only to finfish farming.

Set out below are the individual instances where the draft standardised marine farming management controls represent a proposed tightening of management controls for the majority of Tasmania's shellfish farming industry. In each instance, Oysters Tasmania recommends that any such tightening of management controls should not apply to shellfish farming.

Oysters Tasmania would appreciate consideration of these recommendations, as well as any opportunity for ongoing engagement on this issue.

With the right regulatory arrangements, the oyster farming industry can be a booming industry of which Tasmania can be proud, producing ever increasing numbers of our high-value, environmentally-friendly delicacy.

oysters TASMANIA

Contents

Undefined regulatory power

Proposed control 1.0.1. imposes a requirement to comply with a notice or request from the Secretary. Proposed control 1.0.2. imposes a requirement to comply with a notice or request from the Director of the EPA.

These are new controls, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans, none of which refer to the Director of the EPA.

Such controls would impose a new obligation on many shellfish farmers. As the Government has not stated that this process is intended to introduce new controls and obligations, as the Government has made no case for this new control with regard to shellfish farming, and as there is no case with regard to shellfish farming, proposed controls 1.0.1. and 1.0.2. should not be applied to shellfish farming.

Surveys as a condition for lease variation

The proposed control at 1.4.11.(b) requires that a new baseline environmental survey be undertaken when required as a condition of varying or expanding a lease area.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

The proposal at 1.4.11.(b) seems to refer to a scenario that should not arise. Namely, it refers to a scenario where a new condition (namely, a requirement to conduct a new baseline environmental survey) is imposed as a condition of varying a lease. Subsection 67(4) of the *Marine Farming Planning Act 1995* states that, as a condition of varying a lease at the request of the lessee, the Minister may *vary* any condition of a lease. It does not state that the Minister may impose a new condition. Given this, and given the broader concern about a new control being imposed without a case being made for this, proposed control 1.4.11.(b) should not be applied to shellfish farming.

Surveys as a condition for farming another species

Proposed control 1.4.11.(c) requires a new baseline environmental survey in instances where a lease is varied to allow the farming of another shellfish species.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

The farming of another species of shellfish is not a relevant juncture for requiring a new baseline environmental survey. If areas change over time such that a series of surveys is warranted, this is

the case irrespective of whether the species of shellfish being farmed is the same as it has always been, or new species of shellfish are being farmed.

Given this, and given the broader concern about a new control being imposed without a case being made for this, proposed control 1.4.11.(c) should not be applied to shellfish farming.

Wastes from production

Proposed control 1.7.1.(d) requires the disposal of wastes from production.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

This proposed new requirement is in addition to longstanding requirements to dispose of wastes from harvesting, processing, and the removal of fouling organisms.

The proposed control relating to wastes from production seems driven by a focus on finfish farming instead of shellfish farming. The growth/production of shellfish involves negligible waste. A requirement to detect and then dispose of wastes from production is not feasible for shellfish.

Given this, and given the broader concern about a new control being imposed without a case being made for this, proposed control 1.7.1.(d) should not be applied to shellfish farming.

Disposal of all mortalities

Proposed control 1.7.2. requires the disposal of all mortalities at a site that has the necessary approvals to receive this material.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

Issues regarding mortalities are addressed under biosecurity regulation. Addressing mortality in the regulation of marine farming leases is duplicative.

Moreover, the proposed control is excessive compared to the more measured approach that shellfish farmers are already subject to. Shellfish farmers are required to record incidents of shellfish kills and to report significant mortality as a condition of their marine farming licence, and biosecurity regulation can impose requirements for the disposal of these significant mortalities.

When contemplating the regulation of all mortalities, it is worth bearing in mind that an individual oyster may die of natural causes when it is less than a centimetre long.

Given this, and given the broader concern about a new control being imposed without a case being made for this, proposed control 1.7.2. should not be applied to shellfish farming.

Containment of blood

Proposed control 1.7.3. requires the containment of blood resulting from harvesting, except where an authorisation is provided by the Chief Veterinary Officer and the Director of the EPA.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans. Such longstanding, shellfish-specific Plans make no reference to the Chief Veterinary Officer or the Director of the EPA.

This provision seems driven by a focus on finfish farming rather than shellfish farming. Oysters have blood, but discernible bleeding is not a result of harvesting, so the imposition of this provision on oyster farmers is unwarranted and could cause bizarre compliance and administration costs.

Given this, and given the broader concern about a new control being imposed without a case being made for this, proposed control 1.7.3. should not be applied to shellfish farming.

Fallowing due to benthic impacts

Proposed control 1.7.4. requires fallowing in response to benthic impacts.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

This provision seems driven by a focus on finfish farming rather than shellfish farming. Shellfish farming does not pose a benthic risk that would warrant fallowing.

Given this, and given the broader concern about a new control being imposed without a case being made for this, proposed control 1.7.4. should not be applied to shellfish farming.

Black and grey water

Proposed control 1.7.5. requires that black and grey water from the servicing of marine farming operations not be released.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

This provision seems driven by a focus on finfish farming rather than shellfish farming. Shellfish farming operations do not generate black and grey water sufficient to warrant regulation.

Given this, and given the broader concern about a new control being imposed without a case being made for this, proposed control 1.7.5. should not be applied to shellfish farming.

Regulating the removal of dead fish from cages

Proposed control 1.8.2. requires the removal of dead fish from cages.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

This provision seems driven by a focus on finfish farming rather than shellfish farming. A requirement to remove dead oysters (which are defined as fish, at least in the *Living Marine Resources Management Act 1995*) in a particular way and within a particular timeframe does not recognise that an oyster may die when it is less than a centimetre long and pose no risk.

Given this, and given the broader concern about a new control being imposed without a case being made for this, proposed control 1.8.2. should not be applied to shellfish farming.

Required participation in plans/programs

Proposed control 1.8.3. requires participation in a fish health management plan or fish biosecurity program as directed.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

Biosecurity regulation is achieved through the Animal Health Act 1995 and the Biosecurity Act 2019. Breaches of biosecurity regulation already give rise to penalties under those Acts. It is duplicative to also make breaches of biosecurity regulation a breach of the conditions of a marine farming lease.

Given this, and given the concern about a new control being imposed without a case being made for this, proposed control 1.8.3. should not be applied to shellfish farming.

Cage colour

Proposed control 1.9.1.(a) requires fish cages, buoys, netting and other floating marine farming structures and equipment to be grey to black.

The requirement regarding buoys, netting and other floating marine farming structures and equipment is longstanding. But the requirement regarding fish cages is new, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

A cage colour requirement seems driven by a focus on finfish farming, where parts of cages can be permanently prominent above water.

Given this, and given the concern about a new control being imposed without a case being made for this, the regulation of cage colour in proposed control 1.9.1.(a) should not be applied to shellfish farming.

Light

Proposed control 1.9.1.(f) requires that the Director of the EPA be satisfied that light is not a nuisance.

Longstanding Plans that do not cover finfish farming simply contain a requirement for lighting to comply with the *Environmental Management and Pollution Control Act 1994*. That Act can impose obligations relating to light only if light emissions are specified as environmental nuisances in an environment protection policy. As such, the requirement relating to light under the longstanding, shellfish-specific Plans is narrower than a broad, vague requirement to satisfy the Director of the EPA.

The breadth of proposed control 1.9.1.(f) seems driven by a focus on finfish farming rather than shellfish farming, which does not operate 24-7 and hence does not generate the light-related complaints arising from finfish farming.

Given this, and given the concern about a new control being imposed without a case being made for this, proposed control 1.9.1.(f) should not be applied to shellfish farming.

Lines extending outside the zone

Proposed control 1.10.3 requires anchors and mooring lines to be five metres below the surface if outside the lease area, and to not extend outside a marine farming zone.

The five-metre-below requirement is longstanding, but the requirement to not extend outside the marine farming zone is new, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

The five-metre-below requirement makes sense for navigation. But given this requirement, the separate requirement for lines not to extend outside a marine farming zone seems unwarranted.

Given this, and given the concern about a new control being imposed without a case being made for this, the ban on anchors and mooring lines outside the marine farming zone under proposed control 1.10.3. should not be applied to shellfish farming.

Odour

Proposed control 1.11.1. requires the Director of the EPA to be satisfied that odour is not a nuisance. This represents a new control, at least for a number of Plans.

No equivalent control exists in longstanding, shellfish-specific Plans.

This provision seems driven by a focus on finfish farming rather than shellfish farming. The compliance and administration costs of odour regulation should not be applied to shellfish farming simply because of complaints against finfish farming.

Given this, and given the concern about a new control being imposed without a case being made for this, proposed control 1.11.1. should not be applied to shellfish farming.

Escape and recovery

Proposed controls 1.12.2 and 1.12.3 require reporting of the escape of more than 500 fish and the recovery of escaped fish.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

This provision seems driven by a focus on finfish farming rather than shellfish farming. Shellfish farming should not be subject to escape reporting and recovery requirements motivated by finfish farming. Oysters do not have the means of self-propulsion of finfish, and have markedly less mass — 500 oysters could weigh less than a single salmon.

Given this, and given the concern about a new control being imposed without a case being made for this, proposed controls 1.12.2. and 1.12.3. should not be applied to shellfish farming.

If, when, and how to remove fouling organisms

Proposed control 1.13.3. requires the removal of fouling organisms, and requires that this removal be done in a certain way.

Longstanding, shellfish-specific Plans have a requirement that waste from the removal of fouling organisms must be disposed of in a certain way. In other words, most shellfish farmers can currently choose if, when and how to remove fouling organisms. Only once these choices are made does regulation kick in, with regulation specifying how the waste must be disposed of.

If the new provision were adopted, a shellfish farmer would no longer be free to choose if, when and how to remove fouling organisms. For instance, a shellfish farmer could be regulated to remove fouling organisms at an unreasonable frequency.

Given this, and given the concern about a new control being imposed without a case being made for this, proposed control 1.13.3. should not be applied to shellfish farming.

Non-predator wildlife

Proposed control 1.13.7. bans deliberate unauthorised interaction with wildlife, and proposed control 1.13.8. requires compliance with directions to manage, mitigate, or avoid interactions with wildlife.

These proposed controls go beyond the requirements in longstanding, shellfish-specific Plans that ban unauthorised predator control of protected species.

This means that, while anyone who undertakes unauthorised interactions with wildlife faces penalties under the *Nature Conservation Act 2002*, such activity does not currently represent a breach of lease conditions for most shellfish farmers (except if the activity constitutes predator control of protected species).

If these new provisions were applied to shellfish farmers, it would effectively increase the penalty for unauthorised interaction with wildlife. Applying a higher penalty on shellfish farmers, compared to any other person who undertakes this unauthorised interaction with wildlife, would be unwarranted.

Given this, and given the concern about a new control being imposed without a case being made for this, proposed control 1.13.7. should not be applied to shellfish farming.

Marking equipment

Proposed controls 1.13.9., 1.13.10., and 1.13.11. allow for requirements that marine farming equipment be marked and monitored.

No equivalent controls exist in longstanding, shellfish-specific Plans. These proposed controls are vague, and represent a blank cheque when no case has been made to mark and monitor marine farming equipment.

Given this, and given the concern about new controls being imposed without a case being made for this, proposed controls 1.13.9., 1.13.10., and 1.13.11. should not be applied to shellfish farming.

A duty to police navigation hazards

Proposed control 1.13.13. requires notifications to, and compliance with directions by, the Marine and Safety Authority regarding potential hazards to navigation.

There is no such control in longstanding, shellfish-specific Plans. This proposed control goes beyond the standard provision requiring the recovery or disposal of structures or equipment that have broken away from the lease area. As such, it would extend the navigation management responsibilities of shellfish farmers beyond the management of their own equipment and structures.

Given this, and given that a commitment was made that this process would not introduce new controls or change obligations, proposed control 1.13.13. should not be applied to shellfish farming.

Remediation

Proposed control 1.13.14. requires remediation by the holder of an environmental licence upon the cessation of marine farming.

This represents a new control, at least for a number of Plans. No equivalent control exists in longstanding, shellfish-specific Plans.

Shellfish farmers are not required to hold an environmental licence and there is no case for this to change.

Given this, and given that a commitment was made that this process would not introduce new controls or change obligations, proposed control 1.13.14. should not be applied to shellfish farming.

Capacity limits

Proposed control 1.3.8. sets capacity limits for shellfish farming.

Proposed control 1.4.14. also relates to capacity limits for shellfish farming — requiring lessees in certain circumstances to measure shellfish and to report the measurements.

The requirement to measure is long-standing, but the requirement to report is new, at least for longstanding, shellfish-specific Plans.

The Government should take the opportunity of this updating process to offer to change a Plan's capacity limits if all lessees subject to the Plan agree. This would be appropriate, as the dominant purpose of shellfish capacity limits is to prevent unfairness between lessees, rather to achieve any broader environmental purpose.

References to marine farming licence conditions

The references to "marine farming licence conditions" in the proposed notes to 1.4.11. and 1.4.12. represent changes compared to longstanding, shellfish-specific Plans.

Such references imply that the regulation of marine farms need be achieved by way of licences under the *Living Marine Resources Management Act 1995* rather than by way of leases under the *Marine Farming Planning Act 1995*. This runs counter to the recommendation in Oysters Tasmania's submission to the Review of the *Living Marine Resources Management Act 1995* to detach shellfish farming from licensing arrangements under that Act. Given this, management controls should not imply that regulation will be always be achieved by way of marine farming licence conditions.

Submission 2

RSPCA

The draft proposes no standardised stocking density but rather leaves it at the 15kg/m3 and 25kg/m3 maximums that are currently permitted in the different plan areas. We believe a 15kg/m3 maximum should apply regardless of location of the lease and be subject to ongoing review.

Submission 3

Confidential

To whom it may concern

Submission from [redacted]

Comment one

Timeframes are too short for any true consultation and involvement is often expected without compensation.

The claims about best practice are not being backed up by any actions. Government seems to expect community to be on top of complex issues in unrealistic short timeframes. For example, these changes are complex and require lengthy responses to even start to address them. Yet we have learnt time and time again that we go through this process, we put in time and effort and nothing qualitative changes. This does little for community confidence in this process. Use of world's best practices public participation (IAP2) is important for long term growth and community confidence. Empowering community on decisions that impact our public waterways is essential. I refer you to the Spectrum of Public Participation: https://cdn.ymaws.com/www.iap2.org/resource/resmgr/pillars/Spectrum_8.5x11_Print.pdf (viewed 3/5/22). Why are you continuing with this tick-box consultation process with little regard for change and without genuinely listening to community concerns?

Comment 2 Debris directly relating to aquaculture industry Section 1.9 onwards

Overarching comment

Nations are finally starting to grapple with the growing worldwide issue of marine plastic pollution. The International Union for Conservation of Nature IUCN stated:

Plastic pollution is a widespread problem affecting the marine environment. It threatens ocean health, the health of marine species, food safety and quality, human health, coastal tourism, and contributes to climate change. Ref https://www.iucn.org/resources/issues-briefs/marine-plastic-pollution (viewed 3/5/22).

Adding to this, micro-plastics have for the first time been found in human blood. (Leslie HA et al. *Environment International* **163**; 107199, 2022*)*

According to LegCO inquiry page 8:

The issue of marine debris was a matter of significant concern, including safety risks, environmental impact and potential for debris to increase with rapid expansion of the industry.

Ensuring aquaculture debris in Tasmania does not contribute to these global health and environmental issues is critical as it expands. In 2020,according to the Salmon Portal, over 90 cubic metres of plastic debris attributed to aquaculture was collected from shores

around Southern Tasmania. This did not include debris that had sunk to the bottom of the waterways or floated out to sea.
Mitigating the risk of aquaculture debris loss should be at the forefront of all planning, legislation and lease approvals. Yet aquaculture debris is still considered a low priority, by Government and the EPA, despite the obvious environmental and safety risks. At present there is still a significant failure to mitigate any risk.

According to LegCO inquiry page 8:

It is recommended an Industry marine debris policy be developed, implemented, monitored, enforced and reported on publicly. It is timely to review penalties associated with Industry marine debris.

The Tasmanian Government and the EPA must mitigate the risk of plastic pollution through both preventative policies and fine instigations. Effective action and penalties must be applied to stop the debris loss from leases. Communities who live close to lease areas and boaters who navigate our public waterways are at risk of loss of amenity because of poor regulation. Our environment deserves better policy and prevention measures.

Tasmanian Alliance for Marine Protection, TAMP, lobbied for change. The Government under Will Hodgman announced ***Zero Tolerance*** of marine debris from the aquaculture industry. After more lobbying, the government moved from one of cautionary action to the active enforcement stage of policy management.

Yet there are still major issues in management of Aquaculture Industry plastic loss. This new standardisation does little to address these now detailed concerns.
Why?

- There is little incentive to do internal audits or change the lease culture to stop any plastics going into the water.
- External auditing is tokenistic under-funded and considered as extra duties for most involved in the management of the industry.
- Industry still expects and asks to be given 24 hours' notice before lease audits occur.
- Auditing once a year or even every quarter, is not enough for the existing leases. Spot checks, as well as planned checks should be conducted with a minimum of 6 per year until compliance is improved and cultural changes implemented.
- **If this is the government's low expectation now, on easy to access leases, what is the plan for Bass Strait?**
- If the pens are not coping with the conditions in smooth and sheltered waterways in which they are permitted to operate, how will they go in offshore and coastal waterways? What is the plan?
- Recent notices to mariners, detailing hazards to boating from aquaculture infrastructure losses in June 2022, clearly demonstrated the industry's continuing inability to contain their infrastructure. The details of these notices are as follows:
    - M212-22(T) Storm Bay – West of Wedge Island – Marine Farm Lease 279 – IALA Special Marks
    - M210-22 D'Entrecasteaux Channel – Marine Farm Lease 141 – Navigation Warning,

- M190-22(T) Huon River, Garden Island Bay – Marine Debris.

  (Viewed June 16, 2022)

- Industry still and will continue to contest public reports on debris that result in fines for debris. Why is this tolerated? They should not be losing any part of their lease infrastructure! Why is there not greater incentives to not lose their infrastructure? Government may need to explore higher fines being imposed or loss of leases if compliance is not met. This is a recommendation of the LegCo report and should be immediately implemented. This would help instigate real change. Penalties must be increased to reflect the serious nature of this problem.

According to LegCO inquiry page 24:

162. Marine debris infringement notices can only be issued where ownership of debris can be identified leading to a limited number of infringement notices being issued.

163. Marine debris infringement notices are not publicly reported and the penalties are regarded by some as insufficient to act as an appropriate deterrent.

164. There is a lack of comprehensive data collection and publicly available reporting on all aspects of debris reporting.

- Legislative change must occur to support good proactive practices on leases. Cultural shifts have to made from the top down.
- Industry still, despite repeated requests by myself and others, do not factor in debris clean ups after storm events to remote and obvious on-shore areas known for accumulating flotsam. They quote clean up hours but we still see too much debris

Concern is now shifting from the macro debris to the micro and nano debris.

- There is no government policy to reflect the micro- and nano-plastics coming from the breakdown of rope or abrasion of pipes. This is an alarming health issue not just for marine life and birds but also for human health.
- Sound data collection should be used to inform policy and drive future decisions. Confidence in the debris database must improve and be used to direct decisions openly. Public transparency is critical. Yet time and time again access to data and information is stalled by the government

According to LegCO inquiry Page 33:

Recommendation 55. Develop a fin fish farming industry marine debris policy, in consultation with the community and other stakeholders, that can be effectively implemented, monitored, enforced and reported on publicly.

Recommendation 56. The Government to assume responsibility for operating the marine debris hotline and Marine Debris Tracker app, including related promotion and public education.

Recommendation 57. Review penalties associated with fin fish farming industry marine debris to appropriately reflect the potential environmental and safety risks, and provide an effective incentive for behaviour change.

I do not belief this draft address any of these recommendations and this must be addressed before its final release.

Specific comments to the draft.

DRAFT Standardised Marine Farming Management Controls

- 1.9.1. All marine farming structures and equipment within marine farming lease areas must conform to the following controls:

  (a) All fish cages, buoys, netting and other floating marine farming structures and equipment on State waters, other than that specified for navigational requirements, must be grey to black in colour, or be any other colour that is specified in the relevant marine farming licence.

  (b) Marine farming structures and equipment must be low in profile and be of a uniform size and shape to the satisfaction of the Secretary. The Secretary will determine what constitutes a low profile and uniform size and shape.

  (c) Posts on each section of racking on intertidal lease areas are to be of uniform height above sea level.

  (d) Row markers on intertidal lease areas are to be of uniform height above sea level.

Comment from [redacted]

1. All infrastructure must be stamped for easy identification. Large pieces of infrastructure should be stamped in more than one place, depending on likely fracture points.

2. AIS trackers should be imprinted into the larger pieces to help with ease of finding. The oil and gas industry tracks all their valuable assets with similar to these: http://www.gpstrackingaustralia.com.au/product/simply-find/ (viewed 16/6/2022) Why is

Simply Find Me - GPS Tracking Australia

this safety feature not expected from the aquaculture industry? Industry claim they are doing this, yet they are often unable to find infrastructure for days after a NTM.

3. Open water lease markers should all be bright yellow with a length appropriate for the largest rogue wave, not standard size. For example, West of Wedge lease markers are extra-long to accommodate wave heights. As we discussed with Marine farming branch this should be implemented where appropriate.

(e) The lease area must be kept neat and tidy to a standard acceptable to the Secretary.

Comment from [redacted]

1. This should be expanded to ensure a zero loss of any equipment including rope off-cuts or other aquaculture debris. A cultural shift is required on lease work practices to ensure compliance. This would stop such things as the drill swarfs, feed labels, hot rope off-cuts or any other smaller plastic pieces being discarded from lease operations and found in public waterways or on the shoreline.

2. Audits should be regularly conducted on leases to ensure a zero-loss management system is working and being adhered to.

3. A debris database should be established. Appropriate penalties should be imposed regardless of who finds the debris. This database, as the LegCo inquiry also recommends, should be publicly available and also be easily understood by anyone in the community seeking such information.

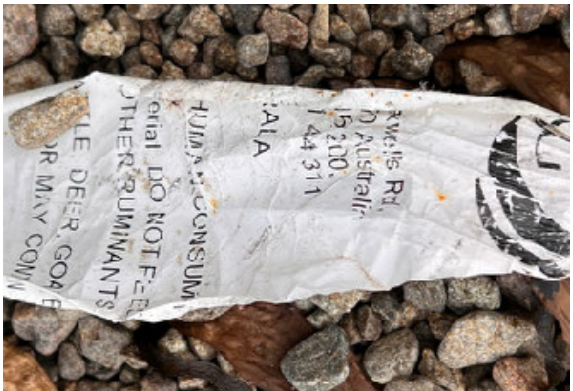
4. Debris databases should be verified by an independent auditor. This could then be used to cross check any industry claims about any improvements in debris management. At present there is still too much reliance on industry self-reporting.

Lessees must remove redundant, dilapidated or loose marine farming structures and equipment from State waters as directed by the Secretary.

Comment from [redacted]

1. All lease operation should be on a zero-loss basis.

2. Plastic is still being lost 40 cubic metres was reported in the portal with more than this likely to have entered the waterways . In 20/21 the amount reported loss was 90 cubic metres collected from shore clean ups. Whilst it is good they are collecting. The amount of fines allocated are not reflective of the large amounts of their debris being lost under zero tolerance.



Examples of plastic from fish farming operations found on the shorelines of the D'entrecasteaux Channel, MAY 2022.

3. Appropriate fines imposed for any loss, whether it be significant or the micro-plastics now being reported by the community.

1.13.5. If any part or parts of marine farming structures or equipment break away from the lease area, lessees must take action as soon as is reasonably possible to recover those structures and equipment and return them to the lease area or otherwise dispose of them in an appropriate manner.

Comment from [redacted]

1. If this recommendation is expected to improve the status quo, there must be a clear directive and specific expectations outlined as a minimum. So much more can be done in this area.

2. Appropriate fines must be imposed. Nothing should be lost.

3. The culture must be changed A clear demerit system with ultimate loss of lease licence applied after a certain number of losses. It is unacceptable to keep allowing tonnes of plastic into our water ways.

According to LegCo inquiry findings page 20:

125. Penalties for breach of environmental regulations in Tasmania are set at lower levels than in some jurisdictions.

126. Concerns were raised that penalties applied to the fin fish farming industry for breach of environmental regulations are not adequate to act as a genuine deterrent.

127. Concerns were raised regarding the difficulty of applying the various enforcement tools relating to breaches of environmental regulations by the fin fish farming industry.

The following recommendation in regard to this section (page 33):

Recommendation 57. Review penalties associated with fin fish farming industry marine debris to appropriately reflect the potential environmental and safety risks, and provide an effective incentive for behaviour change.

1. There is much to be done to improve in this area. The findings and recommendations direct Government to understand that compliance must not be only be expected planned for, but checked, audited from all management processes to lease operators practice. Regular auditing and spot checks must be part of this.

2. Actions taken if non-compliance is detected or continues with loss of lease for repeat offences.

1.13.6. Lessees must permit authorised persons as directed by the Secretary or Director, EPA to enter into and inspect the lease area at all reasonable times.

Comment from [redacted]

This has my full support with the following provisions

1. Audits are conducted more than once a year.

2. Unannounced visits as well as compliance follow-ups must be included in an audit plan.

3. Inspection must be conducted after big weather events.

1.13.9. The Secretary may, from time to time, determine requirements for the marking and monitoring of marine farming equipment.

Comment from [redacted]

1.Many components of lease infrastructure are not labelled for easy identification. This must be improved by mandating all pieces are stamped as described above in my response to 1.9.1.

2.Tracking devices are inexpensive and should be mandated on all larger lease infrastructure.

1.13.10. Upon making a determination under 1.13.9, the Secretary is to notify any lessees of the determination.

1.13.11. A lessee notified in accordance with 1.13.10 must comply with that notice.

Comment from [redacted]

Appropriate fines must be imposed and demerit points leading to lease loss if compliance is not adhered to.

1.13.13. A lessee who becomes aware of a potential hazard to navigation must, as soon as practicable after becoming aware of the hazard, notify the Marine and Safety Authority and take any other action directed by the Marine and Safety Authority and/or considered necessary by the lessee.

Comment from [redacted]

This is standard and practice on the water and should be expected. I am surprised it even has to be stated.

However, auditing of the industry after a self-report should occur in a timely fashion. Self-reporting is problematic. There is a low level of trust from the community who have lost confidence that the reporting is giving a clear picture of what is occurring in reality.

Final comment

I have been lobbying for years for change and feel it is time the Government legislated to more-effectively protect the community that it represents, not the industry. The future of the industry may depend on recirculating aquaculture systems (RAS) rather than offshore developments. Our Government should be setting the standard of world's best practice and looking after Tasmania and its people.

Submission 4

Tasmanian Independent Science Council

TISC Review of DRAFT Standardised Marine Farm Management Controls

20 June 2022

The Tasmanian Independent Science Council (TISC) welcomes this opportunity to comment on the draft standards.

As indicated in the introduction to the document, its intent is primarily to standardise existing controls, rather than to improve them. We strongly recommend that this opportunity to improve the status quo not be missed, as there are a number of areas that fall well behind international best practice.

Broader policy concerns

The process by which Marine Farm Development Plans (MFDPs) are developed and amended is unsatisfactory and needs a major overhaul. All existing Marine Farm Development Plans, as well as individual leases, should be regularly reviewed for suitability and impact, with license conditions and monitoring programs adjusted to take into account new information, technologies and risks. We recommend that MFDP reviews be undertaken every 5 to 7 years. This will become increasingly important as ocean temperatures continue to rise, making some regions unsuitable for intensive fish farming.

Baseline surveys should be repeated, as should carrying capacity modelling, and the location and allowable uses of lease areas should be revised as needed. Some leases in poorly flushed coastal waterways may need to be removed.

Unused farming zones ('zombie leases') should also be removed and re-added only after careful consideration and community consultation. For example, there are currently nine unused marine farming zones in Norfolk Bay that allow for finfish farming. These require urgent review and modification as Norfolk Bay would be an extremely risky location for finfish farming due to its limited circulation and high biodiversity. In particular, the Norfolk Bay/Frederick Henry Bay region holds the last known populations of the endangered red handfish. In 2018, Huon Aquaculture installed two large pens of potentially diseased salmon at a zombie lease in Norfolk Bay, causing a major community backlash.

The siting and review of MFDPs should take place within the context of a broader marine spatial planning framework and must include an opportunity for community and other users input to ensure that their issues and concerns are being addressed.

Comments on draft Standard

There appears to be considerable overlap between the authority and directives of the NRE Secretary and the EPA Director. Greater clarity in discriminating between their respective roles and responsibilities may be needed, particularly now that the EPA is an independent entity.

The Management Controls relating to biomass and TPDNO limits should allow for these to be applied to specific leases, in addition to broader MFDP regions, or parts thereof.

A maximum stocking density of 25 kg/m3 is very high by both Tasmanian and international standards – this would be risky for both fish health and the environment. None of Tasmania's operators would admit to keeping their fish in such close quarters, and indeed some have promoted stocking rates of no more than 10 kg/m3. We recommend stocking densities be reduced to 10 to 15 kg/m3 for all regions in line with modern practices. Areas with limited flushing and a higher incidence or risk of disease may require even lower stocking rates or removal of aquculture operations.

The Tasman MFDP specifies a maximum stocking density of 15 kg/m3, not 25 kg/m3.

The Macquarie Harbour MFDP doesn't include a maximum stocking density. Was this an oversight?

The requirement that leases showing visible impacts of over-enrichment be 'fallowed as soon as practicable' is far too vague. Further clarity is needed about what steps are required to do this in a timely manner.

All leases should be required to have an approved disposal management plan for mortality events as part of their standard operating conditions. Low oxygen events and jellyfish kills can (and have) resulted in hundreds of tonnes of dead fish that cannot be disposed of in local landfills at short notice. This must not continue to be managed in an ad hoc manner.

A clearance distance of 1m between the bottom of the cage and the sea bed is far too close, and does not allow for adequate water circulation. This needs to be reviewed in line with modern standards (e.g. Norway).

We recommend that initial baseline surveys be repeated at regular intervals (e.g. 5-yearly), as is done in New Zealand.

It is poor practice to allow escaped salmon to disburse into adjacent waterways without recovery operations. Many countries impose large fines when this occurs. This section should be reworded such that operators are required to have an approved plan to recover escaped fish promptly, either by the operator or by contracted fishing parties. This should not be left to the discretion of the Secretary. Escaped fish may or may not prey on native species, but they pose a biosecurity risk, attract predators, slowly starve to death and eventually decompose in local waterways, all of which are unacceptable.

We hope these recommendations are useful and will be incorporated into the final version of this standard. Please contact me if I can provide any further information.

Finally, can you please confirm that all submission on this matter will be made publicly available?

On behalf of the Tasmanian Independent Science Council

Christine Coughanowr

About the Tasmanian Independent Science Council
The Tasmanian Independent Science Council is dedicated to science-based policy reform to ensure the long-term health of Tasmania's environment. The Council includes scientists and professionals who provide independent, non-government advice, focusing on policy reforms of significant State interest. We seek to inform public debate and influence legislative reform to improve outcomes for terrestrial, freshwater and marine ecosystems.

Submission 5

Neighbours of Fish Farming

Re: Draft Aquaculture Standards public submission

Attached you will find the Dennes Point Declaration of which Neighbours of Fish Farming (NOFF) is a signatory. You will note that NOFF does not consid-er industrial salmon production in Tasmania's oceanic, coastal or inland wa-terways to be sustainable at any level.

This remains NOFF's basic position.

However, Neighbours of Fish Farming (NOFF) has noted and read submis-sions to the department on the Draft Aquaculture Standards from the Environ-mental Defenders Office (EDO) and of the Tasmanian Independent Science Council (TISC). These well-founded and researched documents broadly re-flect the views of NOFF and its membership while the salmon industry remains in its current form. We thus wish you to note our endorsement and our adop-tion of the submissions as those of NOFF.

Please will you note NOFF as having engaged in your process of public sub-missions.

Would you please also ensure all submissions for this review are made public in a timely fashion.

Attachment to Submission 5: Neighbours of Fish Farming

TASMANIAN ALLIANCE for MARINE PROTECTION

www.tamp.org.au tasmarineprotection@yahoo.com

Co-Chair: Peter George 0426 150 369

Dennes Point Declaration, 2020

As amended, April 2021

In support of all Tasmanians who recognise the coasts and waters of our island as their heart country, in recognition of the globally significant riches of Tasmania's marine world, and to ensure a Tasmanian aquaculture industry that will endure into the future, we call for -

1. A moratorium on any new industrial fish farms in Tasmania's coastal, estuary and river waters.
2. An immediate government led transition out of the sea and into landbased farms.
3. An independent, empowered and resourced regulator guided by independent science and community values.

Submission 6

Huon Aquaculture

TO: Department of Natural Resources & Environment Tasmania

20 June 2022

Thank you for the opportunity to provide input to the State Government's proposed standards for 1) salmon biosecurity; 2) marine farming management controls; and 3) marine finfish farming environment.

Over 35 years of operation, Huon has been uncompromising in its commitment to the highest standards of animal husbandry, biosecurity, environmental management, and sustainable farming practices. Business operations must never compromise the environment, fish health or the safety of our staff.

There are a number of specific questions related to individual draft Standards which I have outlined below for your consideration. However, more generally, throughout all standards, the word "contemporary" is used. Can EPA define what is meant by contemporary? Will the same definition be applied to other industries regulated by the EPA?

For ease of understanding throughout the document, ES refers to Environmental Standard, TS is Technical Standard, BS is Biosecurity Standard and MFMC is Marine Farming Management Control.

Once again, thank you for the opportunity to provide feedback.

Yours sincerely

Philip Wiese

Chief Executive Officer

A - Salmon Biosecurity

The need for rigorous biosecurity standards, matching world-standard, has underpinned Huon's operations since the beginning.

We take biosecurity very seriously, and public actions taken over many years demonstrate the company's commitment to protect the environment in which we farm. Biosecurity is not only a matter of good hygiene and disinfection procedures but also requires that fish have optimal nutrition, live in high quality water and avoid stress. Disease control in aquaculture production requires a holistic approach. Good site management, animal husbandry and rigorous biosecurity measures are central to reducing the risk of disease outbreaks and controlling the spread of infectious diseases.

Huon already has a comprehensive, regularly updated, Veterinary Health and Biosecurity Plan (VHBP) which is based on a detailed Risk Assessment Review across Huon operations, consolidated with the collective experience and

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standard operating procedures of Huon staff over 35 years and an extensive review of biosecurity practices in overseas salmon producing countries. The VHBP describes the principles and procedures used by Huon to maintain the health and wellbeing of fish throughout all stages of the lifecycle, from hatchery to harvest.

The Tasmanian salmon industry prepared a statewide biosecurity plan back in 2013, which was updated following the Blue Future Salmon Conference in 2017, and that draft Plan was reviewed by a third-party expert (Professor [redacted], University of Prince Edward Island, Canada). A final version of the Plan was agreed in consultation with the relevant Tasmanian authorities i.e. Biosecurity Tasmania, then DPIPWE, Inland Fisheries and the EPA, however, implementation was stalled while the State Government determined the most appropriate way to manage the Plan in conjunction with the new Biosecurity Act framework (received Royal Assent in 2019).

In general, Huon is concerned that many of the draft standards are not appropriate for application to industry activities, nor do they meet the original or stated intention, or worse, are too detailed or prescriptive and should instead be written into more specific and explanatory guidelines. There is also ambiguity in many standards. We are concerned this may lead to differences in interpretation between industry, auditors and the general public. Standards where this ambiguity exists, need to be clarified before release of the final version. It would also appear that compliance with the draft BS relies on a suite of exemptions being granted to individual companies that are in no way guaranteed and as such, some standards may be more appropriately applied with a phased-in approach.

Huon also notes that there is no requirement for daily removal of mortalities in this program. This is considered a fundamental measure to improve biosecurity and removal on a daily basis, or as often as reasonably practicable, should be referenced.

We also feel there should be consideration paid to the biosecurity risks of movement of aquaculture vessels from interstate ports and finally, images of salmon used in Schedule 4 are in poor condition with scale loss and ragged fins. These fish do not emulate gold standard health, welfare and biosecurity so should not be used as images in this, or any documentation relating to biosecurity of the Tasmanian salmon industry.

Specific comments in relation to the BS are as follows:

1. **MOS 23 –** Huon's Hideaway Bay Lease holds pens of fish waiting for harvest. This occurs year-round to ensure consistent market supply, meaning there will be cross over of year-classes for a period of time. This lease also holds Huon's allocation of Selective Breeding Program and Trials fish, which are critical to ensuring genetic selection for improved health and performance characteristics for future generations of Tasmanian stock. As such, two year-classes of Selective Breeding Program and Trials fish may also be held at Hideaway Bay at any one time. It is important to note that there is only ever a one-way flow of fish into the Hideaway Bay lease. In other words, fish are never moved from Hideaway Bay to any commercial grow-out farms.
2. **MOS 23 –** Huon's Zuidpool Rock Lease is split into two separate farms, >2.5km apart. Each farm may hold a different year-class of fish at certain times of the year. As such, Huon cannot comply with this standard unless it seeks to separate the lease and obtain separate Marine Farm Licences. This demonstrates that the standard hinges on the definition of a Marine Farm, not a biosecurity improvement.
3. **MOS 25 –** As for MOS 23 (1,2), Huon's Hideaway Bay Lease is not considered a Smolt Lease or a Grow-out Lease and cannot comply with this standard due to its function as a harvest and trials site. The year-round presence of fish means it is not possible to have a fallow period for the entire Hideaway Bay lease. As above, it is important to note that the Hideaway Bay lease only has one-way flow of fish and does not experience significant feed inputs as a large portion of the biomass are fasted prior to harvest.
4. **MOS 25 –** As for MOS 23 (1,2), arrangement of Huon's Zuidpool Rock Lease means fallowing cannot be synchronised between the two sites. Huon do not have enough grow-out leases in the Channel to allow this to happen. As such, Huon cannot comply with this standard unless it seeks to separate the lease and obtain separate Marine Farm Licences. Notwithstanding that the wording is also ambiguous because it could be interpreted that if fish are on the lease continuously then it doesn't need to be fallowed.

5. MOS 35 - Huon has various sites where used equipment is moved to specifically for the purposes of maintenance and cleaning. Clarity is required that this standard, as currently written, will not prohibit this activity.

   More appropriate would be to replace the words "to and from" in MOS 35(a) and MOS 35(b) with "between" as items may be removed from marine farms for disposal or to other areas that do not necessarily represent a biosecurity risk. In addition, the definition of "used salmonid equipment" is very broad, and should be refined.

6. MOS 14a & 15 - The 0.5% threshold for reporting on one single day is inappropriate and would result in a significant quantity of notifications without addressing the intent for improved biosecurity outcomes.

   The lower 0.25% threshold for 3 consecutive days is a much more logical and sensitive measure to detect possible biosecurity risks posed by a population, so we propose this measure is retained whilst the 0.5% measure is removed. A one-off exceedance of 0.5%, that is not accompanied by concurrent exceedance of the 0.25% threshold for 3 days, is unlikely to be due to infectious disease of concern, so we do not feel it is appropriate to notify the former unless there is identification or suspicion that it is caused by an infectious disease agent. An appropriate alternative could be for the Joint Salmonid Industry Health Group to identify the key pathogens of concern, and that these detections or suspicions are notified of instead. Another example of where this notification would not be appropriate in promoting biosecurity is when we have a small number of fish left in a harvest pod. In this case it only takes a single figure mortality to trigger a notification. Notification should therefore only be required if there is suspicion of an infectious disease as the cause.

7. MOS 14b - The key issue here is that it is impossible to detect disease affecting such a low percentage of fish without performing destructive daily testing on thousands of fish per pen to demonstrate compliance with this standard. In addition, pathogens such as *Neoparamoeba perurans* would be expected to affect significant numbers of fish every day, due to their ubiquitous nature, so it is inappropriate and not beneficial to notify on a daily basis for this pathogen. Instead, notifications should be done when infectious diseases of concern are detected and where there is a risk of spread to other companies or industries. Examples should include POMV, RLO, Vibrio and Aquabirnavirus.

   Therefore, the standards should read:

(a) any incidence of fish mortalities, that are unrelated to predation, misadventure or other similar event, affecting greater than 0.25% of fish per day for three consecutive days; and

(b) any incidence of suspected or confirmed disease, from pathogens identified by the JSIHG, affecting greater than 0.25% of fish per day for three consecutive days in an individual pen, or affecting more than 0.5% of fish in a single day in an individual pen; and…

   There is also considerable ambiguity on how often notifications are required during the course of a disease outbreak. For example, if there is an infectious disease issue affecting a given pen and resulting in 0.6% mortality for a number of days, is the requirement just to notify once or every single day until mortality drops back below 0.25%? The wording of this standard does not adequately address this ambiguity.

   It is also important these standards (MOS 14a & MOS 14b) clarify that when morts are not removed daily, "averages over days" must to be determined, ie. One day with zero morts due to non-removal should not interfere with the 0.25% daily for three days criteria. The wording of this standard therefore does not adequately address ambiguity in a number of areas.

8. MOS 30 – There is no definition of a therapeutant. Is the intent to notify of antibiotic use? If so, this should be specified to reduce ambiguity.

9. MOS 21 - Huon farms both Salmon and Trout on the same lease in Macquarie Harbour due to only having two sites that are suitable for year-round farming. Unless there is intent to increase farmable lease sites in Macquarie Harbour, this standard should have a written-in exemption for Macquarie Harbour.

10. MOS 40(1) - Wording is inconsistent with MOS 39. It penalises operators with many smaller tanks compared to fewer larger tanks and does not take into consideration the population of fish as a risk unit. This standard should be re-written as follows:

    MOS 40. Certification of fish from freshwater facility to marine farm

    (1) A salmonid producer must ensure that no live fish or group of live fish from a freshwater facility is moved into a marine salmonid biosecurity zone unless a veterinary biosecurity certifier has issued a biosecurity certificate in respect of the fish, which certifies the following matters:

    (a) the vaccination of the fish in accordance with a vaccination program endorsed by the Joint Salmonid Industry Health Group and approved by the Chief Veterinary Officer; and

    (b) the fish being from a population of fish (represented by a tank, tanks, pond or ponds of fish) that has passed, not more than 28 days prior to the day of movement, a health assessment which –

    - *accounts for the history of the population; and*
    - *considers the disease status of all relevant populations on the respective facilities, and*
    - *which may include (at the discretion of the certifier):*
        - *a gross external inspection of the fish population by a person competent in fish health; and*
        - *sampling of fish for necropsy and laboratory testing, with sampling biased to the highest risk fish identified within the population.*

    a. *the fish being sufficiently seawater adapted for entry into the zone.*

11. MOS 41 - Disinfection after each individual trip is not required when fish are coming from the same hatchery and there is no introduction of water or any other material into the tanker between trips. Therefore, this standard should be re-written as:

    MOS 41. A salmonid producer must ensure that live fish transport vehicles under the control or management of the producer undergo effective treatment measures to ensure biosecurity risk related to movements from the freshwater to marine, or freshwater to freshwater environments are prevented, eliminated or minimised so far as is reasonably practicable.

12. FOS 23 - It is not appropriate to notify of all therapeutant usage in private freshwater farms, otherwise the expectation should be the same for all terrestrial farms. If there is particular interest in antibiotic use then this should be specified rather than having a blanket 'therapeutant use' clause which would see very frequent notifications for routine treatments using salt, chloramine-T etc.

13. FOS 27 - As with MOS 40 (10), wording is inconsistent. It penalises operators with many smaller tanks compared to fewer larger tanks and does not take into consideration the population of fish as a risk unit. This standard should be rewritten in the same fashion described for MOS 40.

14. FOS 29 - Disinfection after each individual trip is not required when fish are coming from the same hatchery when no water or any other material are introduced between trips. Therefore, this standard should be written as:

    FOS 29. A salmonid producer must ensure that live fish transport vehicles under the control or management of the producer undergo effective treatment measures to ensure biosecurity risk related to movements from the freshwater to marine, or freshwater to freshwater environments are prevented, eliminated or minimized so far as is reasonably practicable.

15. POS 12 – depending on the site, blood-water tanks may remain connected to the harvest system, and as such, do not need to be cleaned between uses. It is important there is no ambiguity in this standard that would preclude current set up of these harvest systems.

B – Standardised Marine Farming Management Controls

1. ***1.0.2.*** *Lessees must comply with any written notice or request given by the Director, Environment Protection Authority (EPA), and must not undertake or cause or permit another person to undertake an activity contrary to the Director's written notice or request.*
    - Which legislation provides the EPA Director with the authority to enforce this control?
2. ***1.3.5.*** *The Director, EPA may, from time to time, using whatever information the Director, EPA considers appropriate, determine the maximum permissible biomass of finfish that may be stocked within the area covered by this Plan or any other specified area within the Plan area.*

    NOTE: Maximum permissible biomass may relate to an area however described by the Director, EPA, including without limitation, tonnes per hectare or total tonnes for the Plan area.
    - While the explanation in the MFMC is clear (regarding this as an alternate means to set and manage limits on production) the wording of the actual control (i.e. 1.3.5) is not clear that it is one or the other (i.e. there is a TPDNO limit or a biomass limit).
3. ***1.7.1.*** *Lessees must dispose of wastes from:*

    (c) removal of fouling organisms; and
    - This matter has been discussed with NRET previously; as the current in-situ net cleaning process does not capture organic waste, clarity is required on the scope of application from this MFMC; i.e. does it apply to all marine based operations as well as land based activities.
4. ***1.7.5.*** *Lessees must ensure that Black and Grey Water resulting from the servicing of marine farming operations is not released into the marine environment unless otherwise authorised.*
    - The intent of current environmental licences (*Grey water from marine farming vessels and structures within the Lease Area must be managed in such a way as to ensure that the release of the components of wastewater are not harmful to the marine environment)* differs from this suggested MFMC.

C - Environmental Standard for Marine Finfish Farming

In general, while the document provides high-level, strategic commentary it lacks details, often implying (through a lack of content) that the current environmental regulations applied to the industry are deficit, which is not accurate.

The salmon farming industry is a considerable contributor to the Tasmanian economy and community, and warrants reasonable, appropriate policy, regulation and planning that is informed by the best science; which is exactly what is happening. The legislation, regulation and processes that underpin our industry are robust and most importantly, backed by science.

The draft ES fails to acknowledge that the majority of the "proposed" new conditions already exist and are in operation thereby ignoring the proactive approach taken by the companies over many years to create a sustainable, environmentally innovative industry.

The community is looking to the State Government for reassurance regarding the narrative about how the Tasmanian salmon industry operates which is why messaging and wording is critically important, and why we submit the following feedback.

Specific Comments

1. *Section 2, page 2. "The Tasmanian Government is committed to the adoption of international best practice environmental management to protect Tasmania's marine environment. The introduction of a contemporary Environmental Standard for Marine Finfish Farming in Tasmania will further strengthen an already robust regulatory system".*

- We draw your attention to Section 3.2 of same Standards which lacks consistency with Section 2 in respect of the existing robust regulatory and environmental monitoring system applied across salmon farming operations. The first line of Section 2 reads as if the industry is not subject to any monitoring, regulation or environmental assessment.

2. *Section 2.1, page 2 – 'it follows that production on individual leases has increased'*
    - Important that context is included here, as while production may have increased, production on the same lease has not necessarily increased. During the five-year implementation phase of the Controlled Growth Strategy (2014-19), Huon focused on re-engineering every step in the production processes to enable farming in high-energy sites offshore. As a result, prior to commencing farming in Storm Bay, Huon closed down its shallowest inshore sites in the Huon River.
3. *Section 3.1, page 4.*
    - An example of where context is critically important. The objectives of the draft ES are no different than what the industry strives to achieve now. As we are aware, these draft ES are consolidating existing monitoring/controls as opposed to creating a new set of standards, yet the wording implies no, or limited, environmental controls are currently applied to farming operations.
4. *Section 3.3, page 5.*
    - This section makes significant claims but does not provide any Tasmanian context, or indeed evidence.
    - All types of farming has an impact, but there is no evidence beyond localised impacts at Huon's leases, as evidenced by BEMP, annual environmental monitoring etc. While the listed impacts are plausible, evidence of significant impacts beyond Huon's lease areas have not been noted despite the Tasmanian Salmon Industry Scorecard (linked prior in the report) suggesting that Tasmania's current environmental monitoring programs meet or exceed those established in all other Salmonid farming countries studied.
    - The salmon industry is already undertaking a significant proportion of the "new" draft ES – as outlined in the findings of the Salmon Scorecard; the Government's own research Salmon Snapshot (nre.tas.gov.au) but once again the language in this Section infers the industry is not, or worse, is actively having an environmental impact.
5. *Section 3.3/3.4, page 5.*
    - How does the Government intend to measure the impacts on wildlife from noise and light pollution?
    - We note the intent of the ES is to focus on protecting the marine environment.
6. *Section 4, page 6 - 'intensive marine finfish operations'*
    - Huon farms to the conditions of our licence conditions; the use of the term "intensive" implies we either farm to unregulated stocking density rates, or ignore the conditions of our licence. Huon farms with some of the lowest stocking densities in the world; i.e. maximum of 1% fish to 99% water, and the use of word "intensive", by the State Government, is neither accurate nor objective.
7. *Section 4.1/4.2, page 6.*
    - Clarity is required on the difference between "farm zone" in the draft ES and "zone", currently used in MFDPs. We look forward to additional information on the concepts identified in these Sections via the Technical Standards.
8. Section 4.1 page 7 - ***Regional Area*** *– The broader environment extending beyond the boundary of the DEZ boundary where there are to be no significant effects on marine biodiversity*.
    - How is the term marine biodiversity defined and how will trigger values be developed and measured especially in areas without robust baseline data (special/temporal comparisons of numerical targets

or specific reference values, external structuring factors – physical and biogeochemical?). Is the intention here a methodological departure from the established method (visual, physico-chemical or biological impacts)?

9. *Section 4.3, page 7 - 'Industry will have regular testing, monitoring and reporting obligations…including chemical analysis results of finfish feed and nitrogen input/output'.*
    - Once again, context and language are important. The Director, EPA, already has the ability to set production limits via the MFDPs and companies comply.
    - Companies already provide TPDNO data to the EPA (based on feed inputs and nitrogen content supplied by feed companies) yet the ES implies the industry has limited, or zero, existing testing, monitoring or reporting obligations in respect of feed and therefore nitrogen output.
10. *Section 4.6, page 9 - A major visual impact at the farm zone may include 'loss of native vegetation'*
    - Noting this is a new environmental requirement, how does this relate to in-situ biofouling cleaning, where native vegetation is lost, ie removed, from nets during the cleaning process.
11. *Section 4.7, page 10*
    - Huon supports the reduction of monitoring requirements if leases are consistently compliant and environmental requirements are achieved.
12. *Section 4.7, page 11*
    - Further clarity is required in relation to Figure 4, and the use of the term "investigative DEZ boundary survey" as this term is not discussed elsewhere.
    - Huon notes the reference to "Production has not occurred on the lease for >10 years" as one of the trigger points in the DEZ boundary monitoring. Is Government intending to impose and how does that relate to the chart and environmental monitoring?
13. *Section 4.8, page 12, Figure 5.*
    - Clarity is sought on whether ADCP real-time readings would be permanently required for BEMPs or for the first production cycle. Either way, this should be clarified in the TS.
    - If the international BEMP reviews by SAMS recommend a reduction in the number of analytes and monitoring sites, will that be reflected in the ES or TS?
14. *Section 4.9, page 13.*
    - Clarity is sought on whether this applies to noise generated within a marine farm lease, as opposed to vessels transiting to/from?
    - It is proposed that noise limits will only be implemented 'where appropriate'. How will this be determined?
    - The noise level examples appear conservative and less than the EPA's current prescribed regulatory limit of 74 dB(A) at 25 m (including tonal penalties) specified by the Environmental Management and Pollution Control (Miscellaneous Noise) Regulations 2004.
    - It is unclear at what point these levels would be measured (i.e. lease boundary or the nearest noise sensitive premise)?
15. *Section 4.9, page 13. "It may also be a requirement that licence holders report all environmental hazards or incidents arising from noise pollution to the Director."*
    - As per 13, how are environmental hazards or incidents, relating to noise, to be defined?

16. *Section 4.10, page 13. "Licence holders may be required to engage a light pollution expert to establish a 'Light Attenuation Management Plan' (LAMP) for the approval of the Director. Management plans may be required to incorporate descriptions of all light sources*

    - We support any EPA regulated premise being held accountable for any pollution if it is legitimately causing a nuisance. We would support the development of management plans in the instance of repeated complaints and demonstrated nuisance, as per the Act.

17. *Section 4.10, page 13. "It may also be a requirement that licence holders report all environmental hazards or incidents arising from light pollution to the Director."*

    - Given that light pollution is not currently defined in EMPCA, how does Government intend to define what constitutes "light pollution" and therefore what constitutes a hazard or incident.

18. *Section 4.13, page 14.*

    - Huon already has a range of Management Action Plans in place to address waste management/re-use etc, and supports the formalisation of such a tool by government (i.e. the development of generic MAPs for all industries).
    - Biofouling is again discussed which requires clarity in relation to in-situ net cleaning waste, i.e. land-based capture vs in a marine environment.

19. *Section 5, page 15. '… this will include undertaking audits of environmental monitoring in the field…'*

    - Does this mean that EPA/NRET staff would be present on company vessels during environmental monitoring?

Submission 7

Tasmanian Alliance for Marine Protection

June 20, 2022

[redacted]

Department of Natural Resources and Environment Tasmania

Hobart,

Tasmania

Dear [redacted]

The Tasmanian Alliance for Marine Protection wishes to draw your attention to submissions by the Environmental Defenders Office and by the Tasmanian Independent Science Council on the departments Draft Aquaculture Standards.

After careful consideration, TAMP wishes to endorse and adopt those submissions as relevant, incisive and authoritative as applied to aquaculture in the state in its current form.

However, please note that TAMP is a core signatory of the Dennes Point Declaration (attached) which calls for the removal of the salmon industry's feedlots from Tasmanian and oceanic waters, transitioning to land-based salmon production.

Please include TAMP as a responder to the Draft Aquaculture Standards review.

Would you please also ensure that all submissions are made public.

Sincerely,

Peter George

Chair, Tasmanian Alliance for Marine Protection.

TASMANIAN ALLIANCE for MARINE PROTECTION

www.tamp.org.au tasmarineprotection@yahoo.com

Co-Chair: Peter George 0426 150 369

Dennes Point Declaration, 2020

As amended, April 2021

In support of all Tasmanians who recognise the coasts and waters of our island as their heart country, in recognition of the globally significant riches of Tasmania's marine world, and to ensure a Tasmanian aquaculture industry that will endure into the future, we call for -

1. A moratorium on any new industrial fish farms in Tasmania's coastal, estuary and river waters.
2. An immediate government led transition out of the sea and into landbased farms.
3. An independent, empowered and resourced regulator guided by independent science and community values.

Submission 8

Surfing Tasmania

Surfing Tasmania Inc. Submission to:

The Department of Natural Resources

and Environment Tasmania on

Draft Aquaculture Standards

Surfing Tasmania Inc. is not opposed to salmon farming in principle, but is opposed to how it is currently conducted and wishes to draw your attention to submissions by the Environmental Defenders Office and by the Tasmanian Independent Science Council on the department's Draft Aquaculture Standards.

After careful consideration, STAS Inc. wishes to endorse and adopt those submissions as relevant, incisive and authoritative as applied to aquaculture in the state in its current form.

We also advise that STAS Inc is affiliated with the Tasmanian Alliance for Marine Protection (TAMP) and supports the Dennes Point Declaration which calls for the removal of the salmon industry’s feedlots from Tasmanian and oceanic waters, transitioning to land-based salmon production.

Please include Surfing Tasmania Inc. as a responder to the Draft Aquaculture Standards review.

Background

First established in 1963, Surfing Tasmania Inc. is recognised by the State Government as a State Sporting Organisation (SSO). It represents the interests of surfers around the state and is a stakeholder of the national body, Surfing Australia Inc.

It's estimated that there are some 10,000 recreational surfers in Tasmania and the sport is undertaken around the entire coastline and offshore islands. During the summer months visitation by large numbers of travelling surfers from around Australia and overseas is apparent and are attracted by the state brand of 'Clean/Green'. This can be short term by air to the Tasmanian ports, but also direct from Melbourne to King and Flinders Island. Others come via sea with their own vehicles and usually stay longer term. Martha Lavinia on King Island and Shipstern Bluff on the Tasman Peninsula being acknowledged as world class surf destinations.

Red Bull have an ongoing commitment for the International Cape Fear contest at Shipstern Bluff with contestants drawn from around the globe. Now in it's second year with a further contest projected for 2023, the event is broadcast live around the globe through streaming platforms to an audience of several million.

Roaring Beach Nubeena has been the venue for the Australian Junior National Surf Titles and Marrawah was the location for two international Cold Water Classic surf events and one Red Bull Wave Sailing event over the past fifteen year and is the location of the West Coast Classic, the longest continuous surf contest in Australia.

No study has been undertaken to estimate the tourist value of surfing to the State, but given the number of national and international surfers travelling here for months at a time, it must be quite substantial.

Unlike other sports that require substantial investment in infrastructure – think ovals, stadiums, swimming pools - surfing is unique in the sense that it makes little, if any, demand on government funding. It merely depends upon natural elements: swell, offshore winds and beaches.

Neither is it confined to defined locations. Surfers think nothing of travelling vast distances around the state to pursue waves and their spend on equipment, transport, fuel, food and accommodation is both substantial and spread around the entire state.

The sport is multi generational with many elders in their sixties sharing waves with kids as young as six.

Surfing Tasmania supports statewide learn to surf programs, conducts competitions and creates pathways for those wishing to compete, judge, coach or administer the sport.

It also works with affiliated organisations dedicated to ensuring the environmental health of our coastlines and coastal waters, as well as protecting surfers rights and interests. Surveys show that the environment rates as a major concern for 75%* of our members and our involvement with environmental issues dates back to the early 1980's.

*Reference: 2021 STAS Survey of surfing in Tasmania. Powered by Survey Monkey.

Of significant concern to our members is the major expansion in salmon farming over the past thirty years. While the industry claims to be open, transparent and have the interests of stakeholders in mind, our experience is to the contrary. Despite being a stakeholder, as an organisation we only found out about the expansion of fish farms into 'deep water' – Storm Bay, Okehampton and Bass Strait – via the media.

Our specific concerns relate to our collective experience dating back to the sport's beginnings in the late 1950's and are as follows:

1. Shark encounters

As a stakeholder we believe the industry has a duty of care towards risk management between surfers and White Pointer sharks attracted by fish farming.

Salmon farms have been established since the mid 1980's close to surf locations that have been in use since the late 1950's.

Accordingly we request the industry release what research has been undertaken and what mitigation measures are in place as part of this duty of care. e.g. What protocols are in place and how are stakeholders advised.

History

In Tasmania there have been eleven attacks from 1803 to 2010 - five of them being fatal. There has also been seventy seven White Pointer shark captures since 1958.

Since the first salmon farms were introduced to Tasmanian waters in the early 1980's there have been seven shark attacks: four, or 57% of those, have been on surfers, all were non fatal – one at Shelly Point, Scamander in 1989, one at Binalong Bay in 2009, one at South Cape Bay in 2012 and one at Clifton Beach in 2016.

Source: White Pointer South; www.sharkattackdata.com/place/australia/tasmania

While surfers' encounters with sharks have been rare up to the mid 1980's, there has been a pattern of increased sightings since then. It could be argued that this is due to the statewide increase in popularity in surfing as a sport, however anecdotally over the past ten years sightings have increased dramatically, particularly at the Narrows, Marion Bay; around Orford on the east coast; around Roaring Beach, Nubeena and on the South Arm peninsula.

Rather than the occasional sighting of years previous, three or four sightings per year at each of the above mentioned locations are now common. Interestingly the increase in sightings has coincided with the establishment of the Storm Bay, Nubeena, Port Arthur and Okehampton fish farms.

At the same time there has also been a major increase in reports/sightings in seal populations in those areas by both fishers and surfers. The major predator of seals are White Pointer sharks and logically any increase in seal populations will see an increase in White Pointer shark activity.

This is also confirmed by farm managers, divers and fishers in recent publications White Pointer South and Toxic.

Monthly seal deterrent usage figures for the period January 2021 to March 2022 show seal crackers were used 8,057 times by Huon Aquaculture — the most of three major salmon farmers in Tasmania.

Petuna used the tactic 1,748 times in the period, while Tassal used crackers 2,259 times.

Source:… www.abc.net.au/news/2022-05-09/salmon-company-deterred-seals-with-underwater-explosion

2. Affects of fish farm leases on Swell patterns in Storm Bay.

Given the extent of the proposed TASSAL lease west of Wedge Island and the Petuna lease south of Betsey Island, Surfing Tasmania Inc. requests that details of what modelling has been undertaken by the industry be released to explain what affect the leases will have on the swell patterns moving through Storm Bay.

The integrity of traditional surf locations around the state is dependent upon swells being unimpeded. Obstructions like offshore islands, islets, kelp forests and man made structures like breakwaters and groynes will create swell refraction and reflections that have a major impact on the way swells interact with our coastlines. This includes how waves break and impact upon coastal erosion.

Offshore fish pens can be up to 250 metres in circumference, extend to a depth of some 40 metres and hold over 120,000 salmon. Since a lease can extend for several kilometres it is reasonable to assume that they will have a considerable affect on swell.

There are 35 surf locations in the south of the state dependant upon swells moving unimpeded out of the Southern Ocean via Storm Bay. They extend from Shipstern Bluff on the Tasman Peninsula north to Park/Carlton Beach, west to the South Arm Peninsula and further west to the Kingston Beach area. These locations have provided surf for Hobart and surrounding suburbs for over 6o years and represent the equivalent infrastructure of 'arenas, stadiums and swimming pools' for around 60% of Tasmania's surf population.

The quality and consistency of each of those surf spots is dependent upon a complex matrix of swell patterns, swell periods, tides and wind direction. Our knowledge and understanding of this matrix is the result of 6o years collective experience of generations of surfers which would now number in many thousands. Subtle differences in that matrix affect how, when and why various locations provide optimum conditions.

Our members have grave concerns as to what affect offshore fish farm leases will have upon this swell matrix.

3. Shark mitigation and swell refraction in Bass Strait

A similar situation exists on the northwest coast where under a proposed three-year trial, 50 hectares of Bass Strait, located about 6 nautical miles north of Burnie, will be set aside for fish farming with research conducted by the federally funded Blue Economy Cooperative Research Centre.

Surfing Tasmania Inc. requests details of what studies will be undertaken during this trial period in regards to both White Pointer shark research and mitigation measures along with what affects fish farming will have on swell patterns at local northwest coast surf locations.

Unlike Storm Bay where the swell window is confined to basically a southwest to southeast quadrant, in Bass Strait swell can come from: a west-northwest direction; north to a north east or east direction. Further, the depth of the Strait is much shallower - resulting in a greater variation in swell period. This results in a greater variance in how different direction swells and swell periods affect local surf spots and potentially coastal erosion.

4. Fish Farm Debris

Since the establishment of TASSAL operations at Badger Creek, Nubeena and fish pens in Parsons Bay, Nubeena, surfers have observed a massive increase in plastic debris originating from fish pens washing ashore at the Roaring Beach Conservation Area.

It is noted that the type of debris has primarily been plastic piping and rope. It is also noted that in recent times a colour coded system has been introduced enabling identification of the source along with a reporting system for both debris at sea and debris onshore.

Surfers have been at the fore in coastal cleanups, indeed one of the longest running coastal cleanups in the world, held annually in southwest Tasmania, was established by two of our members: crayfisherman, [redacted] and marine biologist, [redacted]

Surfing Tasmania Inc. continues to promote a clean ocean policy through education programs on our social media site and through our statewide boardrider clubs, however it is our observation that despite these measures, not only does the volume of traditional debris continue to increase but micro plastics is now becoming widespread.

Given the proposed expansion into Bass Strait we hold grave fears for surf locations on the coast, especially given that they are only in recent times, recovering from many years of degradation resulting from the dumping of industrial waste around the Burnie area.

Accordingly Surfing Tasmania Inc. suggests that the penalties applied to debris originating from fish farms in Tasmanian coastal waters need to be not only reviewed but dramatically increased.

Michael Lawrence
President
Surfing Tasmania Inc.

Submission 9

Environmental Defenders Office

Environmental Defenders Office

Submission in response to the Draft Aquaculture Standards for Tasmania

20 June 2022

About EDO

EDO is a community legal centre specialising in public interest environmental law. We help people who want to protect the environment through law. Our reputation is built on:

Successful environmental outcomes using the law. With over 30 years' experience in environmental law, EDO has a proven track record in achieving positive environmental outcomes for the community.

Broad environmental expertise. EDO is the acknowledged expert when it comes to the law and how it applies to the environment. We help the community to solve environmental issues by providing legal and scientific advice, community legal education and proposals for better laws.

Independent and accessible services. As a non-government and not-for-profit legal centre, our services are provided without fear or favour. Anyone can contact us to get free initial legal advice about an environmental problem, with many of our services targeted at rural and regional communities.

Environmental Defenders Office is a legal centre dedicated to protecting the environment.

www.edo.org.au

Submitted to:

Uploaded to the NRE website at: Have Your Say – Draft Aquaculture Standards
Department of Natural Resources and Environment Tasmania

For further information, please contact:

[redacted]

Acknowledgement of Country

Environmental Defenders Office (**EDO**) recognises First Nations peoples as the Custodians of the land, seas and rivers of Australia. We pay our respects to Aboriginal and Torres Strait Islander Elders past, present and emerging, and aspire to learn from traditional knowledge and customs so that, together, we can protect our environment and cultural heritage through law.

In providing this submission, we pay our respects to First Nations across Australia and recognise that their Countries were never ceded and express our remorse for the deep suffering that has been endured by the First Nations of this country since colonisation.

Executive Summary

While EDO welcomes the invitation to comment on three proposed aquaculture standards to govern the operation of aquaculture in the state's waters, including an Environmental Standard for Marine Finfish Farming, we note that consultation on a Bill to amend the *Environmental Management and Pollution Control Act 1994* (**EMPC Act**) to give effect to an independent EPA and create a legislative basis for making Environmental Standards recently closed.

EDO's submission on the draft Environmental Management and Pollution Control Amendment Bill 2022 provided detailed feedback on what we consider to be the critical features of a modern and best practice EPA and on how the proposed new Environmental Standards should be framed and operate.[1] While EDO is generally supportive of the proposal to create enforceable Environmental Standards for the finfish farming industry, we consider it preemptory for the Department to be consulting on what it proposes to be in the Environmental Standards before that Bill has been passed by Parliament. To ensure the Draft Environmental Standard is consistent with the legislation passed by Parliament, it would have made more sense for the Bill to be enacted before any consultation on the Environmental Standards commenced. For this reason, EDO asks that the following submission be read in light of our recommendations in response to the draft Bill.

This submission responds to the Draft Environmental Standard for Marine Finfish Farms (**Draft Environmental Standard)** as foreshadowed in the position paper (**Position Paper**) and to the Draft Standardised Marine Farming Management Controls (**Controls**) and related background paper (**Background Paper**) (as they relate to finfish farming). EDO considers that it is not convenient to provide separate submissions for the Draft Environmental Standard and the Controls, as our recommendations are necessarily interrelated given the overlap between these proposed regulatory documents.

[1] A copy of EDO's submission can be accessed on our website here: https://www.edo.org.au/publication/edo-submission-on-the-draft-environmental-management-and-pollution-control-amendment-bill-2022/

EDO's submission also responds to broader concerns around the regulation of Tasmania's finfish farming industry, particularly in light of the Legislative Council Sub-Committee Report on Finfish Farming in Tasmania dated 19 May 2022 (**Finfish Farming Report**).

EDO welcomes the Tasmanian Government's commitment to the adoption of international best-practice environmental management to protect Tasmania's marine environment. To this end, the Government has recently commissioned several reports comparing Tasmania's regulation of the salmon industry to international best practice.[2] While some of these reports have been released to the public ahead of the release of the draft aquaculture standards,[3] it is disappointing that other reports which would have been helpful to inform public comment on how the draft aquaculture standards meet international best practice - such as the Cawthron Institute's review of the EPA's review of Tasmanian and International Regulatory Requirements for Salmonid Aquaculture - have not similarly been released.

In EDO's view, despite the Government's stated intention, it is unlikely the Draft Environmental Standard and the Controls will be consistent with best practice environmental management in their presently proposed form. Given the findings and recommendations of the Finfish Farming Report, it is clear that a genuine commitment to world's best practice environmental management requires substantial reform to the current regulation of finfish farms in Tasmania.

While we note that the Government is yet to formally respond to the recommendations of the Finfish Farming Report, EDO is generally disappointed by the lack of ambition for improvement signalled in the preparation of both the Draft Environmental Standard and the Controls. We are further concerned that if the Draft Environmental Standards and Controls proceed without significant change no substantial improvement to current practice could reasonably be expected. Such an outcome is not in the interests of the environment, community or the finfish farming industry.

EDO's submission is arranged under the following headings:

1. General Comments
    1.1. Integrated and ecosystem-based management
    1.2. Performance based management and the appropriateness of an adaptive management approach
    1.3. Enforcement
2. Environmental Standard for Marine Farming in Tasmania
    2.1. Objectives of Environmental Standard
    2.2. Management of the effects of Finfish Farming on the Marine Environment
    2.3. Focus areas proposed to be addressed in the Environmental Standard

[2] These reports include the Cawthron Institute's review of the EPA's review of Tasmanian and International Regulatory Requirements for Salmonid Aquaculture and the Scottish Association for Marine Science's review of several of Tasmania's Baseline Environmental Monitoring Programs.
[3] Including the *Review of Tasmanian and International Regulatory Requirements for Salmonid Aquaculture* and the *International expert review of the BEMP for the Huon Estuary and D'Entrecasteaux Channel*.

A summary of EDO's recommendations under each heading outlined in this submission can be found below.

1. General comments

Recommendation 1: All recommendations of the Finfish Farming Report be implemented.

1.1. Integrated and ecosystem-based management

Recommendation 2: An overarching management and planning framework be developed and legislated for Tasmania with the aim of integrated and ecosystem-based planning and management across the entire marine and coastal environment. This framework should include a comprehensive marine spatial planning process and inform any proposed changes to the *Living Marine Resources Management Act 1995,* the EMPC Act and the new 10-Year Salmon Plan.

1.2. Performance-based management and the appropriateness of an adaptive management approach

Recommendation 3: Enforceable criteria prescribing when adaptive management can be used should be developed. These criteria should include a clear statement that adaptive management is not to be used in the absence of sufficient baseline monitoring or where the impacts of finfish farming may be serious or irreversible. A precautionary approach to the management of finfish farms is adopted in the absence of these enforceable criteria.

1.3. Enforcement

Recommendation 4: The EPA develop and publish an enforcement policy relating to finfish farms which clearly sets out its expectations and the situations where it may use the enforcement tools it has available. The enforcement guidelines should include scientifically

based performance indicators, identify a scale of enforcement actions, and indicate which actions will be taken in response to the failure to meet those indicators (including graded increases in enforcement activity for repeat offenders).

Recommendation 5: All enforcement actions be reported by the EPA through real-time reporting in a central record published online.

Recommendation 6: The *Marine Farming Planning Act 1995* be amended to enable third parties to seek redress for any breaches of environmental controls or standards through civil enforcement proceedings to the Tasmanian Civil and Administrative Tribunal.

2. Environmental Standard for Marine Finfish Farming in Tasmania

Recommendation 7: The Draft Environmental Standard should be clear and certain and based on the best available science. It should also limit discretions given to the EPA Director and prescribe science-based criteria for the exercise of those powers.

2.1. Objectives of the Environmental Standard

Recommendation 8: The objectives of the Draft Environmental Standard be amended to align with the objectives of the EMPC Act, including the objectives of sustainable development, maintenance of ecological processes and genetic diversity, protecting and enhancing the Tasmanian environment and the adoption of a precautionary approach.

Recommendation 9: The first objective of the Draft Environmental Standard be "Document standardised environmental monitoring protocols to assess environmental compliance of marine finfish farming that are practical, based on the best available science, cost effective and appropriate for Tasmania".

Recommendation 10: The second objective of the Draft Environmental Standard be "Consistent with the best available science and the *State Policy on Water Quality Management 1997* identify and publish appropriate environmental indicators and acceptable trigger levels for the assessment of environmental conditions and detection of environmental effects".

Recommendation 11: The third objective of the Draft Environmental Standard be "Ensure sustainable management of marine finfish farming where environmental degradation and adverse risks to human and ecosystem health are prevented and pollutants and hazardous emissions from finfish farms are regulated, reduced or eliminated to maintain environmental quality."

Recommendation 12: The fourth objective of the Draft Environmental Standard be "transparency of environmental management and industry accountability for environmental health through the timely publication of monitoring reports accessible to the public."

2.2. Management of the effects of finfish farming on the Marine Environment

Recommendation 13: The Draft Environment Standard recognise caps on finfish biomass, stocking density and particulate and nitrogen pollution imposed through reformed Marine Farming Management Controls (refer to recommendations 17 and 39 below).

2.3. Focus areas proposed to be addressed by the Draft Environmental Standard

2.3.1. Establishing Management Zones

Recommendation 14: The Management Zones in the Draft Environment Standard provide that the Regional Area is to be defined by reference to the best available science and that it provides for "The broader environment extending beyond the boundary of the Depositional Effect Zone boundary where there are to be no adverse effects on marine biodiversity or environmental quality referable to finfish farming."

2.3.2. Management Zone Charts and Monitoring Stations

Recommendation 15: Particulate depositional and nutrient/biogeochemical modelling for new or expanding finfish farms should be undertaken at the Marine Farming Planning stage and should be publicly available and clearly state their underlying assumptions and indicate the limitations, including in the environmental data that has been used to inform them.

Recommendation 16: Modelling required for existing finfish farms under the Draft Environmental Standard should be publicly available and should clearly state their underlying assumptions and indicate the limitations, including in the environmental data that has been used to inform them.

2.3.3. Managing Finfish Production

Recommendation 17: Caps on maximum finfish biomass, stocking density, particulate wastes and dissolved nutrients permitted to be released to the marine environment should be imposed in MFDPs through amended Controls, and not in the proposed Environmental Standards (refer to recommendations 13 above and 39 below).

Recommendation 18: The Draft Environmental Standard provide guidance on how the EPA Director can set to set biomass, stocking density and pollution limits *below* caps mandated in the MFDPs to respond to changes in environmental conditions. This guidance should include clear criteria and be informed by the best available science and the precautionary principle.

2.3.4. Survey Scheduling Requirements

Recommendation 19: The Draft Environmental Standard provide survey scheduling requirements in line with international best practice, and the best available science.

2.3.5. Baseline Environmental Assessment

Recommendation 20: Shoreline monitoring and mid-range and distal monitoring locations (chosen on the basis of hydrodynamic and biogeochemical modelling) should be included in baseline environmental assessments required under the Draft Environmental Standard.

2.3.6. Farm Zone Seabed Monitoring

Recommendation 21: The Draft Environmental Standard should require sediment redox potential, sulfide concentration in sediment and concentrations of nitrate, ammonium, phosphate and dissolved oxygen at bottom waters to be included in monitoring at the Farm Zone level.

Recommendation 22: The Draft Environmental Standard should set out seabed scoring criteria in relation to the observation of both Farm Zone and Depositional Effect Zones.

Recommendation 23: The Draft Environmental Standard should include requirements about how many monitoring stations should be located at the Farm Zone level based on the international examples provided in the *Review of Tasmanian and International Regulatory Requirements*, scaled up or down depending upon the biomass within the lease and its area.

2.3.7. Depositional Effect Zone Boundary Monitoring

Recommendation 24: The Draft Environmental Standard should set the Depositional Effect Zone boundary located at a distance from the finfish farm identified by the best available science as providing a good indication of the impacts of the finfish farm.

Recommendation 25: The Draft Environmental Standard should require that ecosystem quality and biodiversity outside the Depositional Effect Zone should show no adverse effects referable to finfish farming (see also recommendation 14).

Recommendation 26: The Draft Environmental Standard should not allow for reduced environmental monitoring as an incentive for compliance unless the EPA can be satisfied that the reduced monitoring regime will still allow cumulative impacts, trends in environmental conditions and the effectiveness of management actions to be properly understood.

Recommendation 27: The Draft Environmental Standard survey requirements for the Depositional Effect Zone should also identify water quality monitoring triggers (based on the Water Quality Objectives for the area) to identify unacceptable impacts of finfish farming outside the Depositional Effect Zone.

Recommendation 28: The Draft Environmental Standard should require more regular video monitoring cycles based on the best available science.

Recommendation 29: The Draft Environmental Standard should outline appropriate management and/or enforcement responses to be taken in the event that Depositional Effect Zone boundary monitoring triggers are breached.

2.3.8. Broadscale Environmental Monitoring Program

Recommendation 30: The Draft Environmental Standard broadscale environmental monitoring program requirements should align with the best available science and include the tracking of balance of organisms indicators and provide for monitoring to identify cumulative contributions to area-based limits (such as MFDP-wide nitrogen caps).

2.3.9. Noise Monitoring and Assessment

Recommendation 31: The Draft Environmental Standard cover noise generated by boats traveling to and from finfish farms and set default noise levels to protect community and ecosystem health which may be varied where ambient monitoring at a particular location shows lower limits are warranted.

Recommendation 32: Finfish farms be required to maintain records of each noise complaint received and be required to produce these records upon request to the EPA.

2.3.10. Artificial Lighting

Recommendation 33: Finfish farms should be required to engage a light pollution expert to establish a Light Attenuation Management Plan for the approval of the Director and management plans must incorporate descriptions of all light sources (including temporary sources such as from vessels), assess risk, outline monitoring and management actions to mitigate the effects of light associated with marine finfish aquaculture to ensure effects on the environment and community are kept to a minimum.

Recommendation 34: Finfish farms should be required to maintain records of each light complaint received and be required to produce these records upon request to the EPA.

2.3.11. Therapeutant and Disease Management

Recommendation 35: The Draft Environmental Standard require records of therapeutant use and disease incidence, and environmental monitoring to be annually reported and these reports should be available to the public.

2.3.12. Escapes and Mortality Events

Recommendation 36: The Draft Environmental Standard require all records of escapes and mortality events to be publicly available and reported in a timely manner.

Recommendation 37: The Draft Environmental Standard should provide for the management of the environmental impacts of fish escapes, and fines should be imposed where escaped fish are not recovered.

2.4. Commitment to independent regulation

Recommendation 38: The EPA commit to the release of all relevant environmental information and data concerning finfish farming, including plans, records and monitoring required under conditions of permits, environmental licences or Environmental Standards.

3. Draft Standardised Marine Farming Management Controls

Recommendation 39: Caps on maximum finfish biomass, stocking density, particulate wastes and dissolved nutrients permitted to be released into the marine environment should be imposed in the Controls for all MFDPs. These caps should be set for each MFDP based on the best available science and modelling which is directed at avoiding, minimising or mitigating adverse environmental impacts (refer to recommendations 13 and 17 above)

Recommendation 40: The recommendations relating to the proposed Controls outlined in **Table 1** be implemented.

1. General comments

Tasmania's finfish farming industry has rapidly expanded since it was first established. Between 1998-99 and 2020-21, production of farmed salmon in Tasmania increased from 11,000 tonnes to 66,000 tonnes, and the industry now has an estimated gross annual value of more than $931

million.[4] Despite the finfish farming industry's economic success, its expansion has not been without controversy. Concerns have been raised about habitat modification (including for listed threatened species), marine floor degradation, reduced water quality, pests and disease, wildlife interactions and algal blooms. Communities and landholders adjacent to marine farming leases report reduced amenity resulting from noise and light from the fish farms, while recreational water users like sailors are concerned about marine farm debris and infrastructure causing navigation hazards and pollution. Onshore, concerns are being raised about the impacts of flow-through finfish hatcheries on adjacent waterways, odours from fish processing plants, and the use of precious freshwater resources for finfish disease prevention.

The Tasmanian Government has stated its intention in developing the aquaculture standards is to ensure the adoption of international best practice environmental management when it comes to marine finfish farming. **In EDO's view, the draft aquaculture standards released for public comment do not achieve best practice.** Indeed, in many ways, they "lock in" the existing lax regulatory practices and standards which have been the subject of intense public scrutiny in recent years, particularly in the Legislative Council Sub-Committee Inquiry into Finfish Farming.

That Inquiry heard from hundreds of people, including from the general community, environmental groups, the finfish farming industry and regulators. Its final report made numerous findings concerning the inadequacies of the regulation of the industry, its lack of transparency and lack of community confidence and support. The Inquiry made a comprehensive set of recommendations to respond to the issues identified. EDO urges the Tasmanian Government to implement the recommendations made in the Finfish Farming Report to ensure:

- there are clear legislative criteria for decision-making is included in the *Marine Farming Planning Act 1995* and the EMPC Act*;*
- the separation of regulatory and development roles for decision-makers concerned with finfish farming;
- there is evidence-based decision-making, including avoiding an over-reliance on adaptive management;
- there is public participation and merits review for decisions concerning finfish farming;
- there is greater access to information (including the publication of scientific studies, baseline and monitoring data) to facilitate independent scrutiny of this data; and
- there is rigorous, consistent and transparent monitoring and enforcement of finfish farming.

Recommendation 1: All recommendations of the Finfish Farming Report be implemented.

[4] Department of Agriculture, Water and the Environment, ABARES, 2021, *Australian fisheries and aquaculture statistics 2020*, https://www.awe.gov.au/abares/research-topics/fisheries/fisheries-and-aquaculture-statistics#download-full-report.

There are three elements concerning the appropriate finfish farming management and regulation that EDO considers are worth exploring at a high level before detailed comments are provided on the proposed aquaculture standards. They are:

1. Integrated and ecosystem-based management;
2. Performance-based management and the appropriateness of an adaptive management approach; and
3. Enforcement.

1.1. Integrated and ecosystem-based management

Tasmania's legislative arrangements provide for separate assessment frameworks for marine farming and other use and development, including land-based aquaculture. Current, sector-based approaches to coastal and marine management have been observed as being deficient because:[5]

1. the management of activities that overlap or interact in the coastal marine environment is undertaken by different agencies using different approaches;
2. management is generally focused on a subset of objectives and does not properly articulate institutional objectives that make up a comprehensive view of management;
3. there is no mechanism to evaluate or advise on trade-offs among objectives or between activities in relation to objectives; and
4. there is no mechanism for evaluating the cumulative effects of all managed activities.

The deficiencies of the sector-based approach to marine management are exemplified by the way the Department of Natural Resources and Environment (**NRE**) is currently managing multiple consultations relating to components of Tasmania's marine legislation (such as reforms to the *Living Marine Resources Management Act 1995* and the EMPC Act and the new 10-Year Salmon Plan) concurrently, without any apparent consideration of all the ways the reforms and policies with which the consultations deal intersect.

In comparison to Tasmania, other jurisdictions with intensive finfish farming, such as Scotland, New Zealand and Norway, have adopted a more integrated approach to marine farming planning and emphasise environmental protection in the coordinated assessment process.

In EDO's view, all of Tasmania's overlapping marine laws and policies should be pulled into a coherent and effective overarching marine and coastal management and planning framework that critically provides for a marine spatial planning process. This framework would aim to achieve integrated and coordinated planning and management across the entire marine environment

[5] Stephenson, R. Hobday, A., Cvitanovic, C., Alexander, K., Begg, G., Bustamante, R., Dunstan, P., Frusher, S., Fudge, M., Fulton, E., Haward, M., Macleod, C., McDonald, J., Nash, K., Ogier, E., Pecl, G., Plagányi, E., van Putten, I., Smith, T. & Ward T. (2019) 'A practical framework for implementing and evaluating integrated management of marine activities' *Ocean & Coastal Management*, Volume 177, pp 127-138 at 135.

rather than the current piecemeal approach that does not allow for proper consideration of all of the benefits and risks of different uses and management approaches. EDO notes that such a framework aligns with the primary Finfish Farming Report recommendations for an overarching Marine Plan for Tasmania and a comprehensive marine spatial planning process to provide the basis for identifying potential finfish farming areas.[6]

Recommendation 2: An overarching management and planning framework be developed and legislated for Tasmania with the aim of integrated and ecosystem-based planning and management across the entire marine and coastal environment. This framework should include a comprehensive marine spatial planning process and inform any proposed changes to the *Living Marine Resources Management Act 1995,* the EMPC Act and the new 10-Year Salmon Plan.

1.2. Performance-based management and the appropriateness of an adaptive management approach

An adaptive management approach has been used for regulating the environmental performance of salmon farming in Tasmania for the past 20 years. EDO considers that an adaptive management approach is only appropriate where:

1. comprehensive baseline environmental data is available;
2. explicit triggers/thresholds for management action are stipulated;
3. comprehensive and regular monitoring is undertaken;
4. enforcement actions are taken when environmental triggers are breached; and
5. monitoring is undertaken to identify if the management response is producing the desired effect.

EDO is concerned that adaptive management has been the approach taken for Tasmanian finfish farms in circumstances where none of these conditions has been fully met. The best example of this approach, and its pitfalls, was when the finfish farming industry rapidly expanded in Macquarie Harbour in 2013, notwithstanding there being insufficient baseline data, inappropriate and inaccurate modelling, and a lack of clarity around the trigger points and management actions to be applied in the event of deteriorating conditions. The over-reliance on adaptive management in the absence of adequate data, models, and regulatory clarity resulted in degradation of water quality and large areas of the harbour floor, including within the Tasmanian Wilderness World Heritage Area, putting the critically endangered Maugean Skate at even greater risk of extinction.[7]

EDO considers that a precautionary approach rather than an adaptive approach is more appropriate in instances where impacts of the activities are potentially serious or irreversible (such as loss of critically endangered species) or where too little is known to reliably anticipate

[6] See recommendations 1,2 and 12 of the Finfish Farming Report.
[7] A detailed outline of these events can be found in a case study in EDO Submission on the Draft Environmental Management and Pollution Control Amendment Bill 2022, which can be accessed here: https://www.edo.org.au/publication/edo-submission-on-the-draft-environmental-management-and-pollution-control-amendment-bill-2022/

risks. Indeed, adopting a precautionary approach in environmental decision-making is one of the primary objectives of the Environmental Management and Pollution Control System specified in the EMPC Act.

We also note that the importance of clarifying what is meant by a precautionary approach and an adaptive management approach was one of the issues taken up in the Finfish Farming Report. That Report recommended that the Tasmanian Government:

1. Clarify the application of a precautionary approach in the *Marine Farming Planning Act 1995,* including in the approval of Marine Farming Development Plans;[8]
2. Clarify the application of an adaptive management approach to regulation of finfish farming in the *Marine Farming Planning Act 1995*;[9]
3. Develop a framework for an adaptive management approach for the fin fish farming industry, which includes validated models, performance monitoring, clear triggers for management, regular review and transparent reporting. Until such a framework is adopted, ensure the precautionary principle is individually applied to finfish farming operations.[10]

Recommendation 3: Enforceable criteria prescribing when adaptive management can be used should be developed. These criteria should include a clear statement that adaptive management is not to be used in the absence of sufficient baseline monitoring or where the impacts of finfish farming may be serious or irreversible. A precautionary approach to the management of finfish farms is adopted in the absence of these enforceable criteria.

1.3. Enforcement

Best practice environmental standards and marine farming management controls are only effective if they are actively and consistently enforced. While there are several enforcement options under the EMPC Act, *Marine Farming Planning Act 1995* and *Living Marine Resources Management Act 1995*, we are concerned that many observed breaches of current salmon farming permits, plans, and licences go unpunished, or the fines imposed are inadequate to deter future environmentally reckless behaviour. The Finfish Farming Report raised serious concerns about the inadequacies of penalties, finding that the penalties for the breach of environmental regulations in Tasmania are set at lower levels than in some other jurisdictions. It recommended there should be a review of the penalties and scope of liability in the regulation of finfish farming to reflect the serious environmental consequences that can arise from breaching regulations and to strengthen their deterrent effect.[11]

Without more consistent and effective enforcement of environmental standards and regulations by regulators, there is little incentive for marine farming operations to achieve, much less exceed, their obligations relating to the environment and the community. To ensure that enforcement

[8] Recommendation 51 of the Finfish Farming Report.
[9] Recommendation 52 of the Finfish Farming Report.
[10] Recommendation 53 of the Finfish Farming Report.
[11] Recommendation 48 of the Finfish Farming Report.

actions are effective, and consistently applied, we recommend that the EPA develop and publish an enforcement policy relating to marine farms which clearly sets out its expectations and the situations where it may use the enforcement tools it has available. The enforcement guidelines should include scientifically based performance indicators, identify a scale of enforcement actions, and indicate which actions will be taken in response to the failure to meet those indicators (including graded increases in enforcement activity for repeat offenders). We note that this recommendation was adopted in the Finfish Farming Report.[12]

Recommendation 4: The EPA develop and publish an enforcement policy relating to finfish farms which clearly sets out its expectations and the situations where it may use the enforcement tools it has available. The enforcement guidelines should include scientifically based performance indicators, identify a scale of enforcement actions, and indicate which actions will be taken in response to the failure to meet those indicators (including graded increases in enforcement activity for repeat offenders).

Furthermore, EDO considers that is not enough for the EPA to be monitoring of impacts of finfish farms to be undertaken without consistent action under its guidelines where monitoring reveals that performance indicators are not met. All enforcement actions should also be reported by the EPA through real-time reporting in a central record published online, for example on the Salmon Portal. This would enable the public to have a clearer picture of when enforcement action is being taken.

Recommendation 5: All enforcement actions be reported by the EPA through real-time reporting in a central record published online.

Civil enforcement in an administrative tribunal is one of the components of public participation, enabling effective redress for environmental harm. There are, however, no third-party rights to enforce breaches of management controls of a Marine Farming Development Plan (**MFDP**). We believe it would be appropriate for the *Marine Farming Planning Act 1995* to be amended to enable third parties to seek redress for any breaches of environmental controls or standards through civil enforcement proceedings to the Tasmanian Civil and Administrative Appeals Tribunal.

Recommendation 6: The *Marine Farming Planning Act 1995* be amended to enable third parties to seek redress for any breaches of environmental controls or standards through civil enforcement proceedings to the Tasmanian Civil and Administrative Tribunal.

2. Environmental Standard for Marine Finfish Farming in Tasmania

In our submission in response to the Draft Environmental Management and Pollution Control Amendment Bill 2022, EDO recommended that any Environmental Standards should be:

- clearly prescribed and certain;
- based on the best available science;

[12] Recommendation 49 of the Finfish Farming Report.

- published in a timely manner; and
- reviewed regularly.

We also advocated changes to the draft Bill to:

- make it clear that Environmental Standards may be made for the purpose of assisting in avoiding, minimising, remedying and offsetting potential environmental harm, and/or giving effect to best practice environmental management;
- reduce the level of discretion given to the Board and/or the Director to vary provisions at will and with no criteria or opportunities for public comment or appeal;
- include a requirement that Environmental Standards be consistent with the best available science, Emissions Reduction Target, and any sector-based emissions reduction and resilience plans made under the *Climate Change (State Action) Act 2008*, as amended from time to time; and
- include requirements for reviews of Environmental Standards to be undertaken on a 5-yearly basis; public submissions to the review of Environmental Standards and the consideration of those submissions by the Minister; and criteria for the Minister's decision on whether the standard should be amended or revoked, including whether it is still consistent with their purpose.

In our view, the Draft Environmental Standard as foreshadowed in the Position Paper is unlikely to be clearly prescribed and certain and does not appear to be based on the best available science. Nor does it provide for environmental harm from finfish farms to be avoided, minimised, remedied or offset. Furthermore, what is proposed appears to give far too much discretion to the EPA Director to determine the parameters of finfish farming in Tasmania, particularly taking account of the fact that:

- there are no science-based criteria for the exercise of discretions (such as to set biomass and pollution limits) proposed to be provided in the Draft Environmental Standard;
- there will be no opportunities for public comment or appeals in relation to the application of the Draft Environmental Standards or decisions made under it; and
- there is no guarantee that the EPA Director will provide any reasons for decisions made under the Draft Environmental Standard.

Recommendation 7: The Draft Environmental Standard should be clear and certain and based on the best available science. It should also limit discretions given to the EPA Director, and prescribe science-based criteria for the exercise of those powers.

2.1. The objectives of the Environmental Standard

The position paper proposes that the Draft Environmental Standard has the following objectives:

- document standardised environmental monitoring protocols to assess environmental compliance of marine finfish farming that are practical, cost effective and appropriate for Tasmania;
- identify appropriate environmental indicators and acceptable trigger levels for the assessment of environmental conditions and detection of environmental effects;
- encourage sustainable management of marine finfish farming whereby adverse environmental and community impacts of finfish farming are minimised or mitigated through timely detection and response to emissions and environmental nuisance; and
- increase transparency of environmental management and industry accountability for environmental health through publicly accessible monitoring reports.

EDO considers that the proposed objectives for the Draft Environmental Standard are lacking in ambition, clarity and alignment with the objectives of relevant legislation.

Given the proposal for the Environmental Standards to be given effect under amendments to the EMPC Act the objectives of the Draft Environmental Standard should be more reflective of the objectives of the Resource Management and Planning System contained in the EMPC Act and include an objective of promoting the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity.

The Draft Environmental Standard should also reflect the Environmental Management and Pollution Control System objectives, including:

- protecting and enhancing the quality of the Tasmanian environment; and
- adopting a precautionary approach when assessing environmental risk to ensure that all aspects of environmental quality, including ecosystem sustainability and integrity and beneficial uses of the environment, are considered in assessing, and making decisions in relation to, the environment.

Recommendation 8: The objectives of the Draft Environmental Standard be amended to align with the objectives of the EMPC Act, including the objectives of sustainable development, maintenance of ecological processes and genetic diversity, protecting and enhancing the Tasmanian environment and the adoption of a precautionary approach.

In relation to the objectives as currently outlined in the Position Paper, EDO considers that the first objective of the Draft Environmental Standard should be amended to incorporate a requirement that the standardised environmental monitoring protocols are scientifically proven. This requirement is aligned with the Cawthron Institute's description that a good environmental monitoring program must: [13]

[13] Knight, B., Forrest, B. & Johnston, C. 2015, *Macquarie Harbour Environmental and Fish Health Monitoring Review*. Prepared for Department of Primary Industries, Parks, Water and Environment Tasmania. Cawthron Report No.2729.

- measure something directly relevant and interpretable, and be consistent with our present understanding of the effects of the activity;
- be scientifically defensible; and
- be easily measured and cost-effective using standard techniques.

Recommendation 9: The first objective of the Draft Environmental Standard be "Document standardised environmental monitoring protocols to assess environmental compliance of marine finfish farming that are practical, based on the best available science, cost effective and appropriate for Tasmania".

The Position Paper states that "It is the Government's intention that the proposed Environmental Standard will transparently set out the monitoring and management parameters to be applied consistently to marine finfish farms across the State." Consistent with that intent, and with the findings and recommendations of the Finfish Farming Report,[14] EDO agrees there must be greater transparency around how the environmental indicators and trigger levels for finfish farms are set by the EPA, and how they align with Water Quality Objectives set under the binding *State Policy on Water Quality Management 1997*. EDO, therefore, recommends that the proposed second objective of the Draft Environmental Standard be amended to require that environmental indicators and triggers levels be set in accordance with the best available science and the *State Policy on Water Quality Management 1997* and be publicly available.

Recommendation 10: The second objective of the Draft Environmental Standard be "Consistent with the best available science and the *State Policy on Water Quality Management 1997* identify and publish appropriate environmental indicators and acceptable trigger levels for the assessment of environmental conditions and detection of environmental effects".

As presently drafted, the third proposed objective for the Draft Environmental Standard does not reflect the objects of the EMPC Act, and in particular, the following objectives of the Environmental Management and Pollution Control System:

> (b) to prevent environmental degradation and adverse risks to human and ecosystem health by promoting pollution prevention, clean production technology, reuse and recycling of materials and waste minimization programmes; and
>
> (c) to regulate, reduce or eliminate the discharge of pollutants and hazardous substances to air, land or water consistent with maintaining environmental quality; ...

EDO, therefore, recommends that the third proposed objective be replaced.

Recommendation 11: The third objective of the Draft Environmental Standard be "ensure sustainable management of marine finfish farming where environmental degradation and adverse

[14] See recommendations 25-27 and 47 and of the Finfish Farming Report.

risks to human and ecosystem health are prevented and pollutants and hazardous emissions from finfish farms are regulated, reduced or eliminated to maintain environmental quality."

Finally, the fourth objective for the Draft Environmental Standard should make it clear that monitoring reports should not only be publicly accessible but that they are disclosed in a *timely* fashion to allow for the community to meaningfully engage with management processes.

Recommendation 12: The fourth objective of the Draft Environmental Standard be "transparency of environmental management and industry accountability for environmental health through the timely publication of monitoring reports accessible to the public."

2.2. Management of the effects of finfish farming on the Marine Environment

The Position Paper states that the Draft Environmental Standard will manage the impacts of finfish farms on the marine environment by including:

> …a framework for setting limits on marine finfish farming activities at local (Farm level) and regional scales (Marine Farming Development Plan areas). These limits need to control the quantities of particulate wastes and dissolved nutrients that are permitted to be released to the marine environment.

EDO supports triggers and limits being set on the quantities of particulate wastes and dissolved nutrients that are permitted to be released to the marine environment from finfish farms. It has been EDO's consistent position that the maximum limits for these pollutants, and their production, be capped in all MFDPs for finfish farms. This is to ensure that enforceable limits are set based on the scientific information provided when the MFDPs are created or amended, and the discretion of the EPA Director to vary biomass and pollution limits is appropriately limited. Our recommendations in this respect are consistent with the finding and recommendations of the Finfish Farming Report.[15]

Recommendation 13: The Draft Environment Standard recognise caps on finfish biomass, stocking density and particulate and nitrogen pollution imposed in MFDPs through reformed Controls (refer to recommendations 17 and 39 below).

2.3. Focus areas proposed to be addressed by the Draft Environmental Standard

2.3.1. Establishing Management Zones

The Position Paper states that the Draft Environmental Standard will establish three zones providing for differing levels of environmental protection: the Farm Zone, Depositional Effect Zone and the Regional Area.

While the Farm Zone covers the area of the pens, the Depositional Effect Zone covers the lease area plus 35 m (as is currently standard practice in environmental licences), Figure 1 and the text of the Position Paper provide no guidance on the size of the Regional Area to be covered by the

[15] See recommendation 19 of the Finfish Farming Report.

Draft Environmental Standard, or what will inform its extent. Furthermore, the Regional Area is described as "beyond the boundary of the [Depositional Effect Zone] boundary where there are to be no significant effects on marine biodiversity."

While it may be convenient to create a tiered system of protection for the environment around finfish farms, that system must still be informed by the best available science and seek to ensure that not just significant, but *all* adverse environmental impacts arising from finfish farming are avoided, mitigated, and or restored – particularly in the Regional Area within which the finfish farm is located. To this end, we recommend that further information be provided in the Draft Environmental Standard about how the Regional Area is defined by reference to the best available science and that it provides for no adverse effects on marine biodiversity or environmental quality arising from finfish farming.

Recommendation 14: The Management Zones in the Draft Environment Standard provide that the Regional Area is to be defined by reference to the best available science and that it provides for "The broader environment extending beyond the boundary of the Depositional Effect Zone boundary where there are to be no adverse effects on marine biodiversity or environmental quality referable to finfish farming."

2.3.2. Management Zone Charts and Monitoring Stations

The Position Paper states that the Draft Environmental Standard "may require 'particulate depositional modelling' and 'nutrient dispersal/biogeochemical modelling' to predict both seabed and water column environmental footprints of the finfish farm."

EDO is supportive of particulate depositional and nutrient/biogeochemical modelling being undertaken for finfish farms, however, for new or expanding finfish farms we expect that this would be done at the preliminary stage as part of the Marine Farming Planning process under the *Marine Farming Planning Act 1995*. Furthermore, these models must clearly state their scientific assumptions and limitations, including in the environmental data used to inform them. The modelling, assumptions and data should be publicly available, to allow for an understanding of how planning and approval decisions have been made.

Recommendation 15: Particulate depositional and nutrient/biogeochemical modelling for new or expanding finfish farms should be undertaken at the Marine Farming Planning stage and should be publicly available and clearly state their underlying assumptions and indicate the limitations, including in the environmental data that has been used to inform them.

Recommendation 16: Modelling required for existing finfish farms under the Draft Environmental Standard should be publicly available and should clearly state their underlying assumptions and indicate the limitations, including in the environmental data that has been used to inform them.

2.3.3. Managing Finfish Production

EDO reiterates that it strongly supports the imposition of maximum caps for biomass, stocking density and particulate wastes and dissolved nutrients that are permitted to be released to the marine environment. However, we maintain that the most appropriate regulatory tool for the imposition of such caps is the MFDPs and not the proposed Environmental Standards.

We are concerned the proposed Draft Environmental Standards and Controls do not mandate biomass and nitrogen caps and, instead contrary to the Finfish Farming Report recommendations 19, they still provide the EPA Director with complete discretion on when and how limits are set. EDO's recommendations on the proposed Controls are described in more detail in part 3 of this submission.

Recommendation 17: Caps on maximum finfish biomass, stocking density, particulate wastes and dissolved nutrients permitted to be released to the marine environment should be imposed in MFDPs through amended Controls, and not in the proposed Environmental Standards (refer to recommendations 13 and 39).

EDO does consider that it is sensible to provide *limited* discretion to the EPA Director to set biomass, stocking density and pollution limits *below* mandated caps in the MFDPs to respond to changes in environmental conditions (either as a result of finfish farms operations or other influences) to protect the environment and community. In which case, the Draft Environmental Standard should provide clear guidance on how this limited discretion to set biomass, stocking density and pollution limits is to be exercised by the Director including through clear criteria informed by the best available scientific and the precautionary principle. These limits should be set to ensure that:

1. finfish farming does not exceed the natural assimilative capacity of the surrounding environment to break down and absorb wastes and nutrients;
2. there is no negative trend in baseline environmental values of the water body surrounding the finfish farms; and
3. Water Quality Objectives for the waterway in which the marine farm operates (set under the *State Policy on Water Quality Management 1997*) are achieved or are bettered.[16]

Recommendation 18: The Draft Environmental Standard provide guidance on how the EPA Director can set to set biomass, stocking density and pollution limits *below* caps mandated in the MFDPs to respond to changes in environmental conditions. This guidance should include clear criteria and be informed by the best available science and the precautionary principle.

2.3.4. Survey Scheduling Requirements

Until the EPA releases the Cawthron Institute review of the EPA's review of Tasmanian and International Regulatory Requirements for Salmonid Aquaculture, it is difficult to comment on the

[16] Refer to recommendations 25-27 of the Finfish Farming Report.

proposed scheduling of monitoring proposed in the Draft Environmental Standard and whether or not it meets best practice environmental management.

Recommendation 19: The Draft Environmental Standard provide survey scheduling requirements in line with international best practice, and the best available science.

Currently, requirements for environmental monitoring to occur at or near peak production is at the EPA Director's discretion. Between 2014 and 2019, the regulator has only required approximately half of all environmental monitoring surveys at finfish farms (outside of Macquarie Harbour) to occur at or near peak feed input.[17] EDO, therefore, supports the proposal for compliance at the lease scale to be measured through environmental monitoring undertaken during the period of the farm's peak production, when finfish pens are stocked, and fish are close to their harvest size. This is consistent with international practice and when environmental impacts of finfish farming are likely to be greatest (and therefore easiest to detect).

The Position Paper states that "Results of monitoring at peak production will determine whether the farm is able to be restocked or, in a worst-case scenario, may also determine if the farm, or part thereof, is to be rapidly de-stocked." It is notable that the failure to set scientifically-based biomass, stocking density and nitrogen caps and to act swiftly in response to monitoring reports showing the deterioration of environmental conditions in Macquarie Harbour resulted in benthic "dead zones", low dissolved oxygen levels and placed the endangered Maugean Skate under further threat of extinction (for more on this, see **Case Study 1** below).[18]

To avoid repeats of the environmental harm that presented in Macquarie Harbour after the increase in finfish farming there, EDO considers it critically important that environmental monitoring results lead to appropriate and proportionate enforcement and/or management actions by the regulator. These responses should be dictated by clear and scientifically-based triggers in the Draft Environmental Standards. **See Recommendations 10, 27 and 29.**

As outlined in section 1.2 above, EDO considers that a precautionary approach rather than an adaptive management approach is more appropriate in instances where impacts of the activities are potentially serious or irreversible (such as loss of critically endangered species) or where too little is known to reliably anticipate risks. EDO urges the Tasmanian Government to implement the recommendations of the Finfish Farming Report in this regard and:

- Clarify the application of a precautionary approach in the *Marine Farming Planning Act 1995*, including in the approval of Marine Farming Development Plans;[19]

[17] Environment Protection Authority (2019) *A Review of Tasmanian and International Regulatory Requirements for Salmonid Aquaculture, Environment Protection Authority*, Hobart, Tasmania.
[18] Moreno, D., Lyle, J., Semmens, J., Morash, A., Stehfest, K., McAllister, J., Bowen, B. & Barrett, N. (2020) Vulnerability of the endangered Maugean Skate population to degraded environmental conditions in Macquarie Harbour, Fisheries Research and Development Corporation Project No. 2016-068. Institute for Marine and Antarctic Studies, University of Tasmania, Hobart.
[19] Recommendation 51 of the Finfish Farming Report.

- Clarify the application of an adaptive management approach to regulation of finfish farming in the *Marine Farming Planning Act 1995*.[20]
- Develop a framework for an adaptive management approach for the finfish farming industry, which includes validated models, performance monitoring, clear triggers for management, regular review and transparent reporting. Until such a framework is adopted, ensure the precautionary principle is individually applied to finfish farming operations.[21]

2.3.5. Baseline Environmental Assessment

EDO considers it entirely avoidable and regrettable that sufficient baseline environmental data has not, to date, precluded the establishment or expansion of finfish farms in Tasmania (refer to Case Study 1). While the failure to collect adequate baseline environmental data before finfish farming commenced for many finfish farms makes it impossible to now precisely establish background environmental conditions in these locations, EDO agrees that it is important to seek to establish a reference baseline dataset that is, as far as possible, analogous to the location.[22]

EDO, therefore, welcomes the intent that, where existing finfish farms do not have sufficient background or baseline data, the Draft Environmental Standard will require baseline monitoring to be undertaken within, adjacent to and beyond the marine farming lease.

EDO maintains its recommendation that, henceforth, sufficient background data should be collected to establish the scientific basis for the Marine Farming Planning process under the *Marine Farming Planning Act 1995*. If enough data is not provided to identify risks and satisfy the Marine Farming Planning Review Panel that adverse impacts on environmental values can be avoided, minimised or appropriately managed, further information should be requested from the proponent or the MFDP should be refused.

Case Study 1: The Macquarie Harbour expansion and the potential impact on the Maugean skate

At the time of the proposed expansion of finfish farming in Macquarie Harbour environmental organisations raised concerns that not enough was known about the ecology or biology of the Maugean skate, or the likely movement of nutrients within Macquarie Harbour, to ensure the species would not be significantly impacted.

The Marine Farming Branch within DPIPWE (now NRE) recommended that the expansion be approved, despite noting that IMAS advice confirmed that there was "currently no information

[20] Recommendation 52 of the Finfish Farming Report.
[21] Recommendation 53 of the Finfish Farming Report.
[22] Problems with existing control locations have been identified in an evaluation of the Broadscale Environmental Monitoring Program for the Huon and D'Entrecasteaux Channel: see Ross, D. J. and Macleod, C. K. 2013, *Evaluation of Broadscale Environmental Monitoring Program (BEMP) data from 2009-2012*, IMAS Technical Report. This report concluded that the current control location (Recherche Bay) was not a meaningful ecological comparison to sites in the Huon and D'Entrecasteaux system; meaning that the potential for comparison and translation of changes in broader system water conditions to the Huon and Channel ecosystems would be limited.

about the potential effects of salmon farming in Macquarie Harbour on the Maugean skate" and a dedicated survey to identify trigger values would not be completed until September 2012 (after the anticipated commencement of operations in Macquarie Harbour).

The Panel also acknowledged the lack of data regarding nutrient enrichment, the nature or effect of that enrichment and the potential effects of the expansion on the Maugean skate. Despite this, the Panel's recommendation, and the subsequent documentation supporting the referral to the Federal Environment Minister, made several broad statements such as:

- "It is possible that skates will continue to be able to utilise the lease area";
- "It therefore could be concluded that solid wastes are unlikely to have a significant impact on the Skate, based on the currently available information on the biology and ecology of the species."

Those statements were not supported by the limited information available regarding the extent (and depth) of the habitat of the threatened species, its feeding and breeding habits and its susceptibility to nutrient changes, as well as limited data regarding nutrient movement in the Harbour.

Subsequent nutrient and dissolved oxygen levels experienced in Macquarie Harbour, and the impact of those levels on fish health and farm productivity raised concerns that more rigorous baseline data should have been required as part of the assessment process rather than post-approval. At the very least, data provided with a proposal must be sufficient to enable appropriate performance triggers to be set. In relation to the Maugean skate, this was not done.

In addition to the baseline environmental assessments outlined in the Position Paper, EDO believes there is merit in including surveys of shorelines as part of the baseline environmental assessments. This would be useful in establishing:

- the presence/absence of nuisance drift algae and substrate fouling; and
- litter density in terms of both quantity and type.

In addition to the compliance monitoring sites specified in the baseline environmental monitoring (i.e. proximal sites), additional sites at mid-range and distal points should be surveyed in the water body in which the lease is located. These monitoring locations should be chosen on the basis of hydrodynamic and biogeochemical modelling of the water body.

Recommendation 20: Shoreline monitoring and mid-range and distal monitoring locations (chosen on the basis of hydrodynamic and biogeochemical modelling) should be included in baseline environmental assessments required under the Draft Environmental Standard.

2.3.6. Farm Zone Seabed Monitoring

EDO is concerned the section on Farm Zone seabed monitoring in the Position Paper only outlines monitoring involving the assessment of major visual impacts (such as the presence of gas bubbling from the sediment; excessive feed dumping; or loss of native vegetation/habitat). As noted in the *Review of Tasmanian and International Regulatory Requirements*, internationally, the

use of visual indicators has only been considered as an additional piece of evidence to support other quantitative environmental indicators (e.g. physico-chemical and biological parameters) measured against known thresholds.[23]

Moreover, many of the existing indicators referred to in existing guidelines and the Position Paper are indicators that the environment is already in terminal decline. For example, gas bubbling up from the sediment is either hydrogen sulfide and methane or both— the sediment is, therefore, fully anoxic to the surface, i.e. at the bottom of a decline from oxic conditions. EDO considers that it would be preferable to identify this decline before it hits rock bottom.

EDO considers the following environmental indicators should also form part of the seabed monitoring at the Farm Zone:

- Sediment redox potential;
- Sulfide concentration in sediment;[24] and
- Concentrations of the following in both bottom and surface waters: nitrate, ammonium, phosphate and dissolved oxygen.[25]

Recommendation 21: The Draft Environmental Standard should require sediment redox potential, sulfide concentration in sediment and concentrations of nitrate, ammonium, phosphate and dissolved oxygen at bottom waters be included in monitoring at the Farm Zone level.

The Position Paper states it is expected the Draft Environmental Standard will set out seabed scoring criteria concerning the observation of the Farm Zone. EDO believes it would be more appropriate for the scorecard to be based on observations that extend out to the Depositional Effect Zone boundary. This allows the assessment to include the entire environmental footprint of finfish farms and to go beyond an assessment of major visual impacts to include sediment physico-chemical and biological impacts. The score criteria should be aligned with the identified trigger values that ensure finfish production does not exceed the capacity of the receiving environment to naturally break down and absorb both particulate and dissolved wastes and nutrients, and that ensure there are no undesirable trends from baseline environmental values of the surrounding water body.

Recommendation 22: The Draft Environmental Standard should set out seabed scoring criteria in relation to the observation of both Farm Zone and Depositional Effect Zones.

The Position Paper states that the number of seabed monitoring stations in the Farm Zone will be determined "based on the monitoring method chosen and the amount of feed being applied to

[23] Environment Protection Authority (2019) *A Review of Tasmanian and International Regulatory Requirements for Salmonid Aquaculture, Environment Protection Authority*, Hobart, Tasmania.
[24] Macleod, C. & Forbes, S. (eds) 2004, *Guide to the assessment of sediment condition at marine finfish farms in Tasmania*, Tasmanian Aquaculture and Fisheries Institute, University of Tasmania.
[25] Ross, D. J. and Macleod, C. K. 2013, *Evaluation of Broadscale Environmental Monitoring Program (BEMP) data from 2009-2012*, IMAS Technical Report.

the lease." The *Review of Tasmanian and International Regulatory Requirements* found that at the Farm Zone level, Tasmania requires fewer monitoring stations and relies on less monitoring data than is required in other jurisdictions.[26] According to this report, "Additional sampling within the Farm Zone would enhance current understanding of lease-based effects, while monitoring beyond the [Allowable Zone of Effect] to target potential cumulative far-field effects would align with international practice."[27] We also note the SAMS Enterprise review of the broad-scale environmental monitoring programs found that some of the present monitoring stations in the Huon Estuary and D'Entrecasteaux Channel are unsuitable and its recommendation that benthic/sediment monitoring stations should be placed in optimal locations for detecting any long-term changes that may be caused by finfish farming.[28]

The Draft Environmental Standard should contain requirements about how many monitoring stations should be located at the Farm Zone level based on the international examples provided in the *Review of Tasmanian and International Regulatory Requirements*, scaled up or down depending upon the biomass within the lease and its area.

Recommendation 23: The Draft Environmental Standard should include requirements about how many monitoring stations should be located at the Farm Zone level based on the international examples provided in the *Review of Tasmanian and International Regulatory Requirements*, scaled up or down depending upon the biomass within the lease and its area.

2.3.7. Depositional Effect Zone Boundary Monitoring

EDO has reservations about the setting of the Depositional Effect Zone boundary monitoring at 35m given the emerging evidence, both within Tasmania and internationally, that the depositional effects of finfish farming can be more widespread. For example, the Cawthron Institute questioned the appropriateness of the 35m compliance boundary in the case of Macquarie Harbour given that the effects of finfish farming were evident beyond this boundary.[29] Looking at examples internationally, the SAMS Enterprise review of broad-scale environmental monitoring programs found evidence of benthic effects of finfish farming up to 1,000 metres from fish farms.[30] In the absence of a scientific reason for the 35m boundary, the EDO would support more rigorous indicators being developed and broadscale monitoring implemented.

[26] Environment Protection Authority (2019) *A Review of Tasmanian and International Regulatory Requirements for Salmonid Aquaculture, Environment Protection Authority*, Hobart, Tasmania.
[27] Ibid, at p 8.
[28] Black, K., Tett, P. & Reinardy, H. 2022, *Review of the broad-scale environmental monitoring programs: Huon Estuary and D'Entrecasteaux Channel*. A report by SAMS Enterprise (Oban, Scotland) for EPA Tasmania.
[29] Knight, B., Forrest, B. & Johnston, C. 2015, *Macquarie Harbour Environmental and Fish Health Monitoring Review*. Prepared for Department of Primary Industries, Parks, Water and Environment Tasmania. Cawthron Report No.2729.
[30] Black, K., Tett, P. & Reinardy, H. 2022, *Review of the broad-scale environmental monitoring programs: Huon Estuary and D'Entrecasteaux Channel*. A report by SAMS Enterprise (Oban, Scotland) for EPA Tasmania.

Recommendation 24: The Draft Environmental Standard should set the Depositional Effect Zone boundary located at a distance from the finfish farm identified by the best available science as providing a good indication of the impacts of the finfish farm.

The Position Paper states that it is intended ecosystem function and biodiversity outside the Depositional Effect Zone is not "significantly different from that existing prior to the commencement of finfish activity on the lease, or that exists at the best available reference locations." EDO considers any comparison of impacts of finfish farming should use as its reference the background conditions before the commencement of any finfish activity *in the area* of the lease. The reason for this is that over time, an area where finfish farming is permitted is likely to have multiple leases. Therefore, monitoring locations should be identified to allow for cumulative impacts (temporal and spatial) on the entire water body to be discerned.

Recommendation 25: The Draft Environmental Standard should require that ecosystem quality and biodiversity outside the Depositional Effect Zone should show no adverse effects referable to finfish farming (see also recommendation 14).

EDO is concerned the Position Paper suggests a less detailed monitoring regime may be applied to finfish farms where regulatory expectations are consistently met. This could prevent the EPA from compiling a consistent and comprehensive historical dataset, which may hinder its ability to identify trends in environmental conditions and the effectiveness of management actions. Moreover, should environmental quality decline at remote sites in an area with multiple leases, it is important to have information on all contributing sources of pollution, both to understand cumulative inputs and to effect appropriate remedial management actions. Finally, we are concerned that such an arrangement could be open to abuse by operators knowing they are not to be scrutinised as tightly under "a less detailed monitoring regime".

Recommendation 26: The Draft Environmental Standard should not allow for reduced environmental monitoring as an incentive for compliance unless the EPA can be satisfied that the reduced monitoring regime will still allow cumulative impacts, trends in environmental conditions and the effectiveness of management actions to be properly understood.

The Position Paper outlines how survey requirements for the Depositional Effect Zone will identify when impacts from a finfish farm are considered to be "significant". As we have already outlined in recommendation 25 above, EDO considers that there should be no adverse environmental effects referable to finfish farming outside the Depositional Effect Zone. While EDO generally agrees with the triggers identified in this section of the Position Paper, we also recommend that the Draft Environmental Standard identify appropriate water quality monitoring triggers (based on the Water Quality Objectives for the area) to identify unacceptable impacts of finfish farming outside the Depositional Effect Zone.

Recommendation 27: The Draft Environmental Standard survey requirements for the Depositional Effect Zone should also identify water quality monitoring triggers (based on the

Water Quality Objectives for the area) to identify unacceptable impacts of finfish farming outside the Depositional Effect Zone.

The Draft Environmental Standard needs to define how often video surveys and measurements must be undertaken. At present, some measurements are only undertaken annually and this is insufficient. We note that respected researchers have recommended that video assessment be adopted as the main approach for farm-based monitoring. According to Macleod and Forbes, [31]

> Video footage should be obtained relatively frequently (at least monthly but preferably fortnightly) from cages within the farm, towards the end of the stocking cycle and over the fallow period, and this should be compared with footage from reference positions taken at the same times.

Recommendation 28: The Draft Environmental Standard should require more regular video monitoring cycles based on the best available science.

Beyond specifying the trigger levels, the Draft Environmental Standard should specify what management and/or enforcement actions will be taken if trigger levels are breached. These actions should be based on the best available science, and be consistent with a precautionary approach.

Recommendation 29: The Draft Environmental Standard should outline appropriate management and/or enforcement responses to be taken in the event that Depositional Effect Zone boundary monitoring triggers are breached.

2.3.8. Broadscale Environmental Monitoring Program

The Position Paper suggests the broadscale environmental monitoring program for finfish farming areas could include the following:

- annual sediment biota and chemistry surveys;
- monthly water quality surveys;
- biannual rapid visual assessment surveys (RVA) of inshore reefs;
- 5 yearly Edgar-Barrett biodiversity surveys of inshore reefs;
- annual qualitative deep reef condition assessment surveys;
- 5 yearly quantitative biodiversity assessment surveys of deep reefs;
- annual qualitative seagrass bed condition assessment surveys; and
- 5 yearly seagrass bed extent surveys and quantitative seagrass bed condition assessment surveys.

[31] Macleod, C. & Forbes, S. (eds) 2004, *Guide to the assessment of sediment condition at marine finfish farms in Tasmania*, Tasmanian Aquaculture and Fisheries Institute, University of Tasmania.

As stated above at 2.3.4., it is difficult to comment on the proposed schedule for the Broadscale Environmental Monitoring Program without access to the Cawthron Institute's review of the EPA's review of Tasmanian and International Regulatory Requirements for Salmonid Aquaculture.

The recently released SAMS Enterprise review of broadscale environmental monitoring programs for the Huon Estuary and D'Entrecasteaux Channel advocated for the development and tracking of "balance of organisms" indicators to monitor the condition of marine ecosystems rather than just indicators of pressures on state. It said that an ecosystem approach was aligned with best practice in marine environmental monitoring. It also recommended increased sampling frequency, with at least monthly sampling of phytoplankton, and triggers that indicate a disturbance related to changes in endogenous pressures.[32]

EDO also strongly recommends further assessments of the cumulative effects of finfish farming being undertaken because this area has been lacking under the existing system. For example, under the MFDP for the D'Entrecasteaux Channel, a plan-wide nitrogen cap has been set by the EPA Director to control nutrient impacts. However, there is currently limited monitoring to determine whether the cumulative contribution of each lease area to the nitrogen load exceeds the cap, and no ongoing assessment to determine whether the existing cap is set at a sustainable level (particularly having regard to other land-based nutrient sources contributing to the nitrogen load in the Channel).

Recommendation 30: The Draft Environmental Standard broadscale environmental monitoring program requirements should align with the best available science and include the tracking of balance of organisms indicators and provide for monitoring to identify cumulative contributions to area-based limits (such as MFDP-wide nitrogen caps).

2.3.9. Noise Monitoring and Assessment

Noise emissions from finfish farms and their impacts on community amenity, health and well-being is a key issue raised by community members, as outlined in the Finfish Farming Report. The Position Paper proposes that noise emission limits will be implemented within Environmental Licences, where appropriate but that the Draft Environmental Standard will also prescribe ambient noise limits.

EDO supports the proposal for clear noise emission limits to be provided, whether in Environmental Licences or the Draft Environmental Standard. However, EDO considers that it is essential that any noise limits for finfish farms should include standards for boats traveling to and from leases and for land-based activities, as these are some of the primary sources of noise experienced by the community.

The Finfish Farming Report found that the community impact of noise goes beyond decibel levels and is also related to its tone, frequency, regularity and time of occurrence (which are not

[32] Black, K., Tett, P. & Reinardy, H. 2022, *Review of the broad-scale environmental monitoring programs: Huon Estuary and D'Entrecasteaux Channel*. A report by SAMS Enterprise (Oban, Scotland) for EPA Tasmania.

currently regulated). EDO is therefore supportive of the proposal to include consideration of such factors in noise limits provided under the Environmental Standard.

EDO further considers that default noise limits should be set in the Draft Environmental Standard, but that these could be varied in the event that ambient monitoring at a particular location shows a lower limit is warranted. For example, a night-time standard of 32 dB(A) may be far too high for some quiet locations, in which case, the limit might be set by reference to a certain threshold above the background noise level (e.g. +5dB(A) above background with penalties for certain tonality characteristics).

Finally, noise limits should also be applied to protect against ecosystem impacts (such as disturbance of cetaceans), as this is increasingly being recognised as a major impact of industrial activities in marine areas.

Recommendation 31: The Draft Environmental Standard cover noise generated by boats traveling to and from finfish farms and set default noise levels to protect community and ecosystem health which may be varied where ambient monitoring at a particular location shows lower limits are warranted.

The Position Paper states that it *may* be a requirement that licence holders report all environmental hazards or incidents arising from noise pollution to the Director. EDO considers it should be mandatory for licence holders to report community complaints concerning noise to the Director. Furthermore, licence holders should be required to maintain records of each complaint and produce these records upon request by the EPA.

Recommendation 32: Finfish farms be required to maintain records of each noise complaint received and be required to produce these records upon request to the EPA.

We note the Finfish Farming Report findings that the EPA does little monitoring of noise generated by finfish farming operations its recommendation that additional resources be provided to the EPA to increase its noise monitoring and compliance functions. EDO supports the Finfish Farming Report recommendations relating to noise and urges the Tasmanian Government to implement them.[33]

2.3.10. Artificial Lighting

Serious concerns regarding lights from finfish farming operations and its impact on community well-being, wildlife and property values were outlined in the Finfish Farming Report, however, the Position Paper fails to properly reflect or respond to those concerns, especially given the increasing amount of research showing the deleterious effects of artificial light at night on marine biota.

[33] See Recommendations 68-70 of the Finfish Farming Report.

The Position Paper states that licence holders *may* be required to engage a light pollution expert to establish a Light Attenuation Management Plan for the approval of the Director and that management plans *may* be required to incorporate descriptions of all light sources (including temporary sources such as from vessels), assess risk, outline monitoring and management actions to mitigate the effects of light associated with marine finfish aquaculture to ensure effects on the environment and community are kept to a minimum. EDO considers these requirements should be obligatory for all finfish farms to ensure rules are fairly applied.

Recommendation 33: Finfish farms should be required to engage a light pollution expert to establish a Light Attenuation Management Plan for the approval of the Director and management plans must incorporate descriptions of all light sources (including temporary sources such as from vessels), assess risk, outline monitoring and management actions to mitigate the effects of light associated with marine finfish aquaculture to ensure effects on the environment and community are kept to a minimum.

The Position Paper also states it *may* be a requirement that licence holders report all environmental hazards or incidents arising from light pollution to the EPA Director. As with noise pollution, we believe it should be mandatory for licence holders to collect records of community complaints concerning light pollution and provide these upon request to the EPA. EDO further supports the implementation of the Finfish Farming Report's recommendations concerning light pollution.

Recommendation 34: Finfish farms should be required to maintain records of each light complaint received and be required to produce these records upon request to the EPA.

2.3.11. Therapeutant and Disease Management

EDO welcomes the proposal to monitor the environmental impacts of therapeutants use in finfish farms, and impose requirements for monitoring plans and records to be provided to the EPA Director. EDO notes that therapeutant use, and particularly antibiotic usage, is an area of significant concern for the community, particularly given the increasing incidence of antibiotic resistance.

It has historically been difficult for the community to get accurate information concerning the usage of therapeutants in finfish farms and information concerning their environmental impacts. EDO, therefore, recommends that the Draft Environmental Standard require annual reports to be prepared and monitoring results publicly disclosed.

Recommendation 35: The Draft Environmental Standard require records of therapeutant use and disease incidence, and environmental monitoring to be annually reported and these reports should be available to the public.

2.3.12. Escapes and Mortality Events

Like with therapeutant use, it has historically been difficult for the community to get accurate information concerning mass mortality events and fish escapes from finfish farms. EDO, therefore, makes recommendations for the Draft Environmental Standard to require this information to be publicly disclosed to improve transparency, accountability and therefore public confidence in the regulation of finfish farming.

Recommendation 36: The Draft Environmental Standard require all records of escapes and mortality events to be publicly available and reported in a timely manner.

Recommendation 37: The Draft Environmental Standard should provide for the management of the environmental impacts of fish escapes, and fines should be imposed where escaped fish are not recovered.

2.4. Commitment to independent regulation

EDO welcomes the commitment of the Tasmanian Government to an independent environmental regulator but believes more needs to be done to ensure the EPA's full independence. This was also a finding of the Finfish Farming Report which recommended increasing the independence of the EPA as a statutory authority as well as increasing the resourcing of the EPA to ensure it can fully undertake its regulatory roles and responsibilities in relation to the finfish farming industry.[34]

EDO notes its submission in response to the draft Environmental Management and Pollution Control Amendment Bill 2022 made comprehensive recommendations for reforms required to ensure that Tasmania's EPA is best practice. Given the effectiveness of the Draft Environmental Standard will depend on its consistent application and enforcement by a properly independent EPA, EDO urges the adoption of our recommendations in that submission.[35]

EDO supports the proposal to establish and implement an auditing framework to ensure the finfish aquaculture industry is undertaking environmental monitoring as outlined in the Draft Environmental Standard, as well as the EPA's commitment to continuing to conduct independent validation of industry environmental monitoring data and undertake complex data analysis to identify trends, patterns, and issues not captured within individual marine finfish farm reports. Further to this commitment, EDO considers that it would be helpful for the EPA to commit to:

- continually evaluating its environmental quality objectives and management of Tasmania's coastal waters against the best available science; and
- setting itself targets for how many finfish farms are audited per year and that these results of the audits should be made publicly available.

[34] Recommendations 28-29 of the Finfish Farming Report.
[35] EDO's Submission on the Draft Environmental Management and Pollution Control Amendment Bill 2022 can be accessed here: https://www.edo.org.au/publication/edo-submission-on-the-draft-environmental-management-and-pollution-control-amendment-bill-2022/

The Position Paper includes a commitment to making relevant environmental performance and compliance information collected by the EPA available on the Salmon Portal and the EPA website. The Finfish Farming Report made several recommendations about information that should be made publicly available, including:

- The Annual Environmental Reports of finfish farming operators to the EPA;[36]
- The Environmental Impact Statements within marine farming development plan application, including the independent modelling, data and evidence on which they are based;[37]
- The Water Quality Objectives; the annual report on the monitoring of the Water Quality Objectives; all water quality objectives developed by the EPA Board or the Director, EPA for assessment of individual environmental licences for fin fish farming operations;[38]
- The baseline environmental data underpinning Marine Farming Development Plans and amendments;
- Finfish farming licences, leases and associated management plans;
- Individual lease monitoring data regarding the impact on benthic flora and fauna, water quality, marine life and threatened species; and
- Details of compliance and enforcement activities.[39]

In addition to the above list, we recommend the following environmental information and data be made publicly available promptly (including real-time reporting of monitoring data):

- All baseline data and monitoring and/or environmental impact assessments for proposed leases where salmon have not previously been farmed and for leases where salmon farming is being re-established following a prolonged interval;
- All monitoring of environmental parameters on the perimeter and outside of marine farming leases;
- All monitoring plans are required under environmental licences;
- Annual records of therapeutant use and disease incidence;
- Records of escapes and mortality events;
- All enforcement actions taken by regulators under the *Marine Farming Planning Act 1995*, *Living Marine Resource Management Act 1995,* and EMPC Act, including measures or directions issued to marine farm operators, statutory notices or fines issued and prosecutions commenced;
- The EPA Director's assessments of environmental licence applications; and
- Any additional data analysis that identifies the cumulative impacts of finfish farming not captured within individual marine finfish farm reports.

[36] Recommendation 9 of the Finfish Farming Report.
[37] Recommendation 16 of the Finfish Farming Report.
[38] Recommendations 25-27 of the Finfish Farming Report.
[39] Recommendation 47 of the Finfish Farming Report.

Recommendation 38: The EPA commit to the release of all relevant environmental information and data concerning finfish farming, including plans, records and monitoring required under conditions of permits, environmental licences or Environmental Standards.

We also recognise that in the absence of consistent, proactive release of data, members of the public have been relying on applications under the *Right to Information Act 2009* to access information. It is our experience that such requests are excessively time-consuming (one has taken over 3 years to resolve) and are regularly refused by the EPA and NRE on the basis of commercial confidentiality, unreasonable diversion of resources, or a reluctance to discourage future voluntary disclosures by industry. For these reasons, EDO supports the Finfish Farming Report recommendations to improve the public's access to information and the accessibility of this information, including:

- A review of the basis on which finfish farming industry data or information may be withheld from the public under a claim of commercial confidentiality;[40]
- A review of the online data portal (in partnership with all key stakeholders);[41] and
- An expansion of the online data portal's data scope to ensure it is presented in a format that connects directly to regulatory requirements and is comparable over time and between industry stakeholders, including references to when and by whom it was collected.[42]

3. Draft Standardised Marine Farming Management Controls

EDO supports efforts to standardise and create a contemporary set of Controls to replace the current Controls contained in the existing 14 MFDPs, particularly where these management controls are inconsistent with the sustainable best practice management of marine finfish farming.

However, based on the information and materials released with the Background Paper, it is unclear whether there will be a further opportunity to comment on the controls as part of the MFDP amendment process to reflect the proposed new management controls. EDO considers that the public should be given this additional opportunity to comment on the proposed Controls as they are proposed to amend individual MFDPs., particularly if our recommendations concerning the imposition of maximum biomass, stocking density and pollution caps in MFDPs are adopted (see recommendations 13, 17, and 39). Providing for public comment on individual changes to MFDPs is important as each MFDP has previously been assessed on unique information about a particular location, and uniform controls may do away with protections the Panel and Minister previously considered necessary for a particular area.

3.1. Objectives of the Draft Standardised Marine Farming Management Controls

[40] Recommendation 6 of the Finfish Farming Report.
[41] Recommendation 7 of the Finfish Farming Report.
[42] Recommendation 8 of the Finfish Farming Report.

EDO is broadly supportive of the following objectives for the development of the draft standardised Controls:

- more effective stakeholder engagement about the regulation of marine farming; and
- continuous improvement by ensuring that all plans apply management controls that are consistent with contemporary management practices.

However, the proposed objectives of consistency across all plans and uniformity of the management framework should not be pursued above all else. To ensure both the environment and community are properly protected against the adverse impacts of finfish farms, it is important to recognise that some MFDPs need to be tailored, especially regarding biomass and stocking densities, based on the unique environments and locations (discussed further at part 3.3 below).

EDO considers that the proposed Controls fall short in terms of achieving the objectives of more effective stakeholder engagement and management controls consistent with best practice. Our reasons for this are outlined in further detail below.

3.2. Stakeholder engagement

While one of the stated aims of the creation of the Controls is to provide more effective stakeholder engagement in the regulation of marine farming, there is no evidence that the proposed Controls will deliver this outcome. This is because the existing problems with the finfish farming assessment and approval process remain. For example:

- There is no opportunity to appeal against a decision to approve an MFDP, or an amendment to a plan, other than for existing marine farm operators where it adversely impacts their existing marine farming activities;
- There is no public notification of the allocation, grant, renewal or variation of marine farm leases under the Act and rights of appeal are extremely limited;
- There are no opportunities for public comment or third-party appeals concerning allocations, grants, renewals or variations of leases under the *Marine Farming Planning Act 1995*. The granting of a new lease or variation of an existing lease can only be challenged if the quality of water in another marine farming lease will be unreasonably affected; and
- Marine farming licences and environmental licences are not subject to any transparent or public assessment process. There is no requirement for marine farm licence applications to be publicly advertised, and appeal rights are limited. Unlike all other “Level 2” activities regulated by the EPA under the EMPC Act, there is no guarantee that a finfish farming activity will be subject to a transparent and public assessment process conducted by the EPA Board. The public is not able to make a formal representation concerning an application assessed by the EPA Director, instead of the EPA Board. There are no third-party appeal rights relating to any environmental licence granted to the finfish farm by the EPA Director.

The lack of meaningful public participation in finfish farm decision-making was acknowledged as a key problem in the Finfish Farming Report, with the Committee making several recommendations including:

- That a review of the *Marine Farming Planning Act 1995* be conducted including its provisions for stakeholder and public consultation and that expanded access to merits review and third-party appeal rights be given consistent with other legislated State planning instruments;[43]
- Requiring applications and variations for marine farming environmental licences to be assessed by the EPA Board, consistent with other Level 2 activities under the EMPC Act[44]; and
- Amending the *Marine Farming Planning Act 1995* and *Living Marine Resource Management Act 1995* to enable third parties to take legal action for environmental harm caused by a breach of licence conditions.[45]

We reiterate our recommendation that the Tasmanian Government implement all Finfish Farming Report recommendations including those aimed at improving public participation in decisions regarding the regulation of finfish farming.

3.3. Best practice marine farming management controls

It is important for the Controls to not only be consistent with contemporary management practices but also with best practice environmental management of marine finfish farming to ensure adverse environmental and community impacts of finfish farming are avoided, minimised or mitigated. Having an objective of consistency with best practice environmental management of finfish farming (rather than just contemporary management practices) is better aligned to the objectives of the proposed Environmental Standard and would better reflect the vision in the current *10-Year Salmon Plan* to be "the most environmentally sustainable salmon industry in the world."

In EDO's view, the draft Controls are not consistent with best practice environmental management. In fact, they are either simply a continuation of existing practice and, in some cases, they will result in a *lower* standard of protection for the environment and the community.

The *Questions and Answers Information Sheet on Standardised Marine Farming Management Controls* states:

> The Standardised Controls will not substantially change any obligation or right of marine farming licence holders, and will not impact on any marine farming licences which have been issued.

[43] Recommendations 11 and 24 of the Finfish Farming Report.
[44] Recommendation 38 of the Finfish Farming Report.
[45] Recommendation 50 of the Finfish Farming Report.

Given the recent findings and recommendation of the Finfish Farming Report, it is clear that a genuine commitment to world's best practice requires substantial reform to the current regulation of finfish farms in Tasmania. **EDO is therefore disappointed by the lack of ambition for improvement signalled in the preparation of the Controls and is concerned that these Controls risk being mere window dressing, bringing no substantive improvement to current practice.**

For example, concerning total nitrogen output, the Controls provide:

> 1.2.1. The Director, EPA, may, from time to time, determine the total permissible dissolved nitrogen output (TPDNO), within specified periods, attributable to licensed finfish for a specified area.
>
> 1.2.3. For the purpose of assessing quantities of dissolved nitrogen output attributable to licensed finfish farming, the Director, EPA may use any method that the Director, EPA is satisfied delivers a proper measure of total dissolved nitrogen output from finfish farming.

Concerning biomass, the Controls provide:

> 1.3.5. The Director, EPA may, from time to time, using whatever information the Director, EPA considers appropriate, determine the maximum permissible biomass of finfish that may be stocked within the area covered by this Plan or any other specified area within the Plan area.

As stated in recommendations 13 and 17 above, EDO considers that best practice environmental management of finfish farming requires that maximum biomass, stocking density and pollution caps be imposed through MFDPs. Finfish biomass and stocking density, and the resultant pollution, are the most influential factors in terms of the environmental impacts from finfish farms. These matters should therefore be front and centre of any applications to the Marine Farming Planning Review Panel for a decision on whether to approve or amend MFDPs for an area. Indeed, imposing no maximum limits in MFDPs is inconsistent with the fact that Environmental Impact Statements (**EIS**) for MFDPs are assessed based on certain fish biomass and nutrient output. By way of analogy, this is akin to assessing an EIS for an industrial facility that proposes to emit X level of pollution to the environment, but in the permit, not imposing any maximum limits keeping holding the industrial facility to X level of pollution.

Despite the strong findings and recommendations of the Sub-Committee outlined in the Finfish Farming Report, EDO is disappointed that the Controls do not propose to set biomass, stocking density and pollution limits and, instead, continue to give the EPA Director complete discretion to set limits with no guidance on how that discretion ought to be informed or exercised.

EDO recommends that biomass, stocking density and pollution limits be clearly stated in the Controls for all MFDPs. These limits should be set by reference to the best available science and modelling which is directed at establishing that the pollution from finfish farms:

- Does not exceed the natural assimilative capacity of the surrounding environment to break down and absorb finfish farm wastes and nutrients;
- Does not materially contribute to negative trends in baseline environmental values of the surrounding water body; and
- Is consistent with the achievement of the Water Quality Objectives for the waterway in which the finfish farm operates.

Our recommendation is aligned with that of the Finfish Farming Report, which recommended that MFDPs specify biomass and nitrogen limits, and any proposal to increase the biomass or nitrogen limits be considered an amendment to the MFDP.[46]

Recommendation 39: Caps on maximum finfish biomass, stocking density, particulate wastes and dissolved nutrients permitted to be released into the marine environment should be imposed in the Controls for all MFDPs. These caps should be set for each MFDP based on the best available science and modelling which is directed at avoiding, minimising or mitigating adverse environmental impacts (refer to recommendations 13 and 17 above).

One issue not addressed in the Background Paper, or the Controls is finfish farming wildlife management (including the management of seals). While we understand there is a Seal Management Framework and that a permit is required under the *Nature Conservation (Wildlife) Regulations 2021* to use a seal-deterrent device, it is the methods of farming that dictate whether seal-deterrent devices are necessary and methods of farming are something that environmental standards and the Controls can have a direct impact on.

We note that the management of seals was one of the issues identified in the Finfish Farming Report. We would be supportive of:

- information on seal deterrent usage and special permits being issued to allow for the capture, holding and relocation of seals being published on the data portal; and
- the environmental standards and marine farming management controls including requirements on the use of barrier technology to prevent seals from entering pens.

We are also supportive of the Committee's recommendation to commission a review of the Seal Management Framework, including the efficacy and safety of all 'seal management' devices and processes allowed under that framework.[47]

3.4. Analysis of the Draft Standardised Marine Farming Management Controls

The following Table outlines EDO's specific recommendations for the proposed Controls.

Recommendation 40: The recommendations relating to the proposed Controls outlined in **Table 1** be implemented.

[46] See Recommendation 19 of the Finfish Farming Report.
[47] Recommendation 64 of the Finfish Farming Report.

Table 1 – EDO comments and recommendations on draft Controls relating to finfish farming

Control	Aquaculture Standard – Marine Farming Management Controls	EDO comments	EDO Recommendations
1.1.0.	**General Controls for all Marine Farming Zones**		
	Controls for Finfish only		
1.1.1.	There must be no significant visual, physio-chemical or biological impacts at or extending 35 metres from the boundary of the lease area, unless otherwise specified by the Director, EPA.	It is unclear why it should ever be permissible for significant visual, physio-chemical or biological impacts either at or extending 35 metres from the boundary of the lease area, or why the EPA Director should have the power to allow this to occur. Many existing MFDPs contain no such proviso, therefore, this proposed Control is a step backwards. For example, the Great Oyster Bay and Mercury Passage MFDP states, "There must be no unacceptable environmental impact 35 m outside the boundary of the marine farming lease area." The Macquarie Harbour MFDPs also states, "There must be no significant visual, physio-chemical or biological impacts at or extending 35 metres from the boundary of the lease area, as specified in the relevant marine farming licence." If it is considered necessary to keep this phrase, an explanation needs to be provided in the Control about the circumstances in which it would be appropriate for the EPA Director to authorise significant impacts.	Amend this control to "There must be no visual, physio-chemical or biological impacts from finfish farming at or extending 35 metres from the boundary of the lease area, unless otherwise specified by the Director, EPA." If the phrase "unless otherwise specified by the Director, EPA" is retained, an explanation needs to be provided in the Control about the circumstances in which it would be appropriate for the EPA Director to authorise significant impacts

Control	Aquaculture Standard – Marine Farming Management Controls	EDO comments	EDO Recommendations
1.1.2.	Lessees must conduct monitoring of environmental parameters: (a) in the lease area; (b) 35 metres outside the boundary of the lease area; and (c) at any control site(s) in accordance with the requirements specified in the relevant marine farming licence or in the relevant environmental licence.	EDO's concerns with setting the Depositional Effect Zone Boundary monitoring at 35m have been outlined at 2.3.7 above. In particular, we note the Cawthron Institute questioned the appropriateness of the 35m compliance boundary in the case of Macquarie Harbour given that effects of finfish farming were evident beyond this boundary.[48]	The sites at which lessees should conduct monitoring of environmental parameters need to be determined according to the best available science. Refer to recommendation 24 above.
1.2.0.	**Controls for Regulating Nitrogen Outputs from Fish Farming**		
1.2.1.	The Director, EPA, may, from time to time, determine the total permissible dissolved nitrogen output (TPDNO), within specified periods, attributable to licensed finfish for a specified area.	EDO's concerns about not having a maximum limit on the total permissible dissolved nitrogen output have been outlined in detail in parts 2.3.3 and 3.3 of this submission above. We reiterate that it is unacceptable to leave a decision about the total permissible dissolved nitrogen output in the hands of the EPA Director.	A cap on the total permissible dissolved nitrogen output should be clearly stated in the MFDP based on the best available science and modelling. Refer to recommendations 13, 17 and 39 above.
1.2.3.	For the purpose of assessing quantities of dissolved nitrogen output attributable to licensed finfish farming, the Director, EPA may use any method that the Director, EPA is satisfied delivers a proper measure of	Leaving the methodology for assessing quantities of dissolved nitrogen to the EPA Director means there is no transparency, accountability or consistency in how the TPDNO is determined. We believe the method adopted should be based on the best available science.	A cap on the total permissible dissolved nitrogen output should be clearly stated in the MFDP based on the best available science and modelling. Refer to

[48] Knight, B., Forrest, B. & Johnston, C. 2015, *Macquarie Harbour Environmental and Fish Health Monitoring Review*. Prepared for Department of Primary Industries, Parks, Water and Environment Tasmania. Cawthron Report No.2729.

Control	Aquaculture Standard – Marine Farming Management Controls	EDO comments	EDO Recommendations
	total dissolved nitrogen output from finfish farming.		recommendations 13, 17 and 39 above.
1.3.0.	**Environmental Control Relating to Carrying Capacity**		
	Controls for Finfish Only		
1.3.1.	The maximum permissible stocking density of salmonid fish is [X] kg/m3 of caged volume unless otherwise specified in the marine farming licence.	EDO does not support there being a loophole in the maximum permissible stocking density of finfish which allows for the maximum permissible stocking density stated in the MFDPs to be exceeded because of other specifications contained in marine farming licences. This proposed Control represents a downgrading of the protections under some existing MFDPs. For example, neither the Great Oyster Bay and Mercury Passage MFDP nor the Furneaux Islands MFDP contain a loophole allowing maximum permissible stocking densities to be exceeded if it is permitted in marine farming licences. Instead, both of these Plans plainly state "The maximum stocking density of salmonid fish is 25 kg/m3."	The stocking density set in the MFDP should be the maximum determined to be sustainable based on the best available science and modelling. Any discretion to vary these levels below this cap needs to have clear criteria and be based on science and the precautionary approach. Refer to recommendations 13, 17 and 39 above.
1.3.3.	Lessees must ensure that farmed areas are fallowed as soon as practicable if bubbles of hydrogen sulphide and/or methane gasses form in the sediment and rise to the surface without physical disturbance of the seabed	With appropriate management, outgassing would not occur as it represents the terminal decline in seabed conditions. Given the seriousness of such events, EDO considers it vital that, for the purposes of this Control, "as soon as practicable" does not extend to allowing enough time for the grow out of fish in a lease before the fallowing occurs. That is, commercial	The Control be amended to include a statement that considerations of commercial impacts of proposed fallowing are not considered in the assessment of practicality.

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		considerations should be irrelevant to the assessment of practicality.	
1.3.4.	Finfish cage nets must be at least one metre clear of the seabed at low tide under normal growing conditions unless otherwise specified in the relevant marine farming licence.	A requirement that finfish cage nets must only be at least one metre clear of the seabed at low tide is not consistent with international best practice. One paper suggested that a distance of <5m between the bottom of the external net (which could be a predator net) and the seabed was insufficient to allow for the dispersal of particulate waste.[49]	This Control be revised taking account of the best available science and international best practice environmental management.
1.3.5.	The Director, EPA may, from time to time, using whatever information the Director, EPA considers appropriate, determine the maximum permissible biomass of finfish that may be stocked within the area covered by this Plan or any other specified area within the Plan area. NOTE: Maximum permissible biomass may relate to an area however described by the Director, EPA, including without limitation, tonnes per hectare or total tonnes for the Plan area.	EDO's concerns about not having a maximum permissible biomass on finfish have been outlined in detail in parts 2.3.3 and 3.3 of this submission above. We reiterate that it is unacceptable to leave a decision about the maximum permissible biomass of finfish in the hands of the EPA Director alone.	MFPDs need to impose a cap on maximum permissible biomass of finfish based on the best available science and modelling. Refer to recommendations 13, 17 and 39 above. The cap should specify whether the maximum is set based on head-on gutted or for the whole fish.
1.4.0.	**Environmental Controls Relating to Monitoring**		
	Controls for Finfish Only		

[49] Hargrave, B.T. 2002, A traffic light decision system for marine finfish aquaculture siting, *Ocean & Coastal Management*, Vol. 45, pp 215–235.

Control	Aquaculture Standard – Marine Farming Management Controls	EDO comments	EDO Recommendations
	Baseline environmental survey requirements		
1.4.1.	Lessees must provide a baseline environmental survey to the satisfaction of the Director, EPA. Such a baseline environmental survey must be undertaken prior to the commencement of marine farming operations on those areas; (a) where a new lease area is being established; or (b) when required as a condition of varying or expanding a lease area; or (c) where a marine farming licence is varied to allow the farming of another species not addressed by the existing baseline survey for the lease. Note: The Director, EPA will use the information from the baseline environmental survey to assess whether the area to be farmed contains any rare or endangered species or any unusual habitat and to determine conditions and requirements relating to environmental management.	A baseline environmental survey should be a condition of all variations or expansions of lease areas, or where other species are proposed to be farmed. Stricter requirements for baseline environmental surveys in the case of variations and expansions of lease areas are in place in existing MFDPs. For example, the Great Oyster Bay and Mercury Passage Marine Farming Development Plan requires: *(iv) For all new lease areas being established, and for all expansions greater than 10% to existing marine farming lease areas, a baseline survey is required before the marine farming operations commence. Data to be collected may include but is not limited to sediment particle size analysis, organic carbon content of the sediment, redox potentials, water flow rates, current flows and composition of the benthic community. Assessment of baseline environmental data will be used to determine future management and monitoring requirements of the lease area.* *(v) For all new lease areas being established, and for all expansions greater than 10% to existing marine farming lease areas the composition of benthic communities will be assessed to determine whether the area to be farmed contains any rare and endangered species or any unusual habitat.*	A baseline environmental survey should be a condition of all variations or expansions of lease areas, or where other species are proposed to be farmed.

Control	Aquaculture Standard – Marine Farming Management Controls	EDO comments	EDO Recommendations
	Environmental Monitoring Requirements		
1.4.2	Lessees must comply with any environmental monitoring, data analysis, interpretation, audit and review requirements determined by the Director, EPA or Secretary and notice of which is given in writing, as amended by the Director, EPA or Secretary from time to time, at the lessee's expense, using such parties as are approved or nominated by the Director, EPA or Secretary.	Should this Control refer to the Environmental Standard requirements for monitoring etc?	
1.4.6.	For leases that have an associated marine farming licence authorising the farming of finfish, lessees must provide to the Secretary on an annual basis, unless exempted in writing by the Secretary, a production planning report for three years in advance, by lease.	EDO questions the circumstances in which the Secretary would ever need to exempt a lessee from providing an annual production planning report. If there are reasons for exempting the provision of an annual production planning report, these should be published and limited to circumstances where there is no plan to farm any fish in the three-year advance period.	Exemptions for production planning reporting should be published, and be limited to circumstances where there is no plan to farm fish in the coming three-year advance period.
1.4.8.	Lessees must provide to the Manager, Aquaculture Branch, the records detailed at 1.4.8. at the request of the Secretary.	The reference to Control 1.4.8 is an error and should refer to 1.4.7.	
1.4.10.	Environmental data is to be collected at each finfish lease area and analysed to specific standards and in accordance with the requirements for collection, reporting and analysis as specified in the relevant	Should this Control refer to the Environmental Standard requirements for monitoring etc?	

Control	Aquaculture Standard – Marine Farming Management Controls	EDO comments	EDO Recommendations
	marine farming licence or environmental licence.		
1.12.0.	**Fish Escapes**		
1.12.1.	Lessees must not intentionally release into State waters fish of the species authorised in the relevant marine farming licence unless authorised to do so by that licence.	This Control should also regulate reckless behaviour that leads to the release of fish from finfish farms.	This Control be amended to "Lessees must not intentionally or recklessly release into State waters fish of the species authorised in the relevant marine farming licence unless authorised to do so by that licence."
1.12.2.	Lessees must report to the Secretary any significant incident of fish escapes within 24 hours of becoming aware of the escape. A significant escape is defined as any loss of licensed species to the marine environment in excess of 500 individuals at any one time.	The phrase "at any one time" is uncertain in the context of this control.	A time period for the escape of fish should be identified (e.g. over 1 day).
1.12.3.	Lessees must recover escaped fish when and in a manner as directed by the Secretary.	EDO questions why it should be at the Secretary's discretion as to when and in what manner escaped fish are recovered.	Lessees should be required to take all practicable measures to recover the fish, and there should be penalties for failing to recover the fish.
1.13.0.	**Other Controls**		
1.13.1.	Lessees must comply with guidelines on noise emissions issued by the EPA for marine farming operations.	EDO seeks clarity on whether the referenced guidelines on noise emissions currently exist and whether this clause should also refer to the proposed ambient noise limits that may be included in the Draft Environmental Standard? EDO seeks clarity on whether the definition of "marine farming operations"	The Control should clarify what noise guidelines it refers to, and ensure that those noise guidelines impose strict limits on the noise of boats and other vessels traveling to and from

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		includes the travel of barges and other vessels to and from the lease? As noted in 2.9.3 above, the noise of boats and other vessels traveling to and from finfish leases has been a consistent issue raised by communities impacted by finfish farming and we believe they should be included in any guidelines on noise emissions.	finfish leases. Refer to recommendation 31.
1.13.3.	Lessees must remove fouling organisms from marine farming equipment as directed by the Secretary or Director, EPA, in a manner that the Secretary or Director, EPA is satisfied will not cause an unacceptable effect on the ecology of the marine environment or nearby shorelines.	It is unclear what is meant by "unacceptable effect" in the context of this draft Control.	"Unacceptable effect" should be clearly defined and there should be some best practice guidelines developed (and applied) that describe appropriate ways of removing fouling organisms in a way that avoids or, at the very least, minimises its harmful effects on the ecology of the marine environment or nearby shorelines.
1.13.4.	Lessees must remove redundant, dilapidated or loose marine farming structures and equipment from State waters as directed by the Secretary.	This Control does not provide a clear onus on finfish farming operators to remove dangerous or redundant equipment, and rather encourages them to wait until they receive a direction to do so. Given operators have the best understanding of the age and state of their equipment, they should have a positive onus to appropriately manage it.	Amend Control to require "lessees must remove redundant, dilapidated, or loose marine farming structures as soon as is practicable, or as directed by the Secretary."
1.13.8.	Lessees must comply with any operational requirements notified by the Secretary in relation to managing, mitigating or avoiding	Given the Government's firm policy that no seal relocations from finfish farms are permitted, this should be reflected in the drafting of the Control. The Control also include a general statement that lessees	The Control include an express statement here that no seal relocations are permitted and a general statement that lessees will

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	interactions with wildlife as defined by the *Nature Conservation Act 2002*.	will seek to achieve best practice wildlife management, using the hierarchy of avoid, minimise and mitigate.	seek to achieve best practice wildlife management, using the hierarchy of avoid, minimise and mitigate.
1.13.9.	The Secretary may, from time to time, determine requirements for the marking and monitoring of marine farming equipment.	The Government says it has a "zero-tolerance policy" on marine farm waste. Given this, the Control should actively prescribe requirements for the marking and monitoring of marine farming equipment to allow for proper regulation and enforcement of this policy.	Consistent with the Government's "zero-tolerance policy" this Control should include a general requirement for all rope and equipment (over a certain size) to be marked according to the lessee.
1.13.14.	In the event of the cessation of marine farming where the holder of the Environmental Licence is unable or unwilling to remediate or monitor the lease area, the Director, EPA may impose a remediation or monitoring plan.	It is unclear from this Control how the remediation or monitoring plan will be enforced. There should be a statement here that says the Lessee or Environmental Licence holder must comply with the remediation or monitoring plan. Furthermore, there should be requirements for the provision of financial assurance of a sufficient quantum to cover the clean-up and remediation of any abandoned marine farming leases.	The Control should say the Lessee or Environmental Licence holder must comply with the remediation or monitoring plan. There should also be a requirement for the provision of financial assurance of a sufficient quantum to cover the clean-up and remediation of any abandoned marine farming leases.

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