



Environmental
Defenders Office

Submission on the Draft Environmental Standards for Marine Finfish Farming 2023 (lutruwita/Tasmania)

21 March 2023

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:

Finfish Environmental Standards consultation
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Acknowledgement of Country

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 these submissions, 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.

EDO thanks our volunteer Kate Johnston for assisting with the preparation of this submission, and the Tasmanian Ombudsman's Office for expediting a relevant external review request.

EDO submission on the Draft Environmental Standards for Marine Finfish Farming 2023 (Tas)

Executive Summary

The *Environmental Standards for Tasmanian Marine Finfish Farming* (**Environmental Standards**) will be one of the key regulatory tools to manage the environmental impacts of marine finfish farms into the future and for this reason, they must be clear, scientifically based, and provide the environmental regulatory improvements that are so desperately required to restore the flagging community confidence in the environmental management of this industry.¹ While Environmental Defenders Office (**EDO**) has accepted the opportunity to provide comment on the *Draft Environmental Standards for Tasmanian Marine Finfish Farming 2023* (the **Draft Standards**), due to the apparent total disregard for our previous submissions in this area, we have real concerns about the utility of doing so.

The Draft Standards are not clear, do not reflect international best practice and do not appear to be based on the best available science. The Draft Standards largely represent a weaker set of environmental rules than currently apply to marine finfish farms and are a diminished version of what was proposed in the *Introducing an Environmental Standard for Marine Finfish Farming Position Paper* (**Position Paper**) circulated last year. **This is unacceptable.**

Last week, EDO finally gained access to the independent peer review by the Cawthron Institute of the December 2019 draft of the EPA document *Review of Tasmanian and International Regulatory Requirements for Salmonid Aquaculture* (see **Appendix 2**).² That draft document contained a set of 15 recommendations for the Environmental Standard prepared by the Environmental Standards Working Group - a group of 12 marine scientists, environmental regulators, and policy staff.³ The intention appears to be that these recommendations would ensure that the Environmental Standards met international best practice. In EDO's analysis (set out in full in **Appendix 1**), **none of the 15 Environmental Standards Working Group recommendations have been fully implemented, and at least a third have not been addressed at all in the Draft Standards.** It is no wonder then, that these recommendations never saw the light of day in the final version of the Review published in July 2022.⁴

EDO was only able to gain access to the Environmental Standard Working Group recommendations following *Right to Information Act 2009* (**RTI**) processes (including the intervention by the Tasmanian Ombudsman) that took nearly 9 months. The need to make RTI applications for this information appears to be contrary to EPA Director Wes Ford's assurances that "[f]rom a probity and transparency point of view, we will ensure we keep documentation ... so that we can demonstrate how a first draft [of the Environmental Standard] might become a second draft and

¹ As outlined in the [Legislative Council Government Administration Sub-Committee "A" Report on Finfish Farming in Tasmania](#) (the **Legislative Council Report**).

² All RTI083 material disclosed by the EPA to EDO on 14 March 2023 can now be accessed on the [EPA website](#).

³ The Environmental Standards Working Group comprised "twelve marine/environmental experts working across the EPA Tasmania (Raymond Bannister, Stephen Gallagher, Greg Dowson, Mark Churchill, Kate Hoyle, Kate Duttmer and David Horner), the Marine Farming Branch (Eric Brain and Graham Woods) and the Institute for Marine and Antarctic Studies (Jeff Ross, Catriona Macleod and Flora Bush)."

⁴ See Environment Protection Authority (2022) [A Review of Tasmanian and International Regulatory Requirements for Salmonid Aquaculture](#), Environment Protection Authority, Hobart, Tasmania.

might become a third draft, should people be interested.”⁵ The EPA Director acknowledged the need for this transparency because it was intended that the salmon industry would have the first opportunity to comment on the Environmental Standard, before “sit down” consultation with “a broader community group” with an interest in the Environmental Standard occurred.⁶ Unfortunately, as far as we are aware, no such sit-down community consultation on the content of the Draft Standard occurred before publication.

Given the detailed submissions and recommendations by EDO, Tasmanian Independent Science Council and other members of the broader community to the Position Paper were largely ignored in the Draft Standards, real questions must be asked about whether the Draft Standards are just a “consolidation of existing monitoring/controls” as called for by Tassal and the Tasmanian Salmonid Growers Association in their submissions in response to the Position Paper.⁷

As they presently stand, the Draft Standards are at odds with the world-leading regulatory ambitions the Government had for the Standards,⁸ advice from the Government’s own experts,⁹ and community expectations. For these reasons, EDO strongly urges the Government to pause the development of the Environmental Standards and go back to the drawing board, including by properly and fulsomely engaging not just with industry but all the lutruwita/Tasmanian community.

If the Government decides to press ahead with the Draft Standards, in the following submission EDO has provided several recommendations which should, at a minimum, be addressed before the Environmental Standards are finalised.

A **summary** of EDO’s recommendations is provided below.

We further **repeat EDO’s previous recommendations in our submissions to the Position Paper, the Draft Salmon Industry Plan, and the Discussion Paper on the 10 Year Salmon Plan** and urge these to be taken into account in the preparation of the Environmental Standards.¹⁰

Recommendation 1: The Draft Standards be amended to ensure that the same rules will apply to all finfish farms – new, existing, and expanding – and any discretion by the EPA Director and/or Board is guided by transparent and science-based criteria set to protect the environment.

⁵ See above at n 1, at p 187.

⁶ See above at n 1, at p 186, where Mr Ford is quoted as saying “... our first step will be to provide a draft of the standard to sit down with industry and talk to it about how it would impact on hem. Our second step would be to then sit down with a broader community group of people we might identify through a range of processes who would have an interest in what is in the standard. The third step would be a public consultation process that is the statutory process for developing the regulation itself with the supporting documentation.”

⁷ All submissions to the finfish farming environmental standard are available [here](#). Tassal’s submission can be found on pp 63-66 and the Tasmanian Salmonid Growers Association submission can be found on pp 68-72.

⁸ As outlined in the Explanatory Paper - draft Environmental Standards Marine Finfish Farming Feb 2023 (**Explanatory Paper**).

⁹ As set out by the Environmental Standards Working Group in Appendix 2.

¹⁰ See [EDO Submission in response to Draft Aquaculture Standards for Tasmania](#); [EDO submission to Draft Tasmanian Salmon Industry Plan](#); and [EDO Submission in response to 10 Year Salmon Plan](#).

Recommendation 2: The Draft Standards be amended to reflect that the EPA Director's role is to set Total Permissible Dissolved Nitrogen Output (**TPDNO**) below a cap imposed by the Marine Farming Development Plan (**MFDP**), and provide clear, science-based criteria for the Director's TPDNO limit decisions below the MFDP cap.

Recommendation 3: Substantially improve monitoring requirements and environmental protection thresholds in the Draft Standards to align with international best practice, the precautionary approach and remove ambiguity.

Recommendation 4: Amend the Draft Standards to impose appropriate standards relating to finfish escapes, biomass limits, light and noise limits to better protect communities and marine life.

Recommendation 5: The Draft Standard be amended to provide for the publication of relevant environmental management information, including:

- Dispersal and biogeochemical modelling (including statements about the assumptions on which the modelling is based and any limitations in the environmental data on which they are based) prepared for all finfish farms (existing, expanding or proposed)
- Therapeutant use for all finfish farms, including levels, dates and locations
- Any finfish escapes for all finfish farms, including numbers, dates and locations
- Mortality events for all finfish farms, including numbers, dates and locations
- The applicable Water Quality Objectives set by the EPA Board for all finfish farms
- Significant environmental management decisions by the EPA Board and Director, such as the setting of TPDNO and biomass limits (per out recommendations on these above), and the reasons for these decisions (including the facts and data on which they are based)

General comments

The Legislative Council Report recognised the high level of concern in the community about the environmental harm caused by the salmon industry, the proposed expansion of the industry and the adequacy of the current regulatory framework. The Environmental Standards were touted by the Government and the EPA as the key way many of these concerns would be addressed. When the Environmental Standards were first proposed, the Government said they would “build on existing monitoring and management arrangements to ensure a contemporary monitoring and environmental management framework that is clear and robust and fosters environmentally sustainable finfish farming practices”.¹¹ The Government also said the new Standards would be based on advice from the Cawthron Institute on what constitutes international best practice.¹² Both of these statements implied that the new Environmental Standards would be an improvement on current regulatory practices. However, this is not what we see with the Draft Standards.

The Draft Standards represent a diluted version of what was proposed in the original Position Paper, and as explained in more detail in **Appendix 1** of this submission, fall well short of implementing the recommendations by the EPA and the Environmental Standards Working Group,

¹¹ Department of Natural Resources and Environment Tasmania (2022) [Position Paper: Introducing an Environmental Standard for Marine Finfish Farming](#), page 3.

¹² Above at n 11, page 4.

and current environmental regulations. In particular, the following **recommendations of the Working Group have not been implemented or fully implemented in the Draft Standards:**

- Increasing the number of monitoring stations within the Farm Zone to “provide a better understanding of the environmental condition of the near-field environment within the marine farming lease area in line with international practice.”
- Revised water quality guideline values should be provided for use within the new Environmental Standard for all MFDPs across lutruwita/Tasmania to enable site-/region-specific investigative levels to be established to increase the success of protecting ecosystem health.
- In line with international practice, undertake all environmental monitoring surveys during the period of peak feed input.
- Conducting regular detailed benthic environmental surveys (e.g quantitative physico-chemical and biological parameters) across monitoring stations to benchmark environmental performance.
- Implementing the video scoring index for environmental conditions (established by Macleod and Forbes in 2004) as a means to determine environmental performance.
- Adopting real-time sensor technology to monitor critical water quality parameters at higher temporal resolutions (e.g turbidity, chlorophyll, oxygen) at appropriate spatial scales.

EDO is concerned the dilution of the existing environmental regulations evidenced in the Draft Standards reflects the wishes of the salmon industry, at the expense of the suggestions for improved environmental regulation, set out in detailed submissions by EDO, Tasmanian Independent Science Council and others.¹³

There are **five key concerns** we would like addressed in the Environmental Standards, these are:

1. The Draft Standards lack clarity in how they will be applied and how they interact with Technical Standards and other environmental, operational and biosecurity requirements.
2. The maximum TPDNO limits should not be left to the discretion of the EPA Director.
3. Monitoring requirements and environmental protection thresholds need to be substantially improved to align with best practice and the precautionary approach, and remove ambiguity.
4. The Draft Standards fail to appropriately address issues such as fish escapes, biomass limits and all impacts of light and noise.
5. The Draft Standards do not provide for transparency through publicly accessible data and decisions.

Each of these issues is addressed in more detail below.

¹³ Above at n 7.

1. The Draft Standards lack clarity in how they will be applied and how they interact with Technical Standards and other environmental, operational and biosecurity requirements

The Draft Standards lack clarity on when and how they will be applied by the EPA Board and/or the EPA Director in making decisions in respect of Environmental Licences. For example:

- baseline environmental assessments, depositional and nutrient dispersal and biogeochemical modelling requirements appear to apply only to future operations, and/or at the EPA Director's discretion;
- the EPA Director has discretion about whether to give Environmental Licence holders a notice specifying a Broudscale Environmental Management Program (**BEMP**) that is to apply;
- the EPA Director has the discretion about whether or not to determine a TPDNO for finfish farms within a specified area for a specified period.

In EDO's view, it is unacceptable that existing operations are not subject to the same standards as new leases, or that some farms might be subject to a BEMP or TPDNO cap while others might not be. Such language builds inconsistency into the Draft Standards when the need for consistency was one of the primary justifications for their introduction. Such provisions in the Draft Standards create ambiguity and provide the Board and/or Director with too much discretion.

It is also concerning how much of the details of monitoring and other issues are being left to the Technical Standards. Given that the Technical Standards could take at least another two years to finalise after the Environmental Standards are implemented,¹⁴ that is a significant period of regulatory uncertainty for both leaseholders and the community. It is also significant that there is no formal opportunity for public input on the formulation of Technical Standards, meaning that important environmental management decisions are being made behind closed doors.

It is also unclear how proposed standards and controls, such as the Biosecurity Standard and Marine Farming Development Controls, will interact with the Environmental Standards and what will happen if there are inconsistencies. Moreover, due to the piecemeal and disjointed way in which these different standards are being developed, it is next to impossible to determine how the jigsaw pieces will ultimately fit together and whether they will work harmoniously, adequately protect other parts of the environment (including issues like the welfare of seals, birds and cetaceans). Or will this piecemeal arrangement create more loopholes and weaken the existing level of environmental regulations?

Given that the level of EPA Director and Board discretion and the ambiguity/lack of clarity were some of the greatest criticisms of the existing salmon regulatory regime raised in submissions to the Legislative Council Inquiry into Finfish Farming, we question how it can be expected the Draft Standards will lead to greater levels of environmental protection and community confidence in the system of regulation.

¹⁴ See the response to "What are Technical Standards and when will they be developed?" in the [FAQ](#) released with the Draft Standards.

Recommendation 1: The Draft Standards be amended to ensure that the same rules will apply to all finfish farms – new, existing, and expanding – and any discretion by the EPA Director and/or Board is guided by transparent and science-based criteria set to protect the environment.

2. The maximum TPDNO limits should not be left to the discretion of the EPA Director

The level of TPDNO of finfish farms is a key determinant of their environmental impact, as high levels of nitrogen can lead to algal growth which can impact surrounding habitats (including those of threatened species), and deplete oxygen levels. For this reason, EDO is disappointed that the Draft Standards continue the status quo by providing the EPA Director with the ultimate discretion to determine the maximum TPDNO limit for a lease area and for all leases with a defined area.

Consistent with the recommendations of the Legislative Council Report,¹⁵ EDO has long been calling for maximum TPDNO limits for a lease area and for all leases with a defined area within MFDP to be set in the MFDP. This is because a critical element of the MFDP approval process should be determining the overall sustainable assimilative capacity of the area within the MFDP (or broader receiving environment) for the wastes and nutrients of the proposed finfish farms. If through the MFDP application and assessment process only a certain level of TPDNO is modelled as being sustainable for that lease and area, EDO considers it inappropriate for the EPA Director to have the ultimate discretion to determine the maximum TPDNO limits, including by potentially exceeding those TPDNO limits modelled as part of the MFDP approval.

EDO considers **the only appropriate role for the EPA Director in setting TPDNO of finfish farms is setting a TPDNO below the cap provided in the MFDP. The EPA Director's decisions in this respect should respond to monitoring demonstrating the breach of clear, precautionary thresholds set to protect the environment (as determined by reference to baseline environmental assessments and the Water Quality Objectives set under the State Policy of Water Quality Management).** EDO recommends that the Draft Standards be amended to reflect that this is the EPA Director's role and provide clear, science-based criteria for the Director's TPDNO limit decisions below the MFDP cap.

Recommendation 2: The Draft Standards be amended to reflect that the EPA Director's role is to set TPDNO below a cap imposed by the MFDP, and provide clear, science-based criteria for the Director's TPDNO limit decisions below the MFDP cap.

3. Monitoring requirements and environmental protection thresholds need to be substantially improved to align with best practice and the precautionary approach, and remove ambiguity

Monitoring program requirements and thresholds in the Environmental Standard should be based on international best practice, the best available science and align with the precautionary approach. Consistent with the recommendations of the Environmental Standards Working Group

¹⁵ Refer to recommendation 19 of the Legislative Council Report, above at n 1.

and the Review of Tasmanian and International Regulatory Requirements, monitoring should go beyond the assessment of major visual impacts (such as the presence of gas bubbling from the sediment – which indicate when the area has already hit an ecological tipping point) to include other quantitative environmental indicators (for example, physico-chemical and biological parameters) measured against known thresholds for the various finfish farming areas. This would ensure finfish farmers are not only monitoring for an environment that is already in terminal decline. The Environmental Standards Working Group recommends that to increase the success of protecting ecosystem health, standards should include clear site-/region-specific water quality investigative levels based on the achievement of Water Quality Objectives derived from revised water quality guideline values for marine areas.¹⁶

Disappointingly, this is not what has been presented in the Draft Standard. **EDO is seriously concerned that the Draft Standard provides for a substantial reduction in the levels of environmental monitoring and regulation currently provided in MFDPs and Environmental Licences.**

Currently, most MFDPs require there to be no “significant” or “unacceptable” impacts 35m from the lease boundary. Environmental Licences reflect this prohibition and provide a list of visual, physico-chemical or biological impacts that may be regarded as “significant”. The area out to 35m from the lease boundary is referred to as the “Depositional Zone” in the Draft Standard. However, the Draft Standard provides no environmental requirements specific to the Depositional Zone. Instead, under the heading “Dispersal Zone” in Div 4, Part 4, the Draft Standard proposes to regulate “significant impacts on the health of benthic ecosystems” of the “relevant area” which, we assume, relates to the Dispersal Zone area, being 135 m from the lease boundary. **The Draft Standard, therefore, proposes to gift the finfish farmers at least an extra 100 m for greater environmental impacts around their leases.**

Furthermore, **even the benthic standards provided for both the Farm Zone and Dispersal Zone in the Draft Standard appear to be weaker than the standards presently provided in many Environmental Licences.** This is because there are no express physico-chemical or biological infauna standards set out in the Draft Standard.

There is also a lack of clarity as to what will be considered “significant impacts on the health of benthic ecosystems” and about what metrics will be incorporated into the “Median Benthic Condition Index” which is referred to, but undefined in the Draft Standards. Without these details, it is not possible to assess whether the Median Benthic Condition Index is a reliable indicator that the capacity of the seabed environment to process particulate waste, or when any “adaptive management” actions might be triggered. The use of such terms as “significant impacts”¹⁷ allows wriggle room for both licence holders in terms of what they report to the EPA Director and when

¹⁶ See Appendix 2 from page 9 (pdf page 16)

¹⁷ Within the, the Purpose of this Division talks about protecting reef communities and seagrass communities from being due to release of dissolved nutrients from finfish farms. While the Draft Standard does attempt a definition for “significant impacts” for the Regional Zone, by using the word “significant” repeatedly in the definition, the key terms remains undefined.

the EPA takes action. Such a lack of clarity seems at odds with what was promised in the Position Paper, where it stated that the Standard would set out seabed scoring criteria relating to benthic observations.¹⁸

In any event, requiring action to be taken only where there is a “significant impact” is setting the benchmark too low by allowing substantial and potentially irreversible damage to the environment to occur under the guise of “adaptive management”. **You only need to consider what happened in Macquarie Harbour to realise the “significant impact” approach is inappropriate where there are special environmental values, like the endangered Maugean Skate and World Heritage values, in the impact zone of finfish farms.**¹⁹ **The regulation of finfish farming should be aiming to ensure that not just significant but all adverse environmental impacts arising from finfish farming are avoided, mitigated and/or remediated.** This is what both the community and legislation expect.²⁰

EDO is further concerned by the lack of clear water quality monitoring requirements and thresholds in the Draft Standard, with these matters presumably left to the details of the BEMPs as determined by the EPA Director and, possibly, Technical Standards. This is inconsistent with both the recommendations of the Environmental Standard Working Group, and the Legislative Council Report.

Finally, the Draft Standards leave too much to the discretion of finfish farmers and the EPA Director when it comes to determining the number and location of monitoring stations on leases. EDO considers that what is proposed for the determination of monitoring station location and numbers in the Draft Standard is not in line with international best practice or with the recommendations of the Government’s own experts. The Review of Tasmanian and International Regulatory Requirements found that at the Farm Zone level, the Tasmanian Government.²¹ The Draft Standards should include requirements about how many monitoring stations should be located at the Farm Zone level based on the international best practice, scaled up or down depending upon the biomass within the lease and its area.

Recommendation 3: Substantially improve monitoring requirements and environmental protection thresholds in the Draft Standards to align with international best practice, the precautionary approach and remove ambiguity.

4. The Draft Standards fail to appropriately address issues such as fish escapes, biomass limits and all impacts of light and noise

Finfish escapes

The Position Paper stated that the Draft Standard would include provisions for:

¹⁸ Above at n 11, page 10.

¹⁹ We provide a case summary on Macquarie Harbour at page 10 of [EDO’s submission responding to the Draft Environmental Management and Pollution Control Amendment Bill 2022](#).

²⁰ *Environmental Management and Pollution Control Act 1994*, Schedule 1.

²¹ See Appendix 2 at page 26 (pdf page 53).

- Any significant fish escapes (more than 500 fish at any one time) are to be reported to the Director within 24 hours of becoming aware of the escape.
- Any suspected or known incidents of mortality affecting more than 0.25 per cent of fish per day for three consecutive days in any individual pen are to be reported to the Director.

However, inexplicably, the Draft Standard does not contain any reference to finfish escapes.

EDO considers that finfish escapes should be included in the Draft Standards. In addition, the Draft Standards should also provide for the management of the environmental impacts of fish escapes, including the imposition of fines where escaped fish are not recovered, and public reporting.

Biomass limits

Another issue that has not been addressed in the Draft Standards is the setting and amendment of biomass limits.

Like with TPDNO, EDO considers that maximum biomass limits for areas and leases should be fixed in MFDPs, with any variations below the limits by the EPA Director guided by clear criteria and precautionary thresholds.

However, currently under MFDPs, biomass limits are currently generally left to the discretion of the EPA Director to determine “using whatever information the Director... considers appropriate”. While it may be intended that other standards (such as the Marine Farming Management Controls which are presently under development) will deal with the setting of biomass limits, as biomass is inextricably linked to the amount of pollution produced by a farm (including nitrogen), for consistency and good governance, the setting of biomass limits (below the maximum limit set by the MFDP) should be dealt with in the Draft Standards.

Impacts of light and noise emissions

EDO is concerned that under the Draft Standards, finfish farms will only need to develop a Light Attenuation Plan if their light emissions are declared an environmental nuisance by the EPA Director. Serious concerns regarding lights from finfish farming operations and their impact on community well-being, wildlife and property values were outlined in the Legislative Council Report and there is an increasing amount of research showing the deleterious effects of artificial light at night on marine biota.

Rather than putting in place a reactive model for light attenuation, EDO considers requirements should be first placed on licence holders to develop a Light Attenuation Plan in all cases where light emissions (including from temporary sources such as vessels) exceed 1,000 lumens.

As outlined in EDO’s submission on the Position Paper, default noise limits as set out in the Draft Standard should be able to be varied if 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). We are also concerned that these noise limits have been set at limits that take into account noise impacts on humans only and have no regard for what noise limits would be EDO submission on the Draft Environmental Standards for Marine Finfish Farming 2023 (Tas)

appropriate to protect against ecosystem impacts (such as disturbance of cetaceans). The impact of noise on marine life is increasingly being recognised as a major impact of industrial activities in marine areas and we consider the Draft Standard should be revised to reflect this research.

Recommendation 4: Amend the Draft Standards to impose appropriate standards relating to finfish escapes, biomass limits, light and noise limits to better protect communities and marine life.

5. The Draft Standards do not provide for transparency through publicly accessible data and decisions

EDO was disappointed by media reports that finfish companies have been using claims of commercial-in-confidence to prevent monitoring data on the use of antibiotics submitted to the EPA from being published.²² Such reports underscore the importance that our regulatory building in transparency around environmental monitoring and data concerning the use of public waterways.

The Position Paper stated that one of the objectives of the Environmental Standard was to “increase transparency of environmental management and industry accountability for environmental health through publicly accessible monitoring reports.” EDO questions how this objective is given effect in the Draft Standards, as no provision is made for the public release of monitoring data etc either within real time, or as soon as practicable after compilation. Including a requirement for these data and reports to be made public in the Draft Standards will go a long way to realising a greater level of transparency and accountability in the industry going forward.

Furthermore, requiring certain environmental management decisions by the EPA Board and Director, such as the setting of TPDNO and biomass limits (per our recommendations on these above), to be published together with reasons will go a long way towards ensuring transparency and accountability for decision making. EDO maintains its position that full transparency and accountability would be provided when these significant decisions are subject to public comment and third party appeals, although we acknowledge that this requires legislative amendment.

Recommendation 5: The Draft Standard be amended to provide for the publication of relevant environmental management information, including:

- Dispersal and biogeochemical modelling (including statements about the assumptions on which the modelling is based and any limitations in the environmental data on which they are based) prepared for all finfish farms (existing, expanding or proposed)
- Therapeutic use for all finfish farms, including levels, dates and locations
- Any finfish escapes for all finfish farms, including numbers, dates and locations
- Mortality events for all finfish farms, including numbers, dates and locations
- The applicable Water Quality Objectives set by the EPA Board for all finfish farms
- Significant environmental management decisions by the EPA Board and Director, such as the setting of TPDNO and biomass limits (per our recommendations on these above), and the reasons for these decisions (including the facts and data on which they are based)

²² Burton, B. (2023) [Documents reveal Tassal wanted two reports on antibiotic use at salmon farms kept secret](#), *Tasmanian Inquirer*

Appendix 1 – Assessment of whether Environmental Standards Working Group recommendations have been implemented in Draft Standards

Environmental Standards Working Group recommendation	Has the Environmental Standards Working Group recommendation been implemented?	EDO comments
1. Utilise a zones concept for the environmental management of Tasmanian finfish leases. The recommended zones are Farm-Zone (Operational area of the marine farming lease extending out to cage edge) and the AZE [Allowable Zone of Effect] (extending from the edge of the Farm-Zone and out to 35 m from the lease boundary). Measurements undertaken at locations extending beyond the AZE should be referred to as beyond the AZE.	<p>Partially implemented.</p> <p>Management Zones are proposed, but not corresponding with those proposed in the EPA document. Rather they are Farm Zones, Depositional Zones, Dispersal Zones and Regional Zones. These are defined as follows:</p> <ul style="list-style-type: none"> • depositional zone, in relation to a lease, means the area extending from the boundary of the Farm Zone in relation to the lease to 35 metres beyond the lease boundary, within which environmental effects from particulate waste dispersed beyond the edges of fish farming pens situated in the lease area is likely to be measurable; • dispersal zone, in relation to a lease, means the area that extends 100 metres from the outer boundary of the Depositional Zone for that lease, or a distance otherwise specified by the Director, within which environmental responses from dissolved nutrients discharged from within the Farm Zone are likely to be measurable; • farm zone, in relation to a lease, means the area, within the lease boundary of the lease area, that is 	<p>EDO is seriously concerned that the Draft Standards provide for a substantial reduction to the levels of environmental protection currently provided in MFDPs and Environmental Licences.</p> <p>Currently, most MFDPs and environmental licences require there to be no “significant” or “unacceptable” impacts 35m from the lease boundary.²³ Environmental Licences reflect this prohibition and provide an extensive list of visual, physico-chemical or biological impacts that may be regarded as “significant”. The area to 35m from the lease is the “Depositional Zone” in the Draft Standard. However, Div 4, Part 4 of the Draft Standard provides no environmental requirements specific to the Depositional Zone. Instead, Div 4, Part 4 of the Draft Standards under the heading “Dispersal Zone” proposes to regulate “significant impacts on the health of benthic ecosystems” of the “relevant area” which (we assume) relates to the dispersal zone area,</p>

²³ For example, the Mercury Passage MFDP requires: “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.” The Macquarie Harbour MFDP requires “There must be no unacceptable environmental impact 35 m outside the boundary of the marine farming lease area. Relevant environmental parameters must be monitored in the lease area, 35 m from the boundary of the marine farm lease area and at any control site(s) in accordance with the requirements specified in the relevant marine farming licence”. Finally, the Storm Bay Off Trumpeter Bay North Bruny Island MFDP requires: “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. ...Environmental parameters must be monitored in the lease area, 35 metres outside the boundary of the marine farming lease area and at any control site(s) in accordance with the requirements specified in the relevant marine farming licence, or in the relevant environmental licence.”

Appendix 1 – Assessment of whether Environmental Standards Working Group recommendations have been implemented in Draft Standards

Environmental Standards Working Group recommendation	Has the Environmental Standards Working Group recommendation been implemented?	EDO comments
	<p>contained within a pen bay grid or a collection of pen bays, being the expected area of maximum measurable environmental effect from finfish farming;</p> <ul style="list-style-type: none"> • regional zone, in relation to a lease, means the area that extends from the outer boundary of the Dispersal Zone in relation to the lease to the outer boundary of the regional area in which the lease area of the lease is situated. <p>See also:</p> <ul style="list-style-type: none"> - Div 2 Part 4 Environmental Standards Offence Provisions, under the heading “Management Zone Maps”- essentially requiring the production of electronic zone maps by lessees upon direction by the Director. - Div 4 Part 4 under the heading Seabed – Farm Zone, Dispersal Zone and Regional Zone - sets out the monitoring requirements for these zones. 	<p>being 135 m from the lease boundary.</p> <p>There is a lack of clarity as to what will be considered “significant impacts on the health of benthic ecosystems” for the purposes of this Standard.</p> <p>Furthermore, even the benthic standards provided for the Dispersal Zone in the Draft Standards appear to be weaker than the standards presently provided in many Environmental Licences. This is because there are no express physico-chemical or biological infauna standards set out in the Draft Standards.</p>
<p>2a. Maintain the existing outer fixed distance for the AZE, this being set at 35 m from the edge of the lease boundary, while also providing the aquaculture industry with the opportunity to propose an alternative site-specific AZE. To propose a site-specific AZE, it would be expected that state-of-the art modelling tools (e.g. 3D Hydrodynamic models and particle/nutrient deposition/dispersal models) should be used to demonstrate an acceptable dispersive / depositional footprint for each separate marine farming lease. Before approval and implementation of a site-specific AZE, the EPA may require peer-review for expert evaluation of the modelling work to ground truth the site-specific AZE.</p>	<p>See above.</p>	<p>The Draft Standards allow for a greater level of environmental impact from finfish farms than is presently authorised. No modelling or scientific basis for the expanded environmental effects has been presented to justify this change, and this is contrary to what the EPA regulators and scientists on Environmental Standards Working Group recommended. EDO questions how a reduction in the level of environmental protection is consistent with world’s best practice, let alone with community expectations.</p>

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2b. Propose the validation of site-specific AZE over a number of production cycles. If any lines of evidence demonstrate environmental effect outside of site-specific AZE, this would trigger a review of attributable causes and appropriate management actions.	See above.	See comments above. EDO is concerned this recommendation of the Environmental Standards Working Group recommended has not been actioned in the Draft Standard.
3. As is current practice, suggest the EPA should establish lease-specific monitoring plans in consultation with Environmental Licence Holder to ensure the correct placement of all monitoring stations to assess environmental performance. The use of real-time data (i.e. Doppler current meter data) and modelling tools will be integral in providing additional information regarding current direction and speed, and the potential footprint stations to aid the placement of these monitoring stations.	Partially implemented. See Div 2, Part 4 under the heading “Monitoring Stations” and in Div 3, Part 5, under the heading “Seabed monitoring”. No provision is made for the gathering of real-time environmental data in the Draft Standards.	EDO notes that only the outputs of the particulate depositional modelling and nutrient dispersal model, and biogeochemical model must be provided to the Director under Div 2, Part 4 under the heading “Selection of Monitoring Stations”. This means that the assumptions and inputs into the model may not be able to be interrogated by the EPA Director in forming decisions about the appropriate locations of monitoring stations. Furthermore, EDO recommends the Draft Standards explain exactly when and how the EPA Director is to decide the appropriate monitoring locations, and how the monitoring station location information will be recorded and publicly available. Likewise, the Draft Standards should provide for how real-time monitoring data will be recorded and made publicly available.
4. Include the selection of representative reference	This has been partially provided in the Draft Standards in	EDO considers this section of the Draft Standards

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stations at distances appropriate to site-specific environmental forcing (e.g. wave activity, hydrodynamics) when undertaking quantitative AZE sampling to enable suitable comparisons of AZE environmental conditions to background environmental conditions. The sites chosen and the parameters required for quantitative sampling should be determined as part of the baseline sampling program.	Div 1, Part 2 under the heading “Reference Sites and Reference Values”.	to need significant clarification and strengthening. This is because the Environmental Standard set out <i>how</i> reference sites are to be chosen. Rather, these key decisions by the EPA Director are to be guided by a technical standard which is as yet undrafted (and may never be drafted). Under the Environmental Standard, if the EPA Director is unable to find suitable reference sites, he may appoint “appoint two or more persons to form a scientific panel” to provide advice. No information is given about the expertise of these people or the declaration of any conflicts of interest etc, and the Director is not obliged to follow the advice received.
5. Consider increasing the number of monitoring stations within the Farm-Zone. This will provide a better understanding of the environmental condition of the near-field environment within the marine farming lease area in-line with international practice.	This has not been actioned, rather it is left to the lessee to propose monitoring locations, see Div 2, Part 4 under the heading “Monitoring Stations”.	There is no guidance in the Draft Standards as to what weight or use the Director or Board are to give to the lessee’s recommendations as to monitoring locations and number, or if the Director can choose alternate monitoring locations.
6. Outline a requirement to regularly review BEMP reports to ensure the appropriateness of the monitoring sites, the parameters used, and the established investigative levels within these programs. Revised water quality guideline values should be provided for use within the new Environmental Standard for all MFDPs across Tasmania to enable site-/region-specific investigative levels to be	Partially implemented. Div 3, Part 4 of the Draft Standards requires BEMPS to be reviewed every 5 years by a recognised scientific research institution approved by the Director, with expertise in temperate marine environments and the impacts of aquaculture. Any change to the BEMPs as a result of the	EDO strongly supports the requirement for the 5-yearly review of BEMPs by independent scientific research institutions. We consider that the Draft Standards can be significantly strengthened by tightening Div 3, Part 4, subitem (3) such that the Director “must” (rather than “may”) require the updating of the BEMP if they “form the view,

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<p>established to increase the success of protecting ecosystem health.</p>	<p>review is left entirely to the EPA Director's discretion (see Div 3, Part 4, subitem (3)).</p> <p>No mention is made of required water quality guidelines anywhere in the Environmental Standard, and no water quality investigation levels (either site- or region-specific) have been identified, nor a clear plan made for how these might be developed.</p>	<p>based on the best available scientific data, that a BEMP in relation to a licence holder requires updating, <u>and/or if recommended by the by independent scientific research institution upon the 5 yearly review</u>".</p> <p>EDO notes the Legislative Council Inquiry Report Recommendations 25-27 concerning the need for the Tasmanian Government to publish transparent Water Quality Objectives for lutruwita/Tasmania's waterways (under the State Policy on Water Quality Management 1997). However, currently, no WQOs have been identified for <i>any</i> waterways, marine or fresh. In fact, no Protected Environmental Values have yet been set for our marine waterways.²⁴</p> <p>EDO is very disappointed the Draft Standards have not responded to the Working Group recommendations to provide revised water quality guideline values to inform site-/region-specific investigative levels (i.e. thresholds), to ensure the achievement of WQOs. In the absence of clear water quality thresholds, and prescriptive requirements concerning water quality monitoring, EDO is left asking how the Draft Standards are supposed to protect ecosystem health.</p>

²⁴ See EPA Tasmania (2021) [Default Guideline Values \(DGVs\) for Aquatic Ecosystems of Tasmanian Coastal and Marine Waters](#), at p 4.

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7. In line with international practice, undertake all environmental monitoring surveys during the period of peak feed input. As this is the time-period when the load of organic waste is greatest on the seabed and when environmental impacts on the seabed are likely to occur.	Partially implemented – see Div 3, Part 5, under the heading “Seabed monitoring” where seabed monitoring in the Farm and Depositional Zones is during the peak feed input. Most of the details relating to environmental monitoring under discretionary BEMPs are left either to technical standards or the EPA Director’s discretion.	<p>Unfortunately, there are no lease-specific water quality monitoring requirements in the Draft Standards, which means that the impacts of dissolved wastes during peak production may not necessarily be monitored. See EDO’s comments on this above at recommendation 6.</p> <p>Furthermore, given that most of the requirements of the BEMPs are left to technical standards or the EPA Director’s discretion, it is unclear whether monitoring of the broader environment will occur during peak production or appropriately capture the impacts of finfish farming on the environment when required (for example, monitoring might be required during certain climatic, seasonal or biologically important periods).</p>
8. Consider conducting regular detailed benthic environmental surveys (e.g. quantitative physico-chemical and biological parameters) across monitoring stations to benchmark environmental performance. The sampling frequency of these detailed surveys should reflect an individual lease’s Farm-Zone and AZE environmental performance over successive production cycles.	Partially implemented – see above response to recommendation 7.	See EDO’s comment above in response to recommendation 7.
9. Continue to use existing benthic indicators of organic enrichment (e.g. bacterial mat-forming species, gas bubbling and opportunistic polychaetes) for visual	Partially implemented. Div 4, Part 4 under the heading “Seabed” uses different	As set out in EDO’s responses to recommendations 1, 2a and 2b, we are extremely concerned that the Environmental Standard

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surveys within the Farm-Zone and at AZE monitoring stations. These indicators are globally applied visual indicators for organic enrichment. However, threshold values of these indicators within both the Farm-Zone and AZE require standardisation to reduce potential inconsistencies when assessing and reporting.	benthic indicators for the Farm Zone, Dispersal Zone and Regional Zone. In this section, there are no benthic indicators specific to the Depositional Zone, which is Draft Standards' equivalent to the AZE (i.e. being the area 35 m from the lease boundary). While Div 3, Part 5 of the Environmental Standard under the heading "Seabed Monitoring" does require monitoring at the Depositional Zone boundary in accordance with any technical standards (if any), there is no clear reason for this monitoring given there are no indicators of benthic organic enrichment provided for this location.	represents a reduction in environmental protections. Those comments also apply here, as the Draft Standards set no benthic indicators of organic enrichment for the Depositional Zone, effectively gifting the finfish farmers an extra 100 m of greater environmental impacts around their leases. Even the standards that apply to the Dispersal Zone appear to be weaker than what is presently provided in many Environmental Licences, as there is no clear definition of what would be considered to be significant impacts on the health of benthic ecosystems, and there are no physico-chemical or biological infauna standards set out in the Draft Standards.
10. Consider implementing the video scoring index for environmental conditions (established by Macleod and Forbes in 2004) currently being reviewed by IMAS as part of FRDC project 2015-024 as a means to determine environmental performance.	Not provided in the Draft Standards. While there is some mention in the Draft Standards of a "Median Benthic Condition Index" this is undefined, and it is unclear if it references the IMAS index referenced in Recommendation 10.	Clarity is required about what is the "Median Benthic Condition Index" referred to in the Draft Standards, including whether it is based on the best available science. The "Median Benthic Condition Index" should be clearly articulated so that the public can understand how finfish farms are regulated for their environmental performance. Refer to our comments responding to recommendations 1 and 9 above.
11. Maintain (sic) existing water quality monitoring associated with finfish farming should be a priority. Water quality measurements are important rapid determinants of change in a system. Furthermore, consider monitoring water quality at individual leases,	Not addressed in the Draft Standards.	See EDO comments responding to recommendation 6 above.

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and adopting real-time sensor technology to monitor critical water quality parameters at higher temporal resolutions (e.g. turbidity, chlorophyll, oxygen, etc.) at appropriate spatial scale.		
<p>12. Consider that the current parameters for baseline sampling reflect international practice. In addition, recommend the establishment of a pre-development time-line of selected water quality, biological, physico-chemical and environmental datasets at sites that are representative local and regional environment needs consideration. These datasets would aid in establishing site and region-specific indicator guideline values, which would enable better identification of local and broader ecological changes measured during ongoing compliance and broad scale environmental monitoring.</p>	<p>Partially implemented.</p> <p>Div 1, Part 4 of the Draft Standards under the heading “Baseline Environmental Assessment” provides that the holder of a new lease or a permit for an area not previously farmed must not deploy finfish farming infrastructure etc until completing a baseline environmental assessment in accordance with any direction from the EPA Director and technical standards and an “interim baseline environmental assessment” is provided and approved by the director. Finfish cannot be placed in pens until a “final baseline assessment report” has been provided and approved by the Director.</p> <p>In Div 1, Part 5 of the Draft Standards further requirements are provided for baseline assessments, including a list of “components” that must be addressed “unless otherwise approved in writing by the Director”.</p> <p>Div 1, Part 3 of the Draft Standards provides that in “making a decision as to whether to grant or vary an environmental licence that relates to a new, or changed lease or permit or an existing lease, the Board or the Director must have regard to: 1) whether a baseline environmental assessment has been undertaken and 2)</p>	<p>EDO is concerned by the lack of detail in the Environmental Standard for Baseline Environmental Assessments.</p> <p>While consistent with the Working Group recommendation, the Draft Standards do provide for the collection of baseline data prior to finfish farming for new farms, there is a concerning lack of clarity in definitions and in the details of what will be measured in these assessments. For example, no definitions are provided for “interim baseline environmental assessment” or “final baseline assessment report” and how they might differ. While there is a list of components that should be addressed in Baseline Environmental Assessments, the EPA Director has the discretion to waive the study of some or all of these components, and no criteria are given for this decision. No information is provided about the length of a baseline study (interim or final), or, for example, how it must cover different climatic conditions, the frequency of sampling or the quality of the reports (for example, do they need to state the limitations of the assessment or data used for certain conclusions?).</p>

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	whether there is an interim baseline environmental assessment report, or a final baseline environmental assessment report, in relation to the lease.”	<p>There is also a lack of clarity on when Baseline Environmental Assessments will be required for existing operations that are seeking to expand (and whether it is dependent on a certain threshold of expansion in either leased area, feed intensity or biomass). Div 1, Part 3 seems to suggest that Baseline Environmental Assessments will not always be a requirement for new or changed leases.</p> <p>Finally, the Draft Standards do not state how the EPA Director or Board are to use the Baseline Environmental Assessments to inform their decision-making regarding the grant of an Environmental Licence, or for conditioning. For example, are these assessments relevant to the question of whether a licence should be issued, or only to conditions? If they do relate to the suitability of a site for finfish farming and hence whether an Environmental Licence should be issued, EDO would expect the Draft Standards to provide clear guidance on those decisions. For example, where a Baseline Environmental Assessment identifies habitat for critically endangered species located in the vicinity of the lease, that should provide the basis for the refusal of an Environmental Licence.</p>
13. Acknowledge and incentivise continued	Not addressed in Environmental Standard.	As already discussed above, the Draft Standards

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environmental compliance and good environmental performance over consecutive production cycles.		overall appear to reduce environmental protections. It is unclear how these reduced standards can incentivise “good environmental performance” by the industry.
14. Review and align the existing EPA compliance and auditing system with the implementation of the new ‘Environmental Standard’.	N/a	N/a
15. Encourage industry to implement best practice management actions to achieve environmental compliance independent of a regulatory response to ensure long-term environmental sustainability.	Not addressed in Environmental Standard.	See EDO comment above at recommendation 13 above.

