

TACL Submission – Draft Amendment #5 to the Tasman Peninsula and Norfolk Bay MFPD 2005

Planning Authority

C/- Marine Farming Branch,

DPIPWE

GPO Box 44, HOBART,

TAS 7001

January 17th, 2018

Submission from the Tasmanian Abalone Council Ltd (TACL) regarding draft Amendment #5 to the Tasman Peninsula and Norfolk Bay Marine Farming Development Plan November 2005

This submission is lodged by:

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The Tasmanian Abalone Council notes the following:

- Tassal Operations Pty Ltd (Tassal) has applied for an amendment to the Tasman Peninsula and Norfolk Bay Marine Farming Development Plan November 2005 (the Plan).

The draft amendment proposes to:

- Establish a new marine farming zone west of Wedge Island of approximately 863 hectares
- Provide a maximum leasable area for this zone of 360 hectares, with surface-located marine farming equipment restricted to a maximum of 180 hectares
- Amend the management controls to ensure that they are coordinated with the adjacent Storm Bay off Trumpeter Bay North Bruny Island MFDP July 1998
- Expand the area of the Plan to incorporate the proposed new zone which lies 1.8 kilometres west of Wedge Island

This short submission from the TACL raises the following key concerns in relation to the proposed new marine farming zone west of Wedge Island:

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1. Proximity of proposed salmon farm site to productive abalone reef systems

The Tasmanian Abalone Council Ltd lodged a detailed submission regarding the Tasmanian Government's *Draft Sustainable Industry Growth Plan for the Salmon Industry* in September 2017.

This submission can be viewed at:

<http://tasabalone.com.au/wp-content/uploads/2016/11/20171010-Tasmanian-abalone-industry-submission-to-the-Sustainable-Salmon-Growth-Plan-September-2017.pdf>

Amongst other things, the submission made a series of recommendations including the adoption of a **minimum proximity threshold or “environmental” buffer zone** that serves to separate in-water salmon farms from inshore reef systems which are home to a multitude of marine flora and fauna including abalone. Recommendation 1(ii) on page 7 of the submission reads as follows:

*“For all other parts of Tasmania’s coastline, a buffer zone between the “outer” edge of rocky reef habitat and any proposed finfish farm lease should be mandated. This buffer zone should be no less than **1.5 nautical miles** wide at its narrowest point and should exclude all finfish aquaculture activities. A buffer zone of this magnitude is necessary to ensure that the potentially deleterious effects of finfish farm derived pollutants are rendered benign by “separation distance”, in-water currents and associated dilution and dispersal. It does not make sense on any level to expand industrial finfish farming that in any way reduces the health and vitality of the inshore reef systems existing along Tasmania’s 5000 kilometres of coastline – these reef systems have immense cultural, recreational and commercial value to the citizens of Tasmania and the world. Additionally, it makes sense from a “safe” navigation and operational perspective to maintain a minimum “proximity threshold” between the commercial abalone and salmon sectors.”*

The nearest rocky reef habitat to the proposed “West of Wedge” salmonid lease is the western shoreline of Wedge Island itself. Inshore reefs surrounding Wedge Island have been harvested commercially for abalone for over 50 years. As currently proposed, the eastern edge of the Tassal lease will be only 1.8 kilometres from the western edge of Wedge Island. This is one full kilometre closer than the minimum proximity threshold recommended in the TACL submission (1.5 nautical miles equates to 2.8 kilometres).

RECOMMENDATION 1: The TACL recommends that the proposed West of Wedge lease is relocated (at least) 1km further away (than currently proposed) from Wedge Island – it should be moved in a north-westerly direction to avoid shipping lanes. Relocating the lease 1km further to the NW will increase the environmental buffer zone from 1.8km to 2.8kms. Increasing the distance by an additional kilometre will significantly reduce the risk of adverse environmental impact on healthy rocky reef systems surrounding Wedge Island that currently support abalone (and rock lobster) amongst other marine flora and fauna.

2. Environmental Monitoring of nearby rock reef systems

The main concern that wild fishers have in relation to burgeoning aquaculture development is the potential for marine farming inputs to alter the ambient physico-chemical characteristics of the water column and the benthos. Physico-chemical changes wrought by industrial salmon farming have the potential to adversely impact on water quality and the benthos – there are a plethora of scholarly articles that acknowledge this well established fact.

The Tasmanian abalone fishery depends on complex environmental factors to replenish and maintain healthy stock levels. Many of these environmental factors are not well understood and are beyond the control of managers, fishers and researchers.

The primary risk to sections of the Tasmanian wild abalone fishery that are adjacent to open-cage salmonid farming systems relates to the medium to long-term environmental degradation of inshore abalone reef habitat caused by sustained salmon based nutrient and sediment inputs.

Abalone are grazing animals, eating marine algae using a serrated “tongue” as they move across the ocean floor. To support a healthy comprehensive age range of animals a complex assortment of feed is required. Large brown algae such as cray-weed, giant kelp and bull kelp along with some species of red algae including the encrusting corallines are necessary. Juvenile abalone graze on rock encrusting coralline algae, diatoms and bacterial films. As they grow they increasingly rely on red and brown macro-algae.

Sustained nutrient loads (organic enrichment) from salmon farms or other sources may alter the types and proportions of algae that grow within pristine and healthy marine ecosystems (Kraufvelin et al. 2010) – the type where wild abalone thrive. Sustained nutrient loads change the balance of macro algal species in the environment in turn changing reef community structure and biodiversity. Species of algae that thrive under regular and increased nutrient loads *may not* support an ecosystem with healthy populations of wild abalone, lobster and other species of marine fauna.

Abalone are localised spawners and are at their most vulnerable during the early stages of their life cycle – localized anoxic conditions due to physico-chemical changes in the sediment and/or nutrient overload in the water column (whether sustained or periodic) may have a deleterious effect on larval growth, larval settlement and the early grow-out stages of the lifecycle (James and Barr 2012) leaving abalone stunted and unfit for harvest.

Abalones have been shown to be particularly sensitive to sedimentation even at low levels, potentially affecting all life stages. Larval abalones have shown significant reductions in settlement in response to low level sedimentation (Onitsuka et al. 2008). Sediment has also been shown to indirectly increase the mortality of juvenile abalone through displacement from their cryptic refuges by sediment accumulation to seek out sediment-free exposed areas which leaves them more exposed to predation - vulnerability to predation is then increased further as sedimentation also results in a decreased ability for juvenile abalone to “hold fast” to surfaces and impedes abalone’s righting response resulting in higher abalone mortality in areas where sediment is present (Chew et al. 2013).

In short, any input that causes degradation to the health of the inshore benthic community which wild abalone and other marine fauna inhabit *must be* regarded as a risk. It is commonly accepted that benthic

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molluscs (such as abalone) serve as the “canary in the coal mine” when it comes to sensitivity to environmental changes within oceanic reef communities.

It is critically important for the future health of the marine ecosystem that baseline and ongoing monitoring be implemented prior to the establishment of any new salmonid leases within Storm Bay. Robust and comprehensive monitoring of the marine environment within Storm Bay will provide early warning of any adverse impacts. A timely and appropriate management response may then be initiated by the regulator and the aquaculture industry.

The key to a successful environmental monitoring program is to design it in such a way that it is sensitive to early stage “ecosystem changes” such as those wrought by excess organic enrichment (nutrient loading) and/or sedimentation above “normal” baseline levels.

RECOMMENDATION 2: The TACL recommends that comprehensive baseline environmental assessment is conducted on rocky reef systems that lie adjacent or proximate to the proposed West of Wedge finfish lease PRIOR to any finfish lease being granted. In the event that a lease is then granted, comprehensive ongoing environmental monitoring should occur with the results being publically available via an independently managed web portal.

The TACL notes the below statements made within the Tassal “West of Wedge” **Environmental Impact Statement**:

(PAGE 128) - A targeted near and far-field water quality monitoring program would quantify changes in nutrient concentration or microalgal community composition relative to the known baseline conditions in Storm Bay.

(Page 128) - A broadscale monitoring program (including sampling of pelagic, sediment and macroalgal communities) will be developed (based on the modelled outputs and particular areas of interest) to monitor the extent and scale of impacts across a range of potential impact zones (i.e. near-field and far-field).

(PAGE 128) - Overall, with the implementation of an appropriate monitoring and management framework to mitigate against the known potential environmental effects of finfish aquaculture, it is considered that the proposed development would not result in any significant environmental impacts to the waters of Storm Bay within the immediate vicinity of Tassal’s proposed zone and surrounding waters.

(PAGE 130) - Since July 2013, Tassal has undertaken a range of ecological surveys at established monitoring sites to investigate potential impacts on biological assemblages from fish farming activities. These surveys include:

- • subtidal surveys for EPBC listed species (i.e. Giant Kelp and handfish) (2013 and 2015)
- • intertidal surveys of rocky shores (2013)
- • understanding broadscale impacts of salmonid farming on rocky reef communities (2015)
- • monthly water quality monitoring program (February 2014-ongoing)

(PAGE 149/150) - As the proposed West of Wedge development represents the establishment of a new marine farming zone, emissions are likely to impact upon the marine environment in the immediate vicinity of the new zone. However, as the nearest macroalgal assemblages adjacent to the West of Wedge development are located approximately 1.6 km from the lease boundaries, the potential for adverse environmental effects from the proposed development is considered to be low based on modelled outputs which suggest that the receiving environment is highly dispersive in nature. The results of the environmental monitoring program during the initial staged entry approach, including assessment of macroalgal assemblages along rocky reefs, will be used to assess the level of

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potential impact prior to any consideration of future increased stocking levels. Overall, it is considered that there is a low risk that the proposed development will result in any significant environmental effects on marine vegetation communities within the Storm Bay/West of Wedge Island area, particularly macroalgal communities along the fringing reefs to the east of the proposed West of Wedge development.

The TACL notes the bold statement by Tassal (made several times within the EIS) that it considers there is a “low risk” that the proposed West of Wedge development will result in any significant environmental effects – this is an opinion that Tassal claims is supported by research conducted by themselves and others.

The TACL remains unconvinced that this is the case but does draw some “limited degree of comfort” in the above highlighted statements from the Tassal EIS referencing the proposed environmental monitoring systems that either already exist or will be implemented in the event that the draft Amendment to the MFPD is approved.

The TACL formally requests to be further consulted by the Tasmanian EPA during the design of the baseline and ongoing environmental monitoring systems referred to within the EIS.

Dean Lisson: TACL Chief Executive

January 2018

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