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Secretary
Department of Primary Industries, Parks, Water & Environment
GPO Box 44
Hobart TAS 7001

By email: maree.clayton@dpipwe.tas.gov.au

Dear Mr Evans

Submission on Draft Amendment No. 3 to the D'Entrecasteaux Channel Marine Farming Development Plan February 2002

EDO Tasmania is a non-profit, community based legal service specialising in environmental and planning law. This submission is made on behalf of and in consultation with Ms Miranda Howie of 684 Cygnet Coast Road, Petcheys Bay, Tasmania 7109.

Ms Howie has a view of Tassal's marine farming operations in the D'Entrecasteaux Channel (**the Channel**) from her residence and has expressed her concerns in the past in relation to the Tassal Operations Pty Ltd (**Tassal**) marine farming lease near Brabazon Point and has concerns about any expansion in the Channel.

This submission is made under section 39 of the *Marine Farming Planning Act 1995* (**the Act**) in relation to the Draft Amendment No. 3 to the D'Entrecasteaux Channel Marine Farming Development Plan February 2002 (**the Amendment**).

Request for Hearing

Ms Howie requests a hearing in relation to this submission. Ms Howie requests that the address for receipt of any notice in relation to the hearing be sent to her at 684 Cygnet Coast Road, Petcheys Bay, Tasmania 7109.

Requirements under the Marine Farming Planning Act 1995

Section 21(1) of the *Marine Farming Planning Act 1995* sets out the minimum requirements for an amendment to a marine farming development plan. Relevantly, the draft amendment must:

- further the objectives of resource management;
- have regard for the use and development of the region as an entity in environmental, economic, recreational and social terms;
- seek a co-ordinated approach with respect to any matter affecting adjacent land;
- have regard to the biological and physical requirements of fish species to be farmed in the affected area.

Our submission reviews the draft amendment against these requirements. It is our view that the draft amendment does not further the resource management objectives in relation to promoting sustainable development and maintaining genetic diversity, and does not have adequate regard to the environmental impacts of the proposed expansion.

We also believe that the objective of encouraging public involvement would be furthered by postponing any amendments to the D'Entrecasteaux Channel Marine Farming Development Plan February 2002 (**the MFDP**) until the full 10 year review of the MFDP is undertaken in 2012.

Further information required

Section 23(2) of the *Marine Farming Planning Act 1995* provides that the EIS accompanying a draft amendment must:

- Disclose any available information relating to the environmental impact of the proposed amendment; and
- Contain information appropriate to the significance of the draft amendment to the environment and the likely public interest.

Our submission identifies a number of issues for which the information provided in the EIS is not sufficient to properly assess the environmental impacts of the draft amendment. Additional information requirements are detailed in each relevant section.

1. Insufficient information in relation to sustainability

Sustainability

The Australian Marine Conservation Society has raised numerous concerns regarding the sustainability of fish farms.¹ These comments include the following:

¹ See <http://www.sustainableseafood.org.au>

"The fundamental issue with farming many seafood species in Australia is that aquaculture doesn't take the pressure off wild fisheries, it actually exacerbates it. Many farmed species in Australia are carnivorous or omnivorous (e.g. salmon, trout, Barramundi, prawn) and eat smaller fish to survive in the wild. So many of our popular farmed fish are fed fishmeal and fish oil that is sourced from the ocean's wild fisheries.

Marine fin fish farms in Australia actually use up more fish flesh than they produce, and simply cannot replace wild capture fisheries.

For example, for every tonne of farmed Atlantic Salmon produced, around three tonnes of wild fish must be caught for feed. Most of these fish come from the huge volume Peruvian Anchovy fishery which also produces fish for livestock such as chickens and pigs.

Given this conversion ratio (3:1), it is difficult for the industry to be truly sustainable under current practices. Fin fish aquaculture in particular must continue to reduce reliance on fish protein, increase use of 'off-cuts' from sustainable wild fisheries and move towards farming of fish that require low levels of or no animal protein to grow."

There is also significant concern that due to global climate change the temperatures of the water in the Channel may be increasing which can affect the growth and mortality rates of the fish grown in the Channel. The negative economic impact of warmer waters is noted on page 3 of Tassal's 2010 Annual Report:

"Overall, Tassal's statutory results for FY2010 reflected difficult market conditions and a number of factors outside Tassal's control. These included the economic impact of the global financial crisis, falling export prices, a high Australian dollar, increased feed costs, and warm summer water conditions affecting the growth of harvested fish."

"Summer remains a challenging period in terms of fish growth, and FY2010 presented a challenging summer period for the Company."

On page 8 of Tassal's Annual Report one of the operation priorities relates to summer water temperature and refers to climate change:

"summer water temperature is still the Company's biggest risk, albeit through the Selective Breeding program Tassal will be well placed to be an early adapter to climate change."

Given the concerns about the long term sustainability of salmon farming, we do not believe that the proposed expansion can currently be shown to further the objectives of sustainable development.

Nitrogen levels

The Plan discusses a number of management controls in relation to nitrogen outputs, including:

3.2 Management Controls Relating to Nitrogen Outputs

3.2.1 The Secretary may, from time to time, determine the total permissible dissolved nitrogen output, within specified periods, attributable to marine farming operations within a specified area covered by this Plan.

3.2.2 For the purposes of assessing quantities of dissolved nitrogen output attributable to marine farming operations the Secretary may use:

3.2.2.1 the proportion of expected dissolved nitrogen output from a unit of feed as used in Butler et al., (2000, at section 10.2.5); or

3.2.2.2 any other method that the Secretary is satisfied delivers a measure of total dissolved nitrogen output from marine farming operations equal or better than that used by Butler et al.(2000)"

The EIS refers on page 5 to a "nitrogen cap" which "limits the amount of feed that can be used by aquaculture companies". There does not appear to be any assessment in the EIS of the importance of this cap and any potential impact on sustainability of fish farming in the Channel if the cap is exceeded.

On page 5 of the EIS it is stated that the "expansion of the lease is not proposed to hold more fish in total between the Roberts Point leases, but to allow Tassal to improve biosecurity at the existing level of production by separating year classes". If the Amendment and EIS are based on this assumption then it would be appropriate to have this stated purpose included as a condition of granting the Amendment and a cap placed on production in the lease area.

Finally, on page 4 of Tassal's Annual Report, the 2015 Strategic Plan provides for the following increase in harvest production from 2010 to 2015.

Description	FY 2010 Actual	FY 2015 Target	Percent Change
Harvest size - hog	3.8	5kg	32%
Harvest amount - hog	17,500	28,000 to 30,000	60%

The EIS does not appear to address the above forecasted harvest increases from 2010 through 2015, or the impacts that expansion of production will have on the environment in the area.

Further information required

- ✓ Does Tassal utilise fish protein in its feed? If "yes" , what percentage of feed contains fish protein and how is this practice sustainable based on the Australian Marine Conservation Society comments noted above?
- ✓ What are the water temperature trends for the Channel in the last 10 years and what are they forecasted to be in the next 5 years?
- ✓ Is there a graph showing the correlation between water temperature increasing and its effect on size and mortality rates of fish including any fish under the Selective Breeding Program referred to above?
- ✓ What is the current nitrogen cap in the Channel and is it still based on "Butler et.al. 2000" referred to in 3.2.2.1 of the MFDP noted above?
- ✓ How was the cap determined as environmentally acceptable in the EIS for the Channel?

- ✓ Is the nitrogen cap a best standard in terms of regulating feed and therefore the number of fish farmed in the Channel?
- ✓ Is there data available for the last ten years which shows the trend in Nitrogen levels in the Channel?
- ✓ What data is available which shows the environmental impact to marine life in the Channel when the Nitrogen Cap is approached or exceeded?
- ✓ What is the impact on sustainability if 2015 Strategic Plan harvest production targets noted above are achieved (See 2015 Strategic Plan on page 4 of Tassal's Annual Report)?

2. Insufficient assessment of impacts on genetic diversity

Impacts on reef system

On page 36 of the EIS a comment is made by Dr Neville Barrett from TAFI regarding a fragile reef located in the area of the proposed expansion of the existing lease area under the Amendment. Dr Barrett states the following.

"The Reef top is densely covered in seaweeds and several species of sponges. This type of reef and associated biota is particularly rare in the Channel region and such habitat would constitute well under one percent of the available habitat within the Channel".

The EIS addresses the potential nutrient impacts to the local reef on page 53 of the EIS and indicates that the reef will be located at least 15 metres from the proposed zone edge and that the cages will be approximately 180 metres from the reef.

We submit that an expert study should be conducted into the impact of the proposed expansion (including increased vessel movements, increased use of antifoulants and risk of escape of farmed fish) on the reef and associated biota. This study should include an assessment of whether the proposed buffer distances are sufficient to protect natural values. Any buffer zones recommended by an expert in relation to the reef should be included as a condition of granting the Amendment.

Long term impacts of nutrients and heavy metals

Section 3 of the MFDP requires general controls and certain baseline environmental studies to be carried out:

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3.4 Baseline environmental survey requirements

Lessees must provide a baseline environmental survey as specified by the Secretary. A baseline environmental survey must be undertaken prior to the commencement of marine farming operations on those areas;

- *where a new lease area is being established; or*
- *when required as a condition of varying or expanding a lease area; or*

– where a marine farming licence is varied to allow the farming of another species not addressed by the existing baseline survey for the lease.

Data to be collected may include but is not limited to video assessment, sediment particle size analysis, organic carbon content of the sediment, redox potentials, water flow rates, current flows and composition of the benthic community.

Note: The Secretary 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 marine farming licence conditions.

3.1 General Controls for all Marine Farming Zones

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3.1.1 There must be no unacceptable environmental impact, to the satisfaction of the Secretary, 35 metres outside the boundary of the marine farming lease area. Relevant environmental parameters must be monitored in the lease area, 35 metres from 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.

There does not appear to be any use of the original baseline studies used in the EIS in order to determine the impact of the Fish farm operations on the diversity of benthic communities between 2003 and 2010. Only 2010 information is provided in Tables 2 through 4 regarding sediment sample descriptions and video transects. In our opinion, it would be logical to compare 2003 baseline data to 2010 data in order to measure the environmental impact on the Channel from marine farming operations.

The only Baseline data in the EIS comparing 2003 to 2010 occurred in Table 6 Copper Levels where the mean concentration of Copper levels is compared between the baseline study in 2003 and the data in 2010. The table indicates that the Farming Activity at TSOD had a mean Cu concentration that was 15 times the mean Cu per the control sample under TSOD (123mg.kg). Yet there is no evaluation in the EIS between 2003 and 2010 on how that increase in Copper has impacted the benthic diversity.

On page 62 of the EIS an allowable threshold of copper concentration of 270 mg/kg is noted yet there is no discussion on how this was arrived at or whether this is industry best practice.

The impact of copper-based antifoulants on the marine environment have been studied by C. Macleod & R. Eriksen in 2007.² The main environmental concerns identified in the study regarding antifoulant contamination include:

- Bioaccumulation;
- Ecotoxicological effects and subsequent changes to local ecology and biodiversity; and

² A Review of the Ecological Impacts of Selected Antibiotics and Antifoulants Currently Used in the Tasmanian Salmonoid Farming Industry (Marine Farming Phase) C. Macleod & R. Eriksen. 2007

- Effects on ecosystem function (i.e. microbial and geochemical processes that regulate the cycling, bioavailability, and fate of micro- and macronutrients).

The EIS states that there will be no net increase in the use of antifoulants in the general area, as increased use at Soldiers Point will be offset by reduced use at the Roberts Point lease. However, we submit that the Soldiers Point site may be more sensitive to chemical impacts due to the proximity of the dolerite reef. Increased use of antifoulants in the zone may also potentially impact on the values of the Green Island Nature Reserve. Both of these potential impacts should be properly assessed.

We commend Tassal for their moves to cease the use of antifoulants by 2015, but would like to see a significant reduction in use phased in earlier. The planning authority should consider imposing a condition restricting the use of antifoulant on nets in the expanded lease area. To the extent that approval of the Amendment is based on the assumption of no net increase in antifoulant use due to the resultant reduction in use at the Roberts Point lease, this should also be reflected in the conditions for both lease areas.

Species escape

On page 65 of the EIS under 5.1.9 Species Escapes it was noted that “approximately 30,000 fish escaped from the system farm that was in use at the time”. The EIS does not discuss what impact this had on the diversity of marine life in the Channel.

We are concerned that the increased transfer of fish between the Soldiers Point and Roberts Point lease areas may increase the risk of escape. Therefore, it is important that there is a clear understanding of the impacts of mass escape on biodiversity in the Channel.

Further information required

- ✓ Full scientific study on the impact of marine farming operations on the reef referred to by Dr Barrett on page 36 of the EIS;
- ✓ Assessment of the potential impact of the proposed expansion (including increased use of antifoulants and increased noise) on Green Island Nature Reserve;
- ✓ A comparison between 2003 baseline sediment sample descriptions and video transects and recent 2010 sediment sample descriptions and video transects in order to determine the impact of the Fish farm operations on the diversity of the benthic community between 2003 and 2010 in the Channel.
- ✓ What information is available in relation to the impact of 30,000 fish escaping in 2003 on diversity in the Channel?
- ✓ How was the allowable copper threshold of 270 mg/kg arrived at and is it based on industry best practice?

3. Amendments should be deferred until the 10 year review of the MFDP

The Act requires the Planning Authority to review a marine farming development plan at least once every ten years to ensure that the objectives of resource management are achieved to the maximum extent possible having regard to any relevant changing circumstances.

In the recent ten year review of the Far North West Marine Farming Development Plan October 1998 ("FNWMFDP"), important recommendations were made to protect diversity. In particular, the planning authority made five modifications to the FNWMFDP which included deleting or modifying marine farming zones in order to protect bird species, flora and fauna communities.

The objectives of the Act mandate strategic planning and coordination in order to fully address economic and environmental sustainability to ensure all relevant impacts are adequately considered.

Since Tassal is seeking to substantially increase the zone area from 43.2 hectares to approximately 71.34 hectares or an increase of 65%. Given the growing concerns being raised regarding the sustainability of the aquaculture industry, we recommend that there be a moratorium on consideration of any significant amendment to the MFDP until a full ten year statutory review occurs.

4. Need for analysis of the environmental costs and economic benefits

The RMPS objectives require that economic development occur in accordance with the fair, orderly and sustainable use and development of air, land and water. The Act also requires that regard be had to the environmental, economic, recreational and social development of the region when considering an amendment to the MFDP.

Given the additional environmental risks, monitoring and potential enforcement costs associated with marine farming, a proper assessment should balance those risks against the potential benefits of the proposed expansion. The benefits of jobs created, additional rent received, and other benefits in granting the amendment should be compared to the environmental costs, lost opportunity costs for other uses (such as tourism) and any other costs.

Further information required

- ✓ Information regarding the amount of additional lease income that Tassal will pay under the Amendment?
- ✓ A cost-benefit analysis comparing the benefits of granting the lease (rental income from increased lease size, jobs gained, exports gained) with the environmental and opportunity costs associated with granting the Amendment.

Conclusion

We submit the Amendment should not be granted or at a minimum the decision should be deferred until the issues noted in this submission have been addressed and until the further information detailed in this submission is included in the EIS.

We appreciate the opportunity to make these comments. Please do not hesitate to contact us if you wish to discuss anything raised in this submission.

Kind regards,

Environmental Defenders Office (Tas) Inc

Per:

A handwritten signature in black ink, appearing to read "Gus Risberg", with a stylized flourish underneath.

Gus Risberg
Lawyer