Submission to the Inquiry into Fin Fish Farming in Tasmania

Legislative Council

Government Administration Committee 'A'

by

Neighbours of Fish Farming

November 2019

Neighbours of Fish Farming

PO Box 83, Cygnet TAS 7112

fishfarmingneighboursof@gmail.com

https://neighboursoffishfarming.org.au/

Mr Stuart Wright
Inquiry Secretary
Parliament House, HOBART 7000
finfish@parliament.tas.gov.au

Dear Mr Wright

I am pleased to present our submission to the Inquiry into Fin Fish Farming in Tasmania.

Neighbours of Fish Farming (see Appendix 1: NOFF) is a community group in the Huon Valley. Our objective is to promote sustainable, responsible fish farming, regulated by transparent government and commercial processes. Our objectives are to protect our natural waterways and local economy, and to foster the development of primary and secondary industries in ways which do not conflict with the cultural values and environmental features which contribute so much to the attraction of southern Tasmania to residents and visitors.

There are many aspects of finfish farming which we and others are concerned about, but this submission focuses on those which we consider are of highest priority at this time.

Your inquiry is timely, and we hope that our submission will contribute to a successful outcome for all Tasmanians.

We have provided links throughout this submission to all of our sources of information. We can provide copies of most of these sources should you prefer. Please contact me if you or your committee need any further information.

We would be pleased to update this submission should the current situation change after the deadline.

NOFF respectfully seeks an opportunity to address the committee during its inquiry.

Yours faithfully

Peter George
President
29 November 2019

Contents

Executive Summary & Recommendations 4

1. Transparency and Community Involvement 6

Introduction 6

Websites 7

1) Inconsistent terminology, scope and definitions 7

2) Not up to date 8

3) Poor access to quantitative, longitudinal and baseline data 8

4) Inadequate linking and indexing 9

5) No single point of contact for fish farming issues 9

Conclusion 10

2. Economic Benefit to Tasmanian Governments 12

Introduction 12

Aquaculture in the Tasmanian Economy 12

Land-based and Deep-Water Aquaculture 13

Conclusion 14

3. Community Concerns: Noise, Light Pollution, Debris 16

Introduction 16

Noise & Light 16

Marine Debris 18

Conclusion 18

Appendix 1: NOFF 19

Appendix 2: Residents Concerns 20

Executive Summary & Recommendations

There are many aspects of the fin fish farming industry which are of concern to the community. This submission focuses on three of the highest priority.

Transparency and community involvement (see Chapter 1)

Unfortunately there is widespread community distrust and lack of confidence in the transparency shown by government and industry. In spite of a range of activities such as public meetings, inquiries and advisory panels, it is clear that government and industry are failing to meet their stated objectives in this regard.

We have analysed the five major websites as one key component of transparency. Our analysis shows that each fails to meet minimal standards, and taken together, they present an inconsistent, non-standardised, confusing mish-mash of information, with little accessible or usable quantitative data. Importantly, there is no single central point of contact for reporting problems (especially urgent issues), requesting information, and obtaining feedback. We suggest several simple ways to rectify this (see page 10) and significantly improve community confidence and trust.

Economic benefits to Tasmanian governments (see Chapter 2)

The economic benefits of the fin fish industry must be put into the perspective of the state's overall financial and environmental health and direction, for both state and local government.

It is often claimed that the fin fish industry is a major contributor to Tasmania's employment and finances, but our analysis shows that these contributions are minor compared to those of the tourism and agricultural sectors, and that the industry is very likely to impede the growth of tourism in the state. No figures are available to assess hidden costs including cleaning up environmental damage, truck movements, house prices, health issues from lights and excessive noise, and damage to fishing for local professional and recreational fishers and interstate visitors, or the cost to government of regulation, supervision and enforcement of regulations.

Furthermore, Tasmanian industry strategy seems shortsighted, focusing on the development of more specialized floating pens in areas which can only be defined as coastal, while ignoring technologies developing rapidly overseas to meet community expectations for pollution, noise and marine debris, and adapt to changing ocean temperatures, by moving to land-based or genuinely deep sea operations which are completely self-contained. These technologies present a real risk of increased competition from overseas operations, or those based on the mainland. We suggest ways to address this situation (see page 14) and ensure the long-term future of the industry.

Community concerns including noise, light pollution, and marine debris (see Chapter 3)

These issues have to do with quality of life, with health, safety, welfare and the intrusion of industrial processes to daily rural life. They are easy to identify but are the most difficult to quantify empirically.

Of all the concerns that NOFF committee hears about, the most frequent are for light, noise, and marine debris and waterfront fouling. Central to this is the lack of a single central point of contact for reporting problems (especially urgent issues), requesting information, and obtaining feedback.

These issues have been ignored for far too long and have caused considerable distress to many residents in the Channel and Huon regions (see Appendix 2: Residents Concerns). They must be addressed with urgency, and we have suggested ways of doing so (see page 18).

Recommendations

Based on this analysis, we recommend:

Creation of Aquaculture Ombudsman

1. The Government should immediately legislate to create the office of Aquaculture Ombudsman, with authority to investigate and report to the public and parliament, at least annually, on all activities relating to fish farms.
2. The Aquaculture Ombudsman must be independent of government and industry, be sufficiently resourced from industry levies, and empowered to oversee operations, enforce regulations and standardised reporting, investigate and report on the quantity, nature, frequency and resolution of issues and complaints, and impose penalties for breaches of regulations.
3. The Aquaculture Ombudsman's office should contract or employ independent marine scientists and other professionals able to investigate issues at the Ombudsman's discretion.
4. The Aquaculture Ombudsman should become (and should widely advertise as such) a single point of contact (a 'one-stop' shop) for reporting all community issues, incidents and other concerns about fish farm operations, including requesting information, and receiving feedback. This activity should be based primarily around a suitable website, and the Ombudsman should be empowered, for this and all related government and industry websites, to enforce 'best of breed' standards for website content, reporting, structure, linking and terminology, with a specific focus on quantitative data, including historical and baseline data, and ease of public access and use.

Plan to move fish farming off-shore or on to land

5. Government and the aquaculture industry should immediately collaborate in increase efforts (including research and investment) towards moving all offshore Tasmanian fish farming into truly deep waters or preferably to on-shore, closed-loop Recirculating Aquaculture System facilities in which all sources of contamination, pollution and other environmental effects can be effectively monitored and contained.
6. That fish farm operators shall have no more than ten years to remove pens from coastal waters, estuaries and rivers.

Take concrete steps towards greater public transparency

7. That independent analysis be immediately commissioned to provide scientifically credible reports on water quality, environmental impact and marine life in broad areas around existing leases, and baseline studies in proposed leases, and that until this recommendation is adequately addressed, scientific studies publicly released and communities reassured, a moratorium on all further leases and expansion of fish farming be declared.
8. That the Marine Farming Planning Review Panel be reconstituted to include at least one independent member of the community and at least two independent marine scientists without whom the panel should not sit. The Review Panel's reports should be public with full reasons given for each decision, and that the panel must give full consideration to the concerns of the public, and particularly of communities affected by fish farm operations.

We are confident that these recommendations, and other more detailed throughout our submission, will greatly improve transparency and community trust, and help position the industry in the long term to successfully continue its contributions to Tasmania.

1. Transparency and Community Involvement

Introduction

This part of our submission relates to section 1a of the Committee's terms of reference, specifically to the section on maintaining public confidence in the salmon industry in the *Sustainable Industry Growth Plan for the Salmon Industry.*[1] It also relates to Schedule 1 of the *Marine Farming Planning Act*, specifically objectives (c) to encourage public involvement in resource management and planning, and (e) to promote the sharing of responsibility for resource management and planning between the different spheres of Government, the community and industry in the State.[2]

The Government states in the Plan (page 4) that:

> ***Our vision is for the industry to . . . remain an industry Tasmanians are proud of and have confidence in, by increasing transparency and industry accountability for environmental management, and by the introduction of a clear and robust mechanism for expansion.***

In spite of this, there remains, long-standing concern about the extent and effectiveness of community involvement in the industry, and about government and industry transparency.

Two of many examples are:

- In 2015, prior to the development of the Plan, the Federal Senate's Environment and Communications References Committee stated:
  The committee considers a greater understanding of industry activities would be beneficial, particularly as the industry seeks to expand its operations. One avenue of achieving this would be by making available a wider range of information about marine farming monitoring and regulatory activities, particularly those undertaken by the Tasmanian Government[3].
- In 2018 ABC News reported on a major salmon escape:

  The head of Tasmania's Environment Protection Authority (EPA) Wes Ford said there was a widely held view the salmon farming industry needed to be more open about its operations. 'I believe there should be greater transparency, I think, as does the industry, and as does the Government', Mr Ford said, adding the Government had flagged greater transparency through its 2017 sustainable growth plan for the Tasmanian salmon farming industry.[4]

Google searches on the topics below (for example) reveal the ongoing and widespread nature of issues concerning the public, and the industry.

- salmon escapes Tasmania
- salmon farming Tasmania marine debris
- salmon farming Tasmania pollution
- Macquarie Harbour salmon farming
- Storm Bay salmon farming
- salmon farming Tasmania transparency

Two years after publication of the Growth Plan, our experience is that this concern remains widespread in our local community. Unfortunately, it is no exaggeration to say that mention of government or industry transparency is too often met with cynicism, resignation and dismay.

It is clear that State Government efforts since the 2015 Federal enquiry have proved inadequate in building or maintaining public confidence in the salmon industry, or even overcoming a *perception* of lack of transparency. Improving this situation should therefore be of the highest priority.

---

[1] DPIPWE *Sustainable Industry Growth Plan for the Salmon Industry* [undated, 2017?], p.16. Downloaded 29 October 2019
[2] Tasmania. *Marine Farming Planning Act 1995*.
[3] Australia. Senate. Environment and Communications References Committee. *Regulation of the fin-fish aquaculture industry in Tasmania*, August 2015. Section 2.70. Downloaded 28 October 2019
[4] Compton, Leon *Huon Aquaculture confirms 120,000 salmon escaped in May storms, amid calls for more industry 'transparency'* ABC News Updated 12 Sep 2018.

Websites

Key to transparency is maintaining websites which are easy to use and consistent with other industry and government websites, and which provide not just information, but quantitative data to back up well-intentioned and reassuring words. They should also provide specific contact information, especially for issues and events needing timely responses. In this electronic age, websites have adapted to social media's domination of news and events, by becoming sources of more enduring, authoritative information and data.

This has been recognised by industry leaders. Tassal states:

> *Transparent reporting is key to driving accountability and continuing improvement. Our intent is to provide timely, accurate and material information for our stakeholders. We are committed to tackling sustainability issues with integrity, transparency and purpose . . . The dashboard seeks to inform you with accurate, up to date information on material aspects of our operations.*[5]

However, a recent study by NOFF[6] has shown that, while some industry websites appear on first examination to be quite good examples of modern website design (eg Tassal, Huon Aquaculture, EPA), each of them separately has flaws in structure, content and indexing. Others (eg DPIPWE, Petuna) are more seriously lacking. Taken together, there are inconsistencies in content, indexing and terminology which make it impossible to access data on specific aspects of the industry on a state or regional basis, or across time.

Overall, while the majority of individual websites are superficially reassuring, on more detailed examination, the industry-wide picture is certainly not one of transparency. The *NOFF Websites* study details many major and minor issues, but we wish to draw attention to five of them.

1) **Inconsistent terminology, scope and definitions**

   The most glaring example of this is the region names used.[7] It is difficult, if not impossible, to reconcile the regional names (and hence the data) used by the salmon farmers, with the names of the Marine Farming Development Plans used by DPIPWE. Even the two government organisations, DPIPWE and EPA, use different terms. Macquarie Harbour is used by four sites, but Tassal uses Western. Is this exactly the same? What overlap is there between: Southern (Tassal), Huon River (Huon Aquaculture), Lower D'Entrecasteaux Channel (Huon Aquaculture), Huon River and Port Esperance (DPIPWE), and D'Entrecasteaux Channel, Huon and Port Esperance (EPA)?

   Another example is Dissolved Oxygen, where Tassal uses parts per million, Huon Aquaculture uses percent saturation, and Petuna, DPIPWE and EPA provide no obvious information at all.[8] For antibiotic use, Tassal uses the proportion of all fish treated, whereas Huon Aquaculture specifies kilograms used, number of pens treated, and grams per tonne of total biomass.[9]

   Tassal, DPIPWE and EPA refer to *Benthic* compliance or monitoring, which is definitely not Plain English, whereas Huon Aquaculture uses the far more user-friendly term *Seabed Health*.[10]

---

[5] Tassal Website *Sustainability page* viewed 18 Nov 2019

[6] NOFF. *Salmon farming website usability and content reporting comparisons*, Cygnet, November 2019. This report is structured as a spreadsheet with numbered rows – we shall refer throughout this submission to specific rows, eg *NOFF Websites row 23*.

[7] *NOFF Websites* row 4

[8] *NOFF Websites* row 18

[9] *NOFF Websites* row 5

[10] *NOFF Websites* row 7

2) **Not up to date**

There is evidence that some of the websites are not up to date:

- The entire Petuna site uses the increasingly obsolete HTTP protocol, not the much more secure HTTPS protocol. While this does not affect usability, content or interface design, it does not engender trust when your browser loudly proclaims a site to be *Not secure*. The Tassal home page does use HTTPS, but their Sustainability Dashboard still uses HTTP.[11] To increase Internet security, the software industry world-wide has been actively promoting the change to HTTPS for at least the last five years, as a matter of urgency.[12]
- The Huon Aquaculture site has an orphan page with information about Our Hatcheries, hierarchically below its home page. However, the home page contains no menus or links to the hatcheries page, you can only find it by searching. While this may simply be an oversight, it may also be that the hatcheries information is obsolete, and the page should be removed from the active site. At the very least this indicates a lack of quality assurance on either content or structure.[13]
- The Petuna site displays images of four compliance certificates from external certification agencies. Three of the four certificates have expired.[14]

3) **Poor access to quantitative, longitudinal and baseline data**

Across all the sites there is very little longitudinal data, so it is frequently not possible to analyse changes across multiple years.

- Half or more of the data for antibiotic use, cleanups, bird and seal mortalities, dissolved oxygen, and temperature is for the current year only,[15] and inconsistencies in content impede analysis across sites.
- There is no information or data on pen stocking density, noise, or floating marine debris, and very little on land-based operations.[16]
- All three companies have documents which can be downloaded.[17] Some of these appear extensive: the Tassal sustainability reports for 2012-2017, for example, range from 62 to 112 pages each. However, for all three companies, detailed examination of these downloads shows that they contain little quantitative data which is not already available on their websites.
- The DPIPWE site is particularly lacking. Too often, it just shows 'Yes/No' to compliance reporting.[18] We see little purpose, for example, in knowing that one company reported an escape or significant mortality event, if there is no information on the number of fish involved, or any subsequent actions by the company or regulator.
- There are significant quantitative data and downloadable reports on the EPA website, including compliance breaches, but this is flawed by patchy consistency.[19] Data and documents appear to have been assembled because they are byproducts of other processes, rather than the outputs of a systemic plan designed to make information available to the community.

---

[11] *NOFF Websites* row 2
[12] Wired *Half the Web Is Now Encrypted. That Makes Everyone Safer* 17 January 2017
[13] *NOFF Websites* row 3
[14] *NOFF Websites* row 6
[15] *NOFF Websites* rows 5, 11, 15, 18, 37, 44
[16] *NOFF Websites* rows 3, 25, 33, 35
[17] *NOFF Websites* row 3
[18] *NOFF Websites* row 22, 27, 31, 37, 42
[19] *NOFF Websites* row 3

- Where quantitative data is available on the Tassal and Huon Aquaculture Dashboards, the actual numbers can only be seen by hovering the mouse cursor over a data point on a graph.[20] There are no accessible data tables (from which the graphs are undoubtably generated), so copying quantifiable data numbers is extremely tedious and error-prone.
- A serious issue is the lack of baseline (before and after) data, which handicaps any longitudinal analysis, and limits community trust in video or other evidence. The most obvious example is in Benthic Compliance,[21] where Tassal (King Island only) and Huon Aquaculture (four of ten listed sites) have video clips for 2018 only, but none showing the ocean floor *before* pens were installed. The EPA site has 2016 videos for four Macquarie Harbour sites within the World Heritage Area, and one baseline video from 2012. A few of the downloadable reports on the EPA site have baseline data.[22]

4) Inadequate linking and indexing

Key to the usability of any website is linking and indexing, by standardized menu structures and wording, and by hyperlinks within the site and to related websites.[23]

- There are problems with all sites, with broken links indicating a lack of quality control, or related sites poorly linked (eg to generic home pages not specific pages) or not linked at all.
- All three companies link to external certification agencies, but these are of little use as the external sites contain very little or no accessible information.
- There is little consistency in wording: Huon Aquaculture starts with *Our approach – Sustainability Dashboard – Sustainability Dashboard* and you then have to browse between *Our Fish* and *Environment.* Tassal starts with *Sustainability – Sustainability Dashboard* and from there, most but not all items of interest are under *Our Planet.*
- DPIPWE is a notably poor example, not aided by an overall site design that is particularly dated. The Salmon Farming Data Portal refers in the introductory text, and in the text for each Plan, to several related organisations and to the three companies, but these are not linked. A sidebar provides links to other government and scientific organisations, but only to their top pages, and there are no links to the salmon companies. The Marine Farming – Aquaculture – Reports and Publications page does provide more specific links to the IMAS reports page, and the EPA regulation page.
- In particular, there is much supporting information and quantitative data on the EPA site, but this is not linked to or from to each Plan on the DPIPWE site.

5) No single point of contact for fish farming issues

Community trust is seriously compromised by lack of a single website page with information about consistent, simple ways for members of the public to request information or report issues such as noise, or marine debris, and to receive feedback. There is certainly no one-stop shop to cater for situations which may require urgent action, and the overall picture is very confusing:

- DPIPWE, on the Marine Farming – Aquaculture – Reporting Marine Farming Debris page, shows contact details including their marine debris hotline. The hotline number is also on the parent page, but not on the Salmon Farming Data Portal page, nor is it on the list of 13 specific hotline numbers on their Contact Us page. They also provide details of the Debris Tracker smartphone app, and state that anything reported through the app, or

[20] *NOFF Websites* row 2
[21] *NOFF Websites* row 7
[22] *NOFF Websites* row 3
[23] *NOFF Websites* rows 3, 6

via the hotline, is sent to the Marine Farming Branch (DPIPWE), MAST, and the salmon company closest to the debris for removal. There is no information about possible feedback. The page also has links to MAST, and to DPIPWE's Whale hotline, which it states covers whales, dolphins and seals, although the Contact Us page hotlines list refers only to whales and dolphins, but not seals.

- The EPA website has a Report Pollution page with contact details for generic incidents. A sidebar has a specific link leading to a Noise Complaints page where there is an entry for fish farms with the same details. Confusingly, their Noise Complaints Contacts page links back to the Noise Complaints page, but also provides different contact details for the department's Noise Specialist, with no indication of which to use.
- The MAST video clip on marine farming (7 mins) says towards the end to contact industry companies first (which appears to contradict the instructions on the DPIPWE site), or failing that, MAST, about any marine debris, but does not specify any contact details or the EPA hotline. The MAST website has no highlighted contact point for reporting any incidents or issues (not just marine debris), and no details about out of hours emergency contacts.
- Tassal, Huon Aquaculture and Petuna have no specific contact details for emergency reports or problems, just generic contacts such as those for consumer feedback, customer service, retail and wholesale business, and general office contacts.

This lack of a single, easily accessible contact point for reporting issues and incidents, has two serious outcomes:

- Members of the public are frustrated, and in some cases even suspicious of deliberate obfuscation.
- There is apparently no centralized data being collected which would enable Government objectives and industry performance to be better managed, and priorities directed to correct emerging issues.[24]

Conclusion

In looking at these five websites involved in salmon farming in Tasmania, we have considered only the lowest of the four commonly accepted levels of community engagement: the provision of information. This has been defined as providing the community with *balanced and objective information to help them understand a problem, alternatives, opportunities or solutions.*[25]

Our analysis in this section of our submission shows that each site fails to meet this minimal standard in many ways, and taken together, the five sites present an inconsistent, non-standardised, confusing mish-mash of information, with little accessible or usable quantitative data. This cannot and does not foster community trust. Considerable work is needed before these sites can support the higher level of involvement set out in the *Marine Farming Planning Act,*[26] or develop the public trust and pride, and the transparency, set out in the *Sustainable Industry Growth Plan for the Salmon Industry.*[27]

To address these issues, we recommend establishing a single, coordinating authority, with enforceable power over all relevant industry and government websites, to:

1. Establish mandatory standards for website terminology, units of measurement, hyperlinks, the consistent recording and presentation of data including mandatory baselines, and ongoing access to all historical quantitative data.

---

[24] *NOFF Websites* rows 26, 33

[25] Blacktown City Council. *Community engagement strategy* 2010 p 6-7. The other levels, in increasing order of engagement, are consultation, involvement, and collaboration.

[26] Tasmania. *Marine Farming Planning Act 1995* schedule 1, s3(1) objectives c and e.

[27] DPIPWE *Sustainable Industry Growth Plan for the Salmon Industry*, p.5.

2. Require public access to all quantitative data in support of or used in the presentation of visual or graphical information.
3. Require alignment of all reports, data and terminology with the geographic boundaries set out in DPIPWE's Marine Farming Development Plans.
4. Require the use of Plain English principles in the presentation of all information.
5. Establish and maintain a single point of contact for the public to report issues and incidents involving the salmon farming industry, receive feedback, and request information, on a website or by phone or email.

2. Economic Benefit to Tasmanian Governments

Introduction

This part of our submission relates specifically to sections 1b, 2c and 3 of the Committee's terms of reference.

NOFF argues that good management practice, worldwide industry trends and sustainable growth in the salmon farming industry must, as an economic imperative, start the process of moving properly off-shore into deep ocean waters, or build on-shore facilities for the whole salmon growth cycle.

Aquaculture in the Tasmanian Economy

Neighbours of Fish Farming recognises the contribution of aquaculture to the Tasmanian economy.

- Worldwide, salmon farming is a growth industry with a compound annual growth rate of 6.26%. Production is expected to grow to 4.5 million tonnes by 2023 valued at $USD14,764 million.[28] By comparison, Australian production is tiny, accounting for just 2 percent of the total global tonnage. 99 percent of this production is in Tasmania, with total tonnage expected to rise to 71,000 tonnes by 2023/4 and a projected gross food value of $898 million against $838 million in 2019.
- In contrast, the total comparable value of land-based agriculture is just over $1 billion, while abalone and rock lobster account for $1.8 million.[29]
- The most recent figures (2016) show that aquaculture employs 1,580 people (including shellfish and salmonid industries) against a primary industry total of 11,380.[30]
- Overall, the salmon farming industry equates to 0.69% of Tasmania's workforce.
- By comparison, Tasmania's tourism industry attracts 1.2 million visitors a year, spending $2.5 billion.[31] The industry employs 38,000 people or 17.5% of the workforce. [32]

This comparison of value and employment is important.

Without careful, science-based, transparent management, the salmon farming industry has the potential to come into greater conflict with the more valuable and sustainable state asset of tourism. NOFF contends that without major changes in the way the salmon farming industry operates, consequent reputational damage to Tasmania is inevitable.

The growth of a $2.5 billion sustainable tourism industry is predicated on maintaining and developing Tasmania's global reputation as a place of unique beauty and unsullied natural wonders.

Tasmania's Visitor Economy Strategy states in part:

> *Tasmania's globally renowned natural environment is one of the state's most valuable assets and underpins the state's reputation as a must-visit destination. Our World Heritage Wilderness, National Parks, coastal and aquatic experiences and unique wildlife are fundamental drivers of visitation. Our nature-based and eco-tourism experiences connect visitors with these assets and also drive visitation into our regional areas.*[33]

The Visitor Economy Strategy puts a more important and sustainable state asset (tourism) in clear conflict with any further expansion of the salmon farming business in coastal waters and rivers.

---

[28] Market Watch. *6.26%+ Growth for Salmon Market Size to 2024* Aug 1, 2019
[29] ABARES. *Annual fisheries outlook 2019*
[30] DPIPWE. *Employment in the Tasmanian Agricultural Sector* (2016 ABS Census data)
[31] Tourism Tasmania. *Visitor Statistics for year 2019*
[32] ID – the population experts. *Tasmania Industry sector of employment*
[33] T21. *Tasmanian Visitor Economy Strategy 2015-2020* Nov 2015

The European Union's Fisheries Area Network (Farnet) recognises the tension between fish farming activities and tourism, along with the concerns of communities in close contact with the industry:

> *Social/community acceptance: aquaculture's potential to deliver high quality products is often not recognised; the sector can have a negative image; Environmental concerns: aquaculture can be perceived as a source of pollution, disease or biodiversity loss; it can also suffer from pollution caused by other sectors.*[34]

Global experience indicates that the most likely means of avoiding conflict with the tourism industry - along with reducing conflict with local communities affected by fish farming and at the same time improving the industry's sustainability credentials - is to move operations truly off-shore or to land-based facilities.

- Tasmania's 2017 *Sustainable Industry Growth Plan for the Salmon Industry - One Year Review* states in Action 2 'A commitment to future expansion moving into oceanic (deeper and high- energy) waters, rather than estuarine waters.'
- The $70 million Blue Economy initiative launched by industry, state and federal governments this year points in the direction of offshore, deep water aquaculture.
- Mark Hemer, acting lead of the Blue Economy Co-operative Research Centre - Offshore Renewable Energy Systems, states: '*To expand, the aquaculture sector recognises the need to shift operations offshore*'.[35]

In this context, the fish pens in Storm Bay and plans to install pens in the north west and close to King Island cannot be considered 'off-shore'. They are coastal facilities with all the negative impacts they already incur elsewhere to the environment and to coastal communities.

Land-based and Deep-Water Aquaculture

Globally, the salmon industry is on the cusp of major disruption from advances that make deep sea and onshore production viable at an economic scale.[36]

One of the world's largest producers, Norway's Nordlaks, is developing deep-water facilities such as Havfarm that are designed to withstand arctic and North Sea conditions.[37] Arctic Offshore Farming is developing submersible, remote-controlled pens designed to withstand Arctic Ocean conditions.[38]

By contrast, other large Scandinavian salmon producers are leading the way towards onshore salmon production in enclosed ponds. Several are expecting to begin operation in the United States in 2020. Danish giant Atlantic Sapphire alone has plans to start selling salmon in the US in the next 12 months. From its Miami installation, it claims it will be serving a quarter of US demand for salmon by 2025 and, with further development in Maine, up to half the US market by 2030.[39]

One glance at a map of land-based RAS fish fam developments shows that Australia, and Tasmania in particular, remains an outlier in this area.[40]

Serious international funds are being ploughed into the projects whose environmental credentials - because they are closed-loop - will threaten Tasmania's markets and profitability as consumers choose to buy sustainable product at similar or cheaper prices.

---

[34] Farnet *Integrating aquaculture within local communities,* Guide no.14, 2018
[35] Blue Economy *Dr. Mark Hemer on Australia's Blue Economy Co-operative Research Centre* 15 October 2019
[36] Spheric Research *Who will disrupt the salmon industry?* Undercurrent News, 7 February 2019
Rabobank *Aquaculture 2.0: RAS Is Driving Change – Land-Based Farming Is Set to Disrupt Salmon*. October 2019
[37] Ship Technology *Havfarm: a new salmon fishing revolution in Norway*. 18 December 2018
[38] ABB *ABB enables first remote-controlled submersible fish farm in the Arctic Ocean* 28 May 2019
[39] Undercurrent News *Atlantic Sapphire drops expansion bombshell for salmon farmers gathered in Brussels* 9 May 2019
[40] Undercurrent News *Rabobank: Land-based farming set to disrupt salmon industry* 17 October 2019

The risk to Tasmania is that new players will enter the Australian market and establish themselves on the mainland, closer to major markets. Huon Aquaculture and Tassal need to respond by diverting investment from coastal farms, with their inherent impact on local communities and the coastal/waterway environment, towards truly off-shore or land-based farming.

Both the above methods - land-based and truly off-shore - are deemed sustainable by national and international authorities, along with many organisations involved in environmental protection. Further, as banks become more reactive to consumer and public sentiment, finance for coastal and river fish farming will diminish, while increasing for more sustainable projects.

In the Tasmanian context, NOFF contends that investors, banks and insurance companies will increasingly recognise that the state's salmon farms are at growing risk from environmental, social and governance issues. This is already happening elsewhere in the world.[41] For example, Tasmania's warming waters - along with a major jelly fish infestation (also a result of warming waters, according to a marine biologist specialising in jellyfish consulted by NOFF) that killed thousands of salmon - were credited this year by Huon Aquaculture for diminished production and profit. [42]

NOFF therefore contends that the current practice of placing leases and pens close to shorelines, in estuaries and rivers and in shallow, enclosed waters such as Storm Bay, can no longer be portrayed as even close to world's best practice, and that expanding leases around these waters must be halted. Further, environmental, community and reputational damage from these practices will lead eventually to diminished returns from salmon farming and tourism.

Conclusion

The economic benefits of the salmon industry must be put into the perspective of the state's overall financial and environmental health, for both State and Local Government. As one authoritative report states:

> *The economic benefit of the salmon industry to Tasmania is weighted strongly against its environmental and social impacts. Yet it accounts for just 1% of jobs in the state. Over 5 years $3.8 billion worth of fish were sold, but just $64 million tax paid, while $9.3 million in subsidies were received in 2 years.* ***Changing generous leasing arrangements to the Norwegian model could raise $2 billion for community development.*** [43] (our emphasis)

NOFF can find no credible authority that compares the financial benefits of fish farming with the costs incurred to the state by their activities. It appears impossible to determine the cost to government of regulation, supervision and enforcement of regulations. Further, no figures are available to help assess the hidden, broader costs of fish farm activities that include environmental damage, clean-up, truck movements, house prices, health issues from lights and excessive noise, and damage to fishing for local professional and recreational fishers and interstate visitors.

Along with a broad range of community and professional groups concerned about the salmon industry's impact on the state, NOFF calls for a moratorium on any expansion of the industry until the concerns of many sensible citizens, community and professional groups and marine scientists are addressed. During this moratorium there must be a broad-ranging, independent review of aquaculture in Tasmania with a focus on adopting new, sustainable technologies that will move the industry off-shore and into RAS land-based facilities.

As the process of closing down coastal, estuary and river-based leases will take some years to achieve, a process of more transparent regulation, oversight, enforcement and environmental impact needs to be implemented immediately. All Tasmanians should have the right to see and understand the benefits and disadvantages of aquaculture free from the influence of politics and

[41] The Fish Site *Investors warned to be wary of aquaculture* 5 June 2019
[42] Huon Aquaculture *Annual Report 2018/19* p1
[43] The Australia Institute *Making mountains out of minnows: Salmon in the Tasmanian economy* 24 July 2019

industry lobbyists. A major step forward would be the appointment of an independent ombudsman as recommended in our Executive Summary & Recommendations (page 4).

Tasmania could do worse than take a leaf out of Canada's book where the Liberal party was recently re-elected, in part, on a policy of moving British Columbia's salmon farming on shore as a first step towards removing all fish pens from its coastline.[44]

NOFF urges Committee members to consult many credible analyses on future salmon farm development internationally such as:

- Spheric Research *Who will disrupt the salmon industry?* Undercurrent News, 7 February 2019
- Rabobank *Aquaculture 2.0: RAS Is Driving Change – Land-Based Farming Is Set to Disrupt Salmon*. October 2019
- FAIRR (Collier Capital) *Shallow returns? ESG risks and opportunities in aquaculture* 2019?

[44] SeafoodSource *Trudeau, Liberals returning to power, with uncertain consequences for Canadian aquaculture, fisheries* 22 October 2019

3. Community Concerns: Noise, Light Pollution, Debris

Introduction

This part of our submission relates to sections 1a and 2c of the Committee's terms of reference, specifically to the section on maintaining public confidence in the salmon industry in the *Sustainable Industry Growth Plan for the Salmon Industry.*[45]

The issues discussed in this section are easy to identify but are the most difficult to quantify empirically. They have to do with quality of life, with health, safety, welfare and the intrusion of industrial processes to daily rural life.

Of all the concerns that NOFF committee hears about, the most frequent from residents - and there are many of them - concern light, noise, marine debris and waterfront fouling.

While NOFF can advise on action to take and authorities to whom to report, few residents report satisfactory outcomes. It is beyond the means of small community organisations - and even beyond many professional associations - to conduct the technical and scientific tests that would help prove the level of nuisance and, in the case of water and beach fouling, that the cause is fish farming. Yet any fair, balanced view is that, of course the fish farms are responsible because the problem has existed only since fish farming started in the area. It should be the companies' responsibility to prove any fouling is **not** a result of their operations, rather than expecting residents to.

Appendix 2 contains a sample of residents' concerns expressed to NOFF, excerpts from two of which are given here:

- We are directly opposite the factory, so there are boats passing 24/7, some of which are very noisy . . . The very powerful lights that illuminate their wharf area also illuminate our home. We can always see if we get up in the night without turning the light on!
- Over the years I, both as an individual and as part of a collective coastcare group, have collected truck loads - no exaggeration - of pipes, buoys, ropes and other fish farm garbage that has clearly come from the local fish farm operations ... The ever-present night lights from these operations have destroyed the night sky that we once enjoyed.

NOFF urges the committee to take these issues very seriously. Without question, they affect the lives of many residents and have ***never*** been properly addressed or managed systemically by regulators or government.[46]

Noise & Light

Port Huon, Huon, Channel and Bruny Island residents report excessive noise levels to the Huon Valley Council, Kingborough Council, the EPA, and the Marine Farming Branch of DPIPWE. There is frequent confusion about where to report noise and frustration over a lack of response.[47]

Members report there appears to be poor coordination and management of complaints. Councils and agencies consistently fail to respond or address concerns directly with the industry. Existing regulations are widely considered inadequate.

Huon's Aquaculture's well-boats *Ronja Huon* and *Huon Supply* travel between the Huon, Margate and their Bruny Island leases.

[45] DPIPWE *Sustainable Industry Growth Plan for the Salmon Industry* [undated, 2017?], p.16. Downloaded 29 October 2019

[46] On page 7 we show the lack of data being recorded, and made available on industry websites. Without this data, and its availability, these issues cannot be managed systemically and effectively.

[47] On page 9 we show that there is no single point for reporting such issues, and that the available instructions are contradictory.

Huon Aquaculture's well-boat the *Ronja Huon's* equipment includes two large diesel generators and one auxiliary engine with a combined output of 5,390 kw. It travels at 12-14 knots and operates 24 hours a day, seven days a week, frequently passing within 500 meters of rural and residential properties in the Port Huon, Huon and Channel areas. It generates considerable noise and vibration.

Both Huon Aquaculture and Tassal are introducing new, much larger vessels. These will operate 24 hours a day, undertaking much larger and more prolonged operations. The high and low frequency noise they generate has yet to be assessed, but **regardless of this, past experience tells residents of coastal and river communities that there will be little action taken if problems are reported. Public confidence and trust in the process is very low.**

NOFF has experienced some success in reducing complaints of noise and lights after discussions with Huon Aquaculture. This success has been patchy although their change from two-stroke to four-stroke outboard motors has somewhat mitigated the on-water noise, and Huon Aquaculture has assured NOFF its staff have been directed to ensure noise is reduced. Huon Aquaculture has reported efforts to reduce some light pollution, but residents' lives are still negatively impacted.

As noted by the Federal Government[48] and the Australian Academy of Science[49] it is widely accepted in the medical literature that exposure to noise poses a risk to public health. Sources of noise from fish farming include unacceptably high, invasive levels of noise from net cleaning, harvesting, service vessels, automatic feeding barges, generators, compressors, and pumps.

As with noise, external lights at night such as those experienced by residents in communities with very low ambient light, such as Eggs and Bacon Bay, can have long-term negative health effects.[50]

Many residents in the Huon and Channel purchased their properties prior to the rapid expansion of the fish farm industry. Their location choice was premised on the peace and tranquility of the environs and the 'deep peace' of the region. Even newcomers have reported being astonished and have sometimes been driven away by the intrusion of noise and night-time light into their homes.

Environmental values outlined in the regulations incorporate the opportunity to work and study and to have sleep, relaxation and conversation without unreasonable interference.

Residents are exposed to intermittent, irregular high frequency noise, vibrations, pulsation and rhythmic noises, and as a result experience complex reactions.[51] These include:

- Stress reactions – nervousness, irritability, anxiety, annoyance, elevated blood pressure, gastrointestinal motility, increased pulse rate, depression, anger, helplessness.
- Interference with sleep resulting in disturbed sleep patterns, poor sleep quality, and fatigue.
- Inability to concentrate posing a risk to their safety as many have to travel from the Huon to Hobart to work and are frequently fatigued.

In extreme cases, NOFF is aware of some people who sought medical assistance and have been medicated for hypertension pressure, relating to ongoing exposure to noise, vibrations and pulsation from vessels.

[48] Australia. Dept. of Health. *The health effects of environmental noise*. Publication 12214, 2018.
[49] Australian Academy of Science. *Health effects of environmental noise pollution*. Viewed 22 Nov 2019.
[50] US National Institutes of Health. *Missing the Dark: Health Effects of Light Pollution.* Environmental Health Perspectives Jan 2009
[51] World Health Organisation. *Guidelines for Community Noise*. Geneva, 1999.

Marine Debris

Users of waterways report navigation hazards mostly to marine radio VHF channel 16, and to each other. NOFF usually hears about these issues second hand. What seems clear is that the issue of hazardous and onshore marine debris is not taken sufficiently seriously for the authorities to record the incidence and frequency of occurrence, or levy penalties for creating waste and hazard, nor for companies to institute rigorous methods that should prevent debris in the first place.

After years of paying scant attention to an increasing problem, a policy of zero tolerance for marine debris was announced by the State government in 2018. In April 2019, it was revealed that there had been no fines issued at all between 2014 and 2016. In 2018 four fines were levied totalling $2445 and in 2019, there were nine fines costing the companies $5,928.[52]

The fish farms report spending many working hours clearing marine debris from shorelines, which only accentuates the problem: proper control of marine farm equipment would obviate the need for so much time spent clearing debris that should not have escaped in the first place. Furthermore, no accounting of debris that escapes to sea seems to be in place although Hobart Marine Radio consistently reports floating hazards on its Notices to Mariners.

There should not be a boat ramp, beach or accessible waterfront fish farming area without clear signs advertising where to report marine debris. Further, there needs to be a system that makes it easy to report debris on water or onshore to an authority that collects statistics and reports regularly to parliament and the public. How otherwise can the public even start to monitor the size and extent of the problem of marine debris, and how can government and regulators effectively monitor and manage the problem?

Moreover, without proper monitoring of waterways and beaches by independent marine scientists, the public cannot know to what extent unusual marine growth on the waterfront can be attributed to fish farms. The fish farm operators generally deny their operations are the cause of unusual growth or that their operations result in destruction of sea grasses and other marine life, but without independent oversight there can be no definitive proof nor public reassurance.

The continued fouling of public waterways does not appear to NOFF to be a priority concern of government or regulator. But the threat of debris to users of the waterways may be a matter of life or death. Very large items of marine farm debris have washed up on beaches, even as far away as New Zealand.[53]

Conclusion

The issues of light, noise, debris and waterfront fouling have been ignored for far too long and have caused considerable distress to many residents in the Channel and Huon regions. They must be addressed with urgency.

A major step forward would be the appointment of an independent ombudsman as recommended in our Executive Summary & Recommendations (page 4).

[52] Salmon giants handed paltry fines for marine debris. The Mercury, Hobart, 15 October 2019

[53] *Fish farm debris owned by Tasmania's Huon Aquaculture, found washed up on New Zealand beach in 2016*. ABC News, 23 July 2018.

Appendix 1: NOFF

Neighbours of Fish Farming (NOFF) is a community group in southern Tasmania that works to:

- Defend Tasmania's marine, coastal and riverine environment
- Increase transparency of fish farming and its impact on our waters
- Hold government accountable for protecting our coast, marine environment, rivers and sustainable wild fisheries
- Have fish farms removed from the marine ecosystem and made land-based
- Protect public access to waterways, shores and natural fisheries
- Decrease the industry's impact on neighbouring households and communities

NOFF is a member of TAMP, the Tasmanian Alliance for Marine Protection, a group formed by recreational fishers, commercial fishers and community groups from around Tasmania.

Neighbours of Fish Farming
PO Box 83, Cygnet TAS 7112
fishfarmingneighboursof@gmail.com
https://neighboursoffishfarming.org.au/

Appendix 2: Residents Concerns

Some of these extracts have separately been sent by the writers as individual submissions to the Committee.

Susan and Michael Denyer
We have owned waterfront land at Eggs and Bacon Bay since 2005. When we first arrived, the beach at Eggs and Bacon Bay, was clean and the water was clear. The area was very peaceful. Now, we walk to the beach daily and find plastic from the fish farms being washed up every day. The sand is dirtier and there is slime on the rocks. Other beaches similarly effected are at Mickeys Beach and Randalls Bay. The noise from the fish farm boats disturbs the peace of residents and visitors to Eggs and Bacon Bay and nearby areas. We have concerns about the pollution entering the river from the fish pens, such as food and faeces. Tasmania is known for its clean waters. However, the fish farms are ruining Tasmania's pristine environmental image. We would like to see the pens moved from the river.

Anne Le Fevre
I have lived at Eggs and Bacon Bay for 20 years now, on the waterfront at the mouth of the Huon river. There was no fish farming when we arrived. We could always catch fish, the oysters were wonderful, and mussels were plentiful. Now, the oysters can't be eaten, fish are few and far between, and mussels have virtually disappeared here. We are directly opposite the factory, so there are boats passing 24/7, some of which are very noisy. The very powerful lights that illuminate their wharf area also illuminate our home. We can always see if we get up in the night without turning the light on! The shoreline in front of our house was pristine originally, now when the tide is out, there is a slimy black film on the rocks, that is dangerous to step on. I would like to see the pens moved out of the river, as there is definitely pollution from them.

Lynda House

I am a Tasmanian born resident. My family for at least 3 generations has fished in Tasmanian waters. My family has observed and respected the water that has provided so much for us.

Fishing has helped my grandfathers and my father recover from the stress of serving in Europe in two world wars. Not just the action of fishing but the bounty that it once provided. Fishing above and below the water has given great pleasure and relaxation to my family.

I live in Middleton, on the D'Entrecasteaux Channel. I moved here with my husband 12 years ago. We have seen the fish farms grow and have witnessed how they have changed the environment.

We don't fish here any more. No fish.

We used to love flathead fishing but now two people are lucky to catch a total of 5 or 10 that are size in a couple of hours. Our boat has not been in the water for about 2 and a half years.

Other residents who have been here for longer than us have told us that before we came the area was more bountiful, that seaweed that washes up on the shore here didn't always smell bad, that the flathead and other fish were plentiful and that most were size.

We have experienced boats towing pens up and down the D'Entrecasteaux all day and night. Sometimes the boat will seem literally not to move - it travels so slowly and noisily. We have timed the boats, they can take up to 6 hours to pass by our place, it's worse at night when it is quiet and the throb of their engines keep us awake.

Living here can seem like you are living next to a factory.

My family has seen the disintegration of the health of the Channel while diving. One family member has been diving here for over 30 years. The seaweed has suffered, the bed of the Channel is barren in places, especially close to the fish farms. In his words the channel is destroyed.

Now we are told there is a new ship, a well ship, that will wash the fish in fresh water (where will this water come from) and then discharge that water (where will it go to? what will have been added during the process?).

Have any tests of water quality been made so a meaningful benchmark is set against the effects of the water added back into the system. Does anyone know where the water used to clean the fish will be discharged.

At meetings held by Huon and Tassal we have been presented with their positive spin on everything and I do understand there is economic benefit. But if they ruin our beautiful coastlines, our diving places, our environment generally, will other industry suffer will tourists still come to Tasmania/move to Tasmania.

At a recent conference on potential use of seaweed in the environment, held at CSIRO, there was talk of potential for seaweed to help to deal with the pollution created by fish farms. Then the massive amount of seaweed required to make a difference was revealed. Apparently a 10% improvement on the pollution created by the fish farms is the best we can hope for - and this is still in early development.

I am asking for consultation with communities, not public information seminars held by Huon, Tassal but government consultation. How did the disaster at Macquarie Harbour happen when it was predicted by so many who understood the way the Harbour functions.

(. . . continued)

(. . . continues)

While the fish farms are big employers so are the tourism organisations that rely on the purity of this state and it's water, the professional fishers.

Amateurs bring money to the state through boat registration, fishing licences, purchases relating to fishing and boating. Fishing makes people happy - if they catch fish!

Are you going to sacrifice the benefits that our healthy waters bring so that a few companies can make a large amount of money producing fish that are artificially coloured and fed antibiotics and pollute our beautiful state.

Is it too late to set healthy limits on waste fed into our waters by fin fish production.

I hope you will help to ensure that all fish farm development is truly sustainable and does not impact on communities who are helpless to stop them.

Tony Mahood

I live at Middleton Tasmania on the D'Entrcasteaux Channel south of Hobart. I have lived here for 12 years and I'm writing to voice my concerns re the fish farms in the D'Entrcasteaux Channel and surrounding waterways.

Here are my concerns and evidence.

Since moving to the area 12 years ago I have witnessed a rapid expansion of the fish farms in our area.

1. My major concern is the noise. The fish farms are continually towing their fish pens up and down the channel. They are towed by noisy tugboats and can take up to 2 to 8 hours to pass by. Depending on which way the tide is running. They tow the pens at 1 kilometre and hour to clean out the fish. And 50 percent of the time they are traveling late at night. Anywhere from 10pm to 5am. And in the worst times when they have an outbreak of disease or jelly fish infestation there can be 4 tugboats a day. The noise is like having a revving tractor on your front lawn. It is impossible to sleep without earplugs and white noise.

I have kept records of exact times and durations that they pass our house. And have given these figures to the Environmental Protection Authority.

2. I am an amateur diver and dive for abalone, crayfish and scallops. 12 years ago, there was hardly any algae underwater and today it is so bad that when you dive, the algae is continually wrapping around your face. The evidence points to the high levels of nitrogen in the water that is coming from the urine of the salmon. Which is causing the algae to explode.

3. I have also seen a marked decline in fish stock in the channel. Mainly flathead. To the point where the locals no longer bother to go fishing as there is nothing to catch.

The outcome I'm seeking is for the fish farms to listen to the publics concerns. At the moment there is no one from the fish farms who will listen and act accordingly. We need an independent authority who can register our complaints and has the power to act.

Surely we all have the right to live in a peaceful and quiet environment in our homes.

Paul Thomas
I have lived at the mouth of the Huon River for over 60 years. I can only provide anecdotal evidence. I am a farmer and have been a recreational fisher; I am not a scientist, a diver or keeper of documented records. I can only present some observations. As a youngster I often fished around the mouth of the Huon River and Cygnet estuary. There was then an abundance of fish and included a myriad of species. Many of these no longer appear in our waters and if they do, are in very limited supply, small in size and not worth trying to catch. The schools of fish such as Australian salmon (cocky salmon) and barracouta, are long gone. Pods of dolphins and larger hunting fish rarely venture into our waters. One Southern right whale returned to calve in recent years. Without the industrial deterrents in the waterway more would do so. It is clear that the increased nutrient levels, emanating from the industrial Atlantic salmon operations and evidenced by the explosion of 'sea lettuce' and the black slime often seen on the foreshore, has changed the ecology of the river. In days gone by we would collect and eat the native oysters and mussels. Now the 'algal blooms' which appear on a regular basis, primarily occurring as a result of increased nutrient levels brought about by the large amount of Atlantic salmon farms and warming waters, are unsafe to eat for much of the time. The explosion of fish farm pens in our waterways is a visual eyesore and a hazard to recreational boaters. There is no social license for this corporate takeover of our public amenity. The 'quiet Australians' put up with it being swayed by a well-funded propaganda campaign by the fishing companies all based on local jobs and a boom for the local economy. This, when the reality is all about company profits, puts no value of environmental costs or lifestyle compromises for us residents who receive no benefit only loss. The industrial noise emanating from these 24-hour, 7-day, 52-week operations is a horrible injustice for those of us living in their wake. Over the years I, both as an individual and as part of a collective coastcare group, have collected truck loads - no exaggeration - of pipes, buoys, ropes and other fish farm garbage that has clearly come from the local fish farm operations. Bigger items have been collected following storm events, but the rest has become the responsibility of the local community. Not only is this an eyesore and environmental hazard but a safety hazard for boating enthusiasts. The ever-present night lights from these operations have destroyed the night sky that we once enjoyed. As I said I am not a diver, but local knowledge shared by those who are, tell of the 'dead' sea floor all around the locations of the licensed areas. It is clear that the corporate influence of the Atlantic fish farm fraternity on government policy has meant a cosy ride without adequate environmental or social restraint for this industry. It is definitely not sustainable despite the hoo-hah espoused by their spokespeople. A gradual transition to land-based operations (on private holdings, not in the public waterway) is not only a better option, but an essential necessity.

Jennifer and Lance Hadaway

I have lived opposite Tassal's factory and processing plant on Port Esperance for 16 years.

I have walked our dogs on the local beaches daily over this period. We also used to fish and have Neighbours who did likewise.

During my 16 years here there have been marked changes to the local environment and huge changes to the level of activity of both Tassal's and Huon Aquaculture's Salmon farms.

Noticeable changes to the environment are:

- Less native fish stocks in the bay or in the immediate vicinity of Dover. We do not catch flathead, black back or other edible species because they are no longer here.
- Death of shell fish, particularly mussels. They now fall off the rocks when approximately 10 to 20 mm in size when they used to grow to an average size of 80mm and had to be prized from the rock surface.
- A cover of slimy green 'Sea Lettuce' and stringy brown slippery algae in the intertidal zone so it is dangerous to walk across the rocks which used to be clean and dry.
- No sighting of the large Rays along the wave lines of Dover and Kents Beach for about 5 years. These large and beautiful sea creatures were once plentiful.
- Decrease in the number and size of pods of Dolphins sighted along the beaches. I estimate the decline to have grown exponentially over the last 5 years.
- The loss of 2 pairs of Sea Eagles and 1 pair of Wedgetail Eagles from our end of Port Esperance, in just the last 3 years.
- Fewer Shags and Swans on the water. We used to count them as we walked but we don't see enough these days to bother.
- A change in the colour of the sea bed from a pale sandy brown to a darker grey-brown with fine black particles forming wave patterns on the beaches at low tide.
- No sea grass beds or kelp growth to be seen in shallow off shore water. There used to be good sea grass beds and some kelp which was able to be walked through at low tide and which often hid small fish.
- A noticeable increase in the amount of rope, buoys, small coloured particles possibly from net washing, odd metal structures and bits of netting washed up and caught in rocks around the bay.

We used to sail regularly but it has now become almost too difficult to bother to avoid the markers, various lights, signs, increase in the number of pens and water craft used by the Salmon farms. It has also become more dangerous to navigate around ever expanding lease areas that have taken over the traditional fishing and boating channels.

Noticeable changes to the Community are:

- An ever growing dependence on the Salmon farms for employment.
- Students leaving school without motivation to do other than work on the fish farms.
- Limited improvement in the socio-economic status of the town and its surrounding areas due to the lack of highly paid skilled labour employed by the fish farms.
- A particularly ugly outlook across Port Esperance impeded by increasing numbers of fish pens.
- The expansion of the on land facility at Tassal which is visually ugly, sometimes noisy and looks unkempt especially from the water and at night with all the lights blazing.
- The increase in farm boats of all sizes moving about 24/7 with little thought for other boat users and lights blazing across the bay at night.

(. . . continued)

(. . . continues)

- An increase in heavy vehicle movements entering and exiting Dover using the Huon Highway (no passing lanes) and Esperance Coast Rd (narrow and not engineered for regular industrial loads).

Personal experience:

Since buying our land and building our house we have seen all of the above first hand.

We know many long term local residents who are just as concerned as we are about the changes taking place in our environment and to our lifestyles. The majority of these people will not speak out for fear they will compromise a family member working for a Salmon company or their next application for a job will be refused.

We have witnessed the expansion of the Tassal on land facility opposite our house with growing concern because it appears they may do as they wish and nobody will intervene.

We have bright lights each and every night. Sometimes if we raise the matter with Tassal the lights are reduced for a time but then return brighter and more invasive than before.

We have had to black out our lovely night sky that we so loved when we first came because we cannot sleep with the vivid, moving glare that faces us.

Sometimes the lights are so bright they cast our shadow on the internal walls of our home should we get up during the night.

We now have the added complication of light streaming from boats that belong to both Tassal and Huon Aquaculture as they travel around Port Esperance and some pens are permanently lit with growing lights to create artificial daylight to force the growth of the Salmon.

It is difficult to quantify the expansion of Tassal at their factory site as there is no requirement for Tassal to consult with or to gain a social license from this community.

As said previously even when local residents disagree with the fish farms plans, e.g. when the Esperance River wetlands were bulldozed and the foreshore trashed to allow for extra large pens to be completed and launched close to the Tassal factory they were too afraid to object and we lost a large section of gazetted protected environment.

We can though attest to the fact that over the years Tassal has grown across the foreshore, up the hill and on the headland jutting towards Dover with the net washing facility often well lit. The area can be seen from the Huon Highway to the south of Dover and very clearly from the water. There are cuts in the hill, new buildings, dredging of the foreshore and cranes at work which all point to further expansion.

We are unfortunate to have had beautiful views to Bruny Island, up the Huon River and across the Channel towards Cygnet. These views are now very ugly with huge lines of pens moved around regularly over a 24 hour period, often with associated lights and sometimes with noisy boats involved.

We have had to add more block out blinds to shield this end of our house from the constant movement and we can no longer enjoy the tranquillity we bought 16 years ago.

Huon Aquaculture leases are expanding across our waterways just like Tassal and with the expansion on water goes additional boat movements, more lights, more noise all without community consultation or any regard for the community or the environment.

It's our hope that NOFF and others will have an effect on the continual expansion of the Salmon industry and that industries continual disregard for the local communities that service it.

Glenn Sanders
Last year I was on the NOFF stand at the Cygnet Folk Festival, and struck up a conversation with a stranger, a young man in his thirties. He began by asking if I knew where to report excessive noise. He said that some years ago he and his new wife had purchased a home near Verona Sands, as they want to live in a quiet, rural area, away from the noise, air and light pollution of big cities. Recently they have moved in, and have been very upset by the constant noise and light from fish farming. They cannot understand how such an industrial operation is allowed to intrude so much on the local community's quality of life. He questioned whether he and his wife would now be able to move elsewhere, given the adverse effects of the salmon industry on the salability of their only investment, their home. I was impressed by the quiet, reasonable way in which he expressed himself. He was calm, rational and certainly not overtly angry. But I will never forget his distress at the situation in which they found themselves, and his deep concern for the long-term future of his family.

Sharon Moore
I live at Deep Bay, south of Cygnet, and regularly go for walks along the foreshore and swim at different parts of the bay in summer. I have lived here for 9 years now. I often come across marine debris, lots of blue nylon rope, and occasionally large black floats. I've been told by longer-term residents that before the fish farms came, the rocks did not have the dark-green slime that is on them now, making walking on them hazardous (especially since you might fall over and slice yourself open on a feral oyster shell). Swimming along with my goggles on, I pass over expanses of weed encased in grey-green slime, a sure sign of too much nitrogen in the water. I rarely see any fish, and have been told that very few are now caught, and that when they are, they are often black inside. Most summers now small mats of dark grey-green slime float in the water. In fact, my partner and I have decided to leave this area, in part due to the unsavoury nature of the water and foreshore, largely due to fish farms. I just hope we can find somewhere else that they haven't been allowed to ruin. Another impact is noise: at our house, about 500 m back from the foreshore, I have frequently been kept awake by a boat's loud engine sound during the night. Last year on what should have been a tranquil trip to Dennes Point, Bruny Island, as all previous trips had been, a large boat towing a number of fish-farm pens north through the channel disturbed our peace and quiet for hours, ruining what should have been a peaceful afternoon and evening and bringing about a decision to keep away from that part of Bruny. I'd love to be able to eat smoked Tasmanian salmon, which, in this day and age, should be able to be produced sustainably. But I do not eat it because of the impacts of its production on the marine environment, coasts, wildlife and people's lives, including my own, and because I do not want to give any money to such companies. I also do not want to feel complicit in the way the Tasmanian government has allowed the fish-farming industry to use (abuse) public waters for too long, and continues to do so, ignoring science and community concerns. I know people who have had their lives virtually destroyed by this industry, yet the regulators and government continue to bow down to the industry. It has to end.

Defending our Environment

Letter to the Legislative Council Inquiry into Fin Fish Farming

Alan Kemp and Lisa Litjens
110 Sunday Hill Road
Petcheys Bay

We live up the hill from Petcheys Bay. Since the arrival of the Brabazon lease pens, our beach has regularly been afflicted with slimy rocks and an unpleasant-looking foam, reminiscent of stagnant water. Additionally, there has been salmon pen litter washed up on the beach: large plastic bags, water pipes and even a huge marker buoy. For the first few months, we regularly heard what sounded like rifle shots coming from around the pens. We were told they were seal scaring shots.

Our near neighbour, a keen rod fisherman for ten years here laments that the majority of fish he now catches look diseased and discoloured.

We want baseline studies to be done to provide reassurance re pollution, fish and other life. We want the beauty of our riverscape preserved rather than ugly pens only 30 metres offshore. We want an end to large salmon boats polluting the river and causing wash on the fragile banks. We want Environmental Protection laws to cover all fish farms. Why we are still calling for the last point is a mystery and a scandal and a disgrace. Tasmania boasts a 'clean green' image. Fish farming does not belong anywhere in the river.

Defending our Environment

To the Legislative Council Inquiry into Fin Fish Farming

My name is Mia Tresa Weir Breeze
I moved to Tasmania 25 years ago from N.S.W.
living mostly on the huon Huon River or very close by.
The river is everything to me, my life my love my support.

It has been a paradise i only dreamt of . growing up in Sydney.
To be able to gather wild food off the rocks,
to take the kids in a canoe to catch a few flathead for dinner.

To be engulfed in the wonder of sunsets reflected completly on the the river
hearing only,,,, the birds. lapping of the water , dolphins, seals and the laughter of kids.

AND NOW

watching the moon reflect in the river, we hear the constant monotone of fish farm boats,
we look at our mussels and oysters with suspicion ,,, they will make us sick now,,
there is not many fish we can catch for dinner. Pollution washes up..
Our beautiful river that gives us so much, restores our sanity, is being poisened.

Neighbours of Fish Farming
PO Box 83, Cygnet TAS 7112
Email: fishfarmingneighboursof@gmail.com
FB: https://www.facebook.com/Neighbours-of-Fishfarming-1588714601446106/
President: Peter George 0426 150369

My heart is sick as i write. I picked up a young man hitchhiking who works as a diver for fish farms.
He told me of the crazy amount of dead fish he has to collect. Apparently the automotive feeding
over feeds and many die.

Please, listen to us and look to the damage and absolute devistation fish farms has had on other rivers around the world. They dont employ many people they just make money for the few. If Tasmania is promoting itself as the clean green state.
Let people come to relish and enjoy our natural world. Let us feed them our wild fish. Not fish from other countries because
we dont have enough AS FISH FARMS HAVE DESTROYED EVERYTHING.

It is our RESPONSIBILITY as elders to leave our rivers WILD, FLOURISHING AND ALIVE for future kids to grow UP ON.

FOR HUMANS TO FEEL EMPOWERED TO CATCH THEIR OWN FOOD AS WORK BECOMES SCARCE WITH AUTOMATION.
I ask you with all of my heart to reconsider the propogander of jobs and growth,. That whole mentality is a STUPID, SELFISH farce and when
we die....we leave a terrible NIGHTMARE.

A DECISION TO REMOVE FISH FARMS FROM THE RIVERS WILL LEAVE FUTURE GENERATIONS A FUTURE

Neighbours of Fish Farming
PO Box 83, Cygnet TAS 7112
Email: fishfarmingneighboursof@gmail.com
FB: https://www.facebook.com/Neighbours-of-Fishfarming-1588714601446106/
President: Peter George 0426 150369