

## Legislative Council Inquiry into Fin Fish Farming in Tasmania

October 2019

### ***Our responses***

Many of the criticisms of marine farming in Tasmania are widely shared, even the industry has made public statements that it should be aspiring to do better in several areas. However, the devil is always in the detail. The public often wants to eliminate all risk and impacts, which is not practicable, and industry is concerned about excessive delay and regulatory costs when they are using what is a public asset to conduct their business.

Despite this generalised consensus that we could at least be talking about doing better, the Government appears to be striving to be seen as more “for” the marine farming industry than the industry itself. This leads to a lack of emphasis on continuing improvement of regulation, and careful pre-planning of proposals.

The risks are that we will by omission facilitate lasting brand damage to the product (Macquarie Harbour expansion has foreshadowed this prospect), something that will do far more economic damage to marine farming than the opinions of protesters.

### **Responses to Terms of Reference**

*To inquire into and report on the planning, assessment, operation and regulation of finfish farming in Tasmanian, with particular reference to:*

*1) The implementation of the Sustainable Industry Growth Plan for the Salmon Industry and its impact on commercial finfish farming operations and local communities, including:*

#### **a. data collection and publication - (I) Access to ongoing performance data**

While a lot of material is in the public domain, there are significant gaps in providing this data. Right to Information applications should not be needed to obtain this and they should be provided as “routine disclosures” by EPA and as mandated requirements on industry.

Sites such as the Huon Aquaculture website have made an incomplete effort to provide aggregated data in an accessible form. If it were provided independently, e.g. through the EPA it might increase public confidence in the analysis and form of presentation.

A three yearly scientific assessment of the industry, similar to the former southern rock lobster stock assessments, except directed towards broadscale environmental conditions, could also be an added public confidence measure and would provide a degree of independent ‘audit’ of environmental performance.

This openness is an important part of what WWF-Australia has called for to ensure “the responsible growth of the industry and to ensure that community expectations of

science-based, transparent and precautionary decision-making, including improved access to information, are met”.

**b. progress in the development of an industry wide biosecurity plan;**

It is in the interests of the industry to have a framework for the management of pests and diseases.

The intensive nature of fish farming encourages the spread of diseases among fish stocks periodically, especially when the environmental conditions are adverse, such as when sea temperatures are high.

One of the biggest issues in international marine farming is a native sea louse has caused very significant production problems in Europe. There are also problems with disease and consumer concern about the overuse of antibiotics. Some disease control measures require 100% stock eradication, something we should be keen to avoid here.

It is stated that parasites are increasing resistance to chemicals and antibiotics in Europe, with chemical use increasing dramatically in European fish farms. This is potentially adverse to the environment and is not what consumers want from their producer.

Warming seas are making Tasmania a suitable habitat for a wider range of pests and pathogens than was the case before. However, a well-managed industry with low chemical use and management plans for key pests and pathogens has a significant production advantage.

Different issues and possible responses will arise in Tasmania compared to Europe, meaning that local research effort is needed to support the industry. It is not sufficient merely to copy everything from Europe or the USA.

A current issue in Tasmania is pilchard orthomyxovirus (POMV), which can be transmitted to farmed fish from wild pilchard. By way of background for the public who may be reading this submission, pilchard orthomyxovirus was found in 1998 in South Australia as an incidental finding of investigation into an unrelated fish kill. Outbreaks in salmon are associated with pilchards schooling around cages. POMV was first detected and reported locally in 2006 in salmon on the Tamar River, also as an incidental finding. Prior to 2012 POMV was not known to cause an actual disease, until fish kills occurred in south east of Tasmania. An outbreak led to cull of 100,000 juvenile salmon in Macquarie Harbour in December 2017. That event coincided with higher than usual temperatures and low dissolved oxygen (DO) levels in the harbour.

The virus is spread by contact with infected fish or their secretions, or contact with equipment or people who have handled infected fish. The virus can survive in seawater, so a major risk factor for any uninfected farm is its proximity to an already infected farm. Huon alleged that Tassal heightened the risk of spread at Macquarie Harbour by farming salmon of different age classes, juveniles are more vulnerable to disease, in the same pens.

The government requires mandatory reporting for events that exceed levels of 0.25 per cent mortality for three or more days. There are reports in the public domain of leaked photos suggest regular fish kills (probably in smaller numbers) that have been occurring at Dover. Huon reported POMV in their Storm Bay stock in late 2018.

Governments can assist by uniform regulatory responses which discourage risky production techniques and slow responses to incidents.

The public lacks the technical expertise to specify the content of such a plan, but the benefits of an industry-wide approach are self-evident. It is only surprising that the industry has got as far as it has without such a plan.

Like many issues with marine farming better early planning, and a more structured approach to scientific research would assist the industry and help it to respond to community concerns.

More resources need to be put into background environmental research. A recent Australia Institute report suggests that the industry has the means to contribute to a scientific research levy, as is already the case with other industries like abalone harvesting. This research should be directed to production-related and ecosystem research.

## **2) Application of the Marine Farming Planning Act 1995 relating to:**

### **a. preparation and approval process for marine farming development plans, including modifications and amendments to marine farming development plans;**

Having an incomplete grasp of the process, I will attempt to divide the comments up as best I can to meet the committee's terms of reference.

Public concerns expressed in the public domain have mainly been about amenity, governance and environmental harm.

A World Wildlife Fund Australia (WWF) Tassal joint report has called for a Tasmanian aquaculture/marine conservation regulatory system that is "transparent, science-based and precautionary".

### **Grow Areas**

There is ongoing concern about the lack of clear limits on expansion proposals. There appears to be political emphasis on maximising production opportunities with big public announcements about new grow areas, that pre-empt planning processes.

We appear to conduct research into the carrying capacity of the area and the effects on the environment after the fact, when commercial expectations are already raised and the opportunity to restrain or vary a proposal has been undermined.

The public has previously asked for consolidated plans for each Bioregion based on independent scientific investigation which:

- (a) establishes baseline data prior to expansion;
- (b) provides regular, ongoing monitoring and public reporting. Independent means CSIRO and IMAS to undertake the science and not the industry and
- (c) requires research in to broadscale environmental changes as well as the short-term 'around the pen' impacts.

The public don't study marine farming but have an intuitive grasp that a rushed approach, where the pen stocking precedes the research, seems inconsistent with statements about 'best practice'.

### Consultation

The planning process is also seen as difficult to access or comprehend, and lacking in independence.

There have been criticisms about a lack of meaningful consultation and the timing of consultation, e.g. Marine Farm Development Plans containing 50 appendices, thousands of pages of documents, studies and reports are delivered over the Christmas New Year Period. Comments have been made that this does not constitute a meaningful attempt at consultation.

Draft MFDPs and amendments are placed on public exhibition for up to two months, but some further processes may be needed, like allowing interest groups to subscribe to planning notice alerts.

Members of the public with an interest in the proposals are usually likely to lack an understanding of tight time limits imposed on review processes, lack the capacity to bear the cost of obtaining quality independent technical opinions, and do not have the capability to respond quickly to the large volumes of technical material provided. The submissions in reply can be rushed and poorly researched, even by the preferred standards of the submitter. There may or may not have been public briefing opportunities in the lead-up to a process, especially forums conducted by an independent reviewer like the EPA.

This leads to a sense of community powerlessness, so that regardless of the quality of the proposal the process does not generate trust that it has been independently vetted. The EPA could fulfil the role of a public defender, but this body appears to be under-resourced, is obviously directed by the Minister, and so it tends not to be seen currently as completely independent.

We would observe that perceived problems with the industry are not necessarily created by the industry itself, but the rush to announce good news and the apparent imperative to sound more "pro-industry" than the industry itself. We understand that there is currently no 'Storm Bay Area Development Plan' in place even though the industry has requested it and it has been stated as essential for industry certification schemes.

The current expansion plans have such a long lead time that it is reasonable to expect more preparation to have been done, more background research and management planning completed, before fish pens are stocked.

### No Grow Areas (pre-assessing environmental sensitivity)

Under the MFPA, marine farming development plans are prepared for designating areas in State waters where marine farming may occur. No consideration is given to areas of environmental vulnerability where marine farming should be permanently excluded. Marine farming will be best managed as part of a comprehensive management system for the ocean, which includes more emphasis being given to the

creation of a comprehensive, adequate and representative marine reserve system in all Tasmanian marine bioregions.

A World Wildlife Fund Australia (WWF)/ Tassal joint report has recommended planning and legal protection for the environmental, social and economic values of Tasmania's coastal and marine environment. After the Macquarie Harbour issues the WWF asked for a panel of experts and local stakeholders to assess the strengths and weaknesses of marine and coastal planning systems in Tasmania.

Interim options are precautionary limited assessment and protection of Section 118 Habitat protection areas or Section 143 research areas. This is particularly the case if threatened or other at-risk species, or novel species aggregations or communities are identified. Finding and mapping these to alert the industry is as important as protecting them.

### Monitoring

Environmental monitoring is very important throughout all planning and operations, to identify risks, set baseline measures and assess compliance.

A World Wildlife Fund Australia (WWF) Tassal joint report has called for "Improved aquaculture/marine conservation compliance monitoring and research to support best practice environmental management";

We presently seem to have a system where we perform monitoring for at risk species, then do nothing when we find them (such as Maugean skate, handfish and Gunn's screw shell). There is usually no Federal recovery plan in place, but we appear not to even consider interim protocols for their protection.

As finding them is likely to inhibit the use of a lease, we should be doing at least preliminary monitoring (or even desktop reviews for areas of likely habitat) to support the proclamation of grow areas, rather than leaving it to much later in the development process.

The Okehampton monitoring program has been reviewed in the public domain and provides an instructive insight into some potential issues.

First, an attempt was made to use out of date surveys, but the Panel addressed that and required further work. The revised results were relatively unremarkable, but when interesting species or marine communities were located there was a general lack of analysis about what to do next. A sawshark was seen on a coarse sandy bottom in this locality. The species was unidentified but was possibly a southern saw shark (*Pristiophorus sp.*). NSW DPIPWE rates this species as "Exploitation status undefined", which is not unusual as we know little about the population of many marine species. Generally, sawfish are in decline across the world. There was no evidence in the available materials that the leaseholder did a risk assessment against this species once found. It may have occurred and as a pelagic species the risk may well have been low anyway.

Sampling for the threatened screw shell *Gazameda gunnii* found a single dead shell within the lease area from 30 grab samples and 10 benthic fauna samples. Three dead shells and two live shells were also recorded from compliance and control sites as part of sediment sampling. In Storm Bay monitoring has found live shells in leases. The available evidence again shows no apparent risk assessment or follow up action.

Another Panel recommendation at Okehampton was for an ongoing far-field ambient monitoring program, consistent with cotemporary Broadscale Environmental Monitoring (BEMP) requirements. Did that commence?

As bystanders we cannot gain a full appreciation of the preparatory and ongoing work that goes into leasing and ongoing monitoring, but it isn't immediately clear that environmental criteria are treated as more than a temporary start-up hurdle in some respects.

The committee may ask what Okehampton monitoring has been done since, what has been reported and actioned from that monitoring?

### Panel independence

The Opposition has proposed a reform of the Marine Farming Planning Review Panel as the Independent Aquaculture Advisory Panel, increasing its scope to assess the compliance of existing leaseholders, by including independent scientists in its membership. We would go further and suggest it includes scientists working in marine science disciplines related to ecology, as well as from marine farming or fisheries management disciplines.

There are proposals to increase its powers to request and review monitoring data and provide independent expert advice to the EPA Director. This type of reform initiative is worthy of public support.

### **b. allocation of leases, applications for and granting of leases;**

Licence grant environmental criteria in s.78, only contains:

- (d) granting the application is not likely to contravene a management plan; and
- (e) there are no environmental or resource constraints in granting the application;

"Constraint" is not defined and could be problematic, but I doubt the clause has been relied on in an environmental setting. Would this actually allow for refusal where Gunn's screw shells or handfish were found for example? It appears not to have been used thus far.

### Unused leases

There is scope for a review for leases in abeyance [s.42E *Environmental Management and Pollution Control Act* - if an existing authorisation relates to an area of land, or State waters, that had not, within the 10 year period ending on the day 3 months before the day on which this Act commences, been used for the purposes of marine farming, or inland fish farming, of finfish, a licence granted by the Director under this section in relation to the existing authorisation is not to be taken to have been granted in relation to that area]. These leases appear to be held on a 'what if' basis, when it might be more productive to free them up for either other growers, or if not required, for other public uses.

### **c. management of finfish farming operations with respect to the prevention of environmental harm;**

#### Adaptive management vs more precautionary systems

The proposed adaptive environmental management program is an attempt to maximise resource use in the commonplace scenario where there are gaps in knowledge. It is an incremental system of exploitation, which could be typified as 'stock it until it strains' then back off when environmental indicators are triggered. It is in common use in fisheries management systems. It has a number of limitations including that its risk profile does not always attract widespread public support. It also depends on rapid responses to indicators, when regulators, business and governments often move slowly to address possible environmental harm.

Statements in the public domain, even by industry, have categorised this approach as flawed in the case of Macquarie Harbour [admittedly a unusually sensitive system] and thus community groups have no confidence that introducing a similar program for places like Bruny Island and Storm Bay will be effective in managing environmental impacts and risks. Taking a more precautionary approach is warranted.

#### Impacts on unique and vulnerable systems

Temperate waters often have far more interesting marine life than many tropical sites, but it takes the form of rare and peculiar small animals like cryptic fish, odd invertebrates, rather than clouds of fish in primary colours.

The temperate areas of Tasmania have been cut off from other temperate areas by big open oceans and adverse currents for a very long time, so most species differ from place to place, especially seaweeds and invertebrate sea animals. A Tasmanian red handfish can only be seen in south east Tasmania and that species has been isolated in Australia unchanged for maybe the last 50 million years. Like the Thylacine these species are iconic, scientifically interesting, and part of our natural heritage. Because of their very uniqueness, limited range, and peculiar habitat preferences, like the Thylacine they can also be easily tipped over the edge to extinction. The worst thing is that we can do this without even intending it, or gaining any real advantage by doing so.

Salmon farming appears to particularly impact on handfish species, the Maugean Skate (in Macquarie Harbour) and other less noticeable species like Gunn's screw shell.

#### Maugean Skate

Of the 400 skate species identified worldwide, the Maugean Skate is the only one known to inhabit brackish water and it is known only from Tasmania. A large expansion program for fish farming was begun in its only known secure habitat when we knew very little about this animal, other than it was found in close proximity to leases.

A recent increase in salmon farming in the harbour has caused a crash in oxygen levels in the harbour. Scientists have said that declining environmental conditions due to salmon farming and changes in river flow have been piling pressure on the species.

There is a reasonable risk that this skate will go extinct, and errors in fish farm siting and stocking may well prove to be significant factors in its demise. It was unnecessary with better prior research and planning.

### Gunn's screw

This shell lives subtidally and offshore on sand. It is found in eastern Australia (QLD, NSW, TAS and VIC). In Tasmanian waters, this is a widespread species, but has become uncommon, possibly due to competition from an introduced species of NZ screw shell. The screw shell is emblematic of the fate of hundreds of mollusc species that may already have become extinct without us noticing it. Most of Tasmania's larger molluscs have only been seen recently as dead shells in sediment core samples. They are indicative of a general decline in the condition of our coastal seabed.

At the Betsey Is lease, a total 61 sites were sampled, and *G. gunnii* were found live at 2 sites and dead at 18 sites. They were not found in Channel sites. As far as I can determine, there was no response to finding these listed species in leases.

### Seals

The recovery of seal numbers has led to growing numbers of interactions with seals. Large seals, especially males, can threaten injury to farm workers as well as causing damage to nets and stock. Relocation of 'problem' seals was attempted without great success, and recaptured seals were being killed in unknown numbers.

Although we have no updated information, it would appear that seal exclusion technology, sprays and firecrackers have reduced the need for shooting, but the issue tends not to be publicly discussed very often. Current statistics of seal deaths from entanglement and control measures are unknown to us.

### Bird and Mammal entanglements and disruptions

Sea cages can attract a variety of wild predators which can sometimes become entangled in associated netting, leading to injury or death. Previously, salmon-farming sea cages have entangled white-bellied sea eagles. These incidents should be reported and disclosed.

More important is to conduct research into the long-term effects of fish farms on animals like seals and sea eagles. Very old studies show that they disrupted sea eagle hunting behaviour. There is no real incentive for industry to study something if the answer might be adverse, so this work would have to be directed by the State.

### Handfish

Like Maugean skates, handfish are species largely unique to Tasmania. There are 14 species, but only a handful are found in inshore areas. There are grave concerns for the survival of these species, one species not having been seen for 200 years and

many more for more than 10 years. Red handfish are known to aggregate at only two sites, although there are possibly more sites, most likely in Norfolk Bay which is an area subject to fish farm expansion. Spotted handfish are already seen close to fish farm pens in the D'Entrecasteaux Channel.

Recently pens were relocated to Norfolk Bay at short notice, in an area likely to have red handfish. No meaningful work was undertaken to survey for handfish on the adjacent coastline. This was despite the activity being likely to fall foul of Federal legislation. Commonwealth law required that, "A person must not take an action that has, will have, or is likely to have, a significant impact on a listed threatened ecological community, without approval from the Minister."

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:

- lead to a long-term decrease in the size of a population •
- reduce the area of occupancy of the species •
- fragment an existing population into two or more populations
- adversely affect habitat critical to the survival of a species •
- disrupt the breeding cycle of a population •
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat
- introduce disease that may cause the species to decline, or
- interfere with the recovery of the species.

This is a comprehensive definition that was clearly triggered by the activity, but these restrictions were practically sidestepped by the State and Federal Government signing off on a rushed approval. Luckily, red handfish were not found in the area when IMAS later conducted the necessary intensive surveys.

This activity appears to have been caused more by ignorance than deliberate malice, or due to an excessive focus on dealing speedily with a biosecurity issue, which blindsided the operator to the environmental risks. It is another example of why a firmer and more active presence by a State regulator, working in concert with the scientific community and the industry is needed to provide the community with the "best practice" it has been promised.

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