Dr Gianluca Amoroso
Aquaculture Scientist
[redacted]

Mr Stuart Wright
Inquiry Secretary
finfish@parliament.tas.gov.au
Via email.

Submission to Legislative Council Fin Fish Farming in Tasmania Inquiry

Dear Mr Wright,

I wish to make a submission to the Legislative Council Inquiry into fin fish farming in Tasmania. This submission contains my personal insights and opinions as an employee of the aquaculture industry in Tasmania and should not be considered a representation authorised by my employer.

I hold a PhD in Biological Sciences with focus on Aquaculture from The University of Tasmania (Australia, 2016). Before that, in my native country I had obtained a Bachelor of Science in Natural Sciences at the University of Rome 'La Sapienza' (Italy, 2009) and Master of Science in Evolutionary Biology and Ecology with focus on Aquaculture at the University of Rome 'Tor Vergata' (Italy, 2011).

As a kid I was always very interested in biological sciences and aquatic animals. In fact, my original background is in marine biology. When I was nearing completion of my Bachelor of Science, I accidentally came across very interesting publication about the first attempts of farming octopus in the Mediterranean Sea. The fascinating process of uncovering and understanding a very complicated life cycle of an aquatic organism and the amount of research carried out to successfully replicate it in controlled conditions, totally caught my attention.

I immediately realised how important aquaculture would be in reducing, and eventually replacing in a sustainable manner, the wild catch fishery in the production of marine protein for the human population. Consequently, I decided to undertake my Master of Science in another university, where a highly reputable group of researchers were offering a very interesting course, which included a research project on the first attempt to reproduce and rear in captivity Atlantic bluefin tuna. That resulted in a very positive experience, during which I learned a lot and I really understood the scale of aquaculture as business, its value, the opportunities linked to it (especially from a research point of view) and its undoubtedly promising future.

Aquaculture, as other primary industries dealing with animal farming, provides the perfect environment to carry out useful and fascinating research with the ultimate aim to produce high quality and sustainable food for the next generations.

I was originally employed at Petuna to manage a Fisheries Research and Development Corporation (FRDC) research project. FRDC projects promote research with strong commercial focus in collaboration with an academic partner, which in our case was the University of the Sunshine Coast. I am now employed as an Aquaculture Scientist and have continued managing the aforementioned project, carrying out critical research with USC, which involves planning samplings, samples collection, data analysis and report writing.

Since beginning my job with Petuna, I have been designing and executing commercial activities aimed at monitoring and improving welfare and quality of fish. Subsequently, the FRDC project,

which had a focus on genetic improvement, has encouraged Petuna to establish a selective breeding program which I have been coordinating since the beginning of 2018.

Tasmania is a very dynamic place which is growing fast and the same is happening to its finfish farming industry. That translates into the constant creation of improvements in practices and technology which makes working in this field extremely stimulating. Not to mention the impressive amount of research carried out by the local academic institutions which provide the support that the industry needs in periods of fast growth. The Tasmanian finfish farming industry has, overall, got a very good reputation at a state, national and international level and continuously attracts the interest of many. This is mainly due to the very high quality of its products which are produced sustainably in clean waters and using best practices. This definitely gives a sense of pride to me and to all the people involved in the industry.

The Tasmanian industry is still relatively young and requires more research in order to catch up with the older and more advanced northern hemisphere industry – especially in the case of Atlantic salmon, in terms of practices and technology. Nevertheless, Tasmania has set a very high standard in terms of work experience for me – so far it has been a satisfying experience both at a human and professional level. Overall, people in the industry are very competent but always eager to learn more and are really friendly and welcoming.

Petuna's selective breeding program provides many examples of how we work to minimise environmental harm. The program aims to improve commercially relevant traits, such as size and flesh quality, but also improves the way fish grow and consume feed. Fish that grow faster spend less time in the water and consume less feed, therefore reaching a marketable size more efficiently. That easily translates into a reduced amount of feed to supply, and a lower requirement of raw materials needed to produce it, as well as a reduced amount of waste produced by the fish which would end up in the water. Not to mention the reduction in carbon emissions down the chain when considering all the activities linked to fish farming, due to this increase in efficiency. Overall, genetically improved stocks are critical for better utilisation of limited feed, land and water resources.

Nevertheless, Petuna also has in place numerous practices and policies aimed at minimising environmental impact such as the reuse of water – thanks to our recirculating aquaculture system (RAS) – and the waste treatment in our freshwater facilities. This is also driven by the international certifications we have obtained over the years which demand very high environmental standards.

A final thought goes to climate change. The climate has been unmistakably changing over the last few decades due to the impact of the human activity and the Tasmanian finfish farming industry must get ready and be prepared for it. As an industry heavily relying on freshwater and seawater for animal production, its future is strictly interconnected with water temperatures. Increased water temperatures will likely make the farming environment unsuitable for most of the finfish currently farmed, with possible catastrophic impact on a business that plays a critical role in supplying fresh food. This means that the industry must quickly come up with new strategies to contrast these effects and protect its stocks. At the same time, the highest level of sustainability must always be pursued as that will contribute to the mitigation of the aforementioned effects in the long term.

I appreciate being given the opportunity to submit my insights and opinions to the Committee.

Kind regards,

Dr Gianluca Amoroso