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Mr Stuart Wright
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29/11/2019

Dear Committee,

Please find attached a submission from Marine Solutions Tasmania (MST) to the Legislative Council Government Administration Committee inquiry into finfish farming in Tasmania.

MST is a specialised environmental consultancy which undertakes work for many stakeholder sectors in the marine environment. Over the past 25 years, our team has gained extensive knowledge of, and experience in, the Tasmanian marine environment. We maintain close links with government, research institutions and industry, and by doing so have developed a strong understanding of the important role finfish aquaculture has come to play in Tasmania. Based on this involvement, we feel appropriately informed to comment on some aspects which may be of interest to the enquiry.

MST welcomes the Legislative Council's enquiry as an opportunity to highlight the extensive and ongoing research conducted to inform the appropriate management of finfish farming operations throughout Tasmania.

Should you feel we could provide additional information which may be useful to this inquiry, please do not hesitate to contact me directly. MST would be happy to organise and facilitate a field-based tour of our monitoring equipment, methods and procedures, if this would be beneficial.

Kind Regards,

Sam Ibbott
Director, Marine Solutions Tasmania

Submission to the Legislative Council Government Administration Committee Inquiry into Finfish Farming in Tasmania

on behalf of

Marine Solutions Tasmania

November 2019

INTRODUCTION

Marine Solutions Tasmania (MST) is an environmental consultancy with particular skills and knowledge relating to the marine environment. MST undertakes work for a wide range of stakeholder sectors with interests in the marine environment. Over the past 25 years, our team of 22 full time, part time and casual employees have gained extensive knowledge of, and experience in, the Tasmanian marine environment. We maintain close links with government, research institutions and industry, and by doing so have developed a strong understanding of the important role finfish aquaculture has come to play in Tasmania. Based on this involvement, we feel appropriately informed to comment on some aspects which may be of interest to the enquiry.

MST employs a team of experienced marine scientists and ecologists who are experienced and qualified to monitor, assess and report on many aspects of the marine environment. We provide independent, objective environmental advice, and design and implement robust baseline survey and monitoring programs to document impacts of a range of activities on the marine environment.

In our role as consultants, MST has been contracted by multiple stakeholder groups to monitor the environmental and social impacts connected with finfish aquaculture. Our clients include but are not limited to aquaculture companies, the Tasmanian Salmon Growers Association, wild capture fisheries organisations, government agencies, IMAS and individuals. MST works alongside the aquaculture industry, regulatory organisations and research institutions to conduct independent, robust research that adheres to the regulatory framework of the finfish industry. Our quality processes ensure any investigation we undertake provides field and laboratory results which are NATA-accredited. Along with other organisations involved in industry monitoring, including DPIPWE, the EPA, Aquenal, The Derwent Estuary Program and the Institute of Marine and Antarctic Studies (IMAS), we conduct an intercalibration regatta which ensures that data collected by any of these organisations is directly comparable.

MST is committed to providing robust and independent information which can underpin evidence-based decision making – whether that be by industry, government or community. We acknowledge the importance of a diverse and resilient marine environment, as well as the significance of the salmon industry as one of the major drivers of the Tasmanian economy, a significant employer (particularly in regional areas), and as an iconic industry with high national recognition. We also acknowledge the importance of wild fisheries, recreational fisheries and environmental amenity – all of which we undertake professional services for, and strive to exceed industry and regulatory requirements.

MST submits comments relating to the impact of data collection and publication (as part of DPIPWE's *Sustainable Industry Growth Plan for the Salmon Industry*) on commercial finfish farming operations and local communities (Part 1a of the inquiry), and the application of the *Marine Farming Planning Act 1995* in relation to management of finfish farming operations with respect to the prevention of environmental harm (Part 2c of the inquiry).

1A. THE IMPACT OF DATA COLLECTION AND PUBLICATION (AS PART OF DPIPWE'S *SUSTAINABLE INDUSTRY GROWTH PLAN FOR THE SALMON INDUSTRY*) ON COMMERCIAL FINFISH FARMING OPERATIONS AND LOCAL COMMUNITIES

Data collection, analysis and informed interpretation is crucial for characterizing our marine environment, and assessing change within that environment. Gathering robust environmental data to inform investigative site assessments, pre-farming baselines, and to assess change caused by anthropogenic impacts of farming activities is critical to allow effective sustainable development and management of our marine resources. MST undertakes multidisciplinary surveys and monitoring which underpins much of this process. Publication of this research facilitates education while also enabling the public and other experts in the same field to check the validity of the research. Data collection and publication has resulted in a significant amount of information available to assist the understanding of waterway health. This information is based on data collected from a variety of sources, and by a variety of methods, and is utilized by companies for decision making, regulators for compliance, and the public for information.

Our monitoring has been multi-faceted and highlights the breadth of information sought (and available) in relation the waterway health. In the past 10 years MST has conducted:

- Broadscale water sampling
- Nearfield water sampling
- Broadscale surveys of fish, algae, seagrass and invertebrates
- Sediment sampling for nutrients, toxic dinoflagellates and infaunal communities
- Sedimentation modelling
- Wave, current and wind exposure measurements and modelling
- Bathymetry and habitat mapping

Much of this monitoring has been part of large, multi-year projects which contribute to long-term data sets that are peer reviewed and cross institutional boundaries. A large portion of this monitoring is undertaken by independent businesses that have a strong understanding of Tasmanian issues, and existing relationships with other stakeholder groups. Monitoring programs are designed according to best international practice while maintaining relevancy to the specific issues in the Tasmanian marine environment. The integrity of the data is central to building and maintaining community trust in the interpretation of that data.

The collection of environmental data leads directly to management decision impacts. One example that highlights this is that, during baseline assessments for Storm Bay farming expansions, Marine Solutions detected low profile reef within a proposed lease area. The finding and subsequent reporting of the location and extent of the reef area directly resulted in an amendment to the proposed lease area, to ensure potentially sensitive habitat was avoided and appropriate buffers incorporated.

We believe that ongoing independent monitoring of the marine environment with relation to salmon aquaculture is vital to both the Tasmanian marine environment and the growth of the finfish aquaculture industry. Publication of this environmental information for access by the general public is an important process that ensures transparency and accountability in the industry.

Importantly, we strongly believe that data should be used for evidence-based decision making, and that people with particular skills in the scientific method are tasked with assessing, analyzing and interpreting data. We note much community interest in the salmonid farming industry, and the associated management and monitoring programs, but equally note that correlation does not imply causation as is sometimes claimed in popularist forums.

2C. THE APPLICATION OF THE *MARINE FARMING PLANNING ACT 1995* IN RELATION TO MANAGEMENT OF FINFISH FARMING OPERATIONS WITH RESPECT TO THE PREVENTION OF ENVIRONMENTAL HARM

Through their engagement of independent environmental experts, it is evident that the finfish aquaculture industry invests in understanding their impacts, and avoiding, mitigating or minimising them wherever possible. Despite this, there is some unavoidable level of impact on waterways and there are recorded interactions with threatened and protected species.

Known and potential impacts from finfish farming include those relating to water quality, sediments and infaunal communities, interactions with native species, marine debris, epiphytic algal growth, marine 'dust', and impacts on rocky reef communities. Many of these impacts are well understood, and occur at the level of the lease, and are confined within the lease boundaries (e.g. benthic impacts from particulate emissions). Other impacts are likely more broadscale (soluble water quality emissions), but we have no evidence of this causing environmental harm.

At MST we dedicate significant resources to conducting field-based assessments and monitoring specifically devised to assess these points of impact. Often we are asked to develop a targeted response to a specific observation or occurrence which may seem 'unusual', and in this space we have developed and trialed a range of novel techniques including Next Gen DNA sequencing, fatty acid ratios and tracer studies to further understand any potential link between finfish aquaculture and less well understood observations of the marine environment. To this point our research has not linked finfish aquaculture with 'unusual' observations in the marine environment.

In the Tasmanian community, there is concern for the perceived impact of the finfish aquaculture industry on the marine environment and wild fisheries. Habitat degradation, increased nutrification and decline in wild fish catch have, on occasion, been attributed by some of the public to the impact of the salmon industry. Broadscale change has undoubtedly occurred in the Tasmanian marine environment over recent years, however it is important to understand the difference between correlation and causation.

For instance, giant kelp forests were once widespread throughout Tasmanian coastal waters. This iconic species supported a commercial harvest industry on the east coast of Tasmania, but over time it has declined and disappeared from much of its original range. It has declined to such an extent it has recently been listed under the EPBC as a threatened ecological community. An examination of aerial imagery since the 1940's has shown a large scale and long-term decline in giant kelp, starting from the north east of Tasmania and gradually moving further south – likely influenced by the increasing strength and longevity of the warm nutrient poor East Australian Current. Thus, the attribution of kelp decline to the increased impact of the finfish farming industry is nonsensical. This does not mean there is no interaction between the two, nor that it is a negative interaction (increased soluble emissions may assist kelp growth), but the attribution of broadscale kelp decline to salmon farming is erroneous.

Further, broadscale changes in the marine environment are evident around Tasmania and are not confined to areas (such as the D'Entrecasteaux Channel) of extensive and intense salmon aquaculture. Recently there have been photos of floating mats of detritus around Port Arthur posted to social media with the claims they are resulting from the adjacent finfish lease. Next-gen DNA sequencing of this material has not indicated a direct link with the aquaculture lease, and equivalent mats of detritus were recently evident in Cloudy Bay lagoon – an area renowned for its high water quality, and remote from finish aquaculture (refer to Figure 1).

Figure 1 Images showing floating mats of detritus around Port Arthur (alleged by some on social media to be attributable to salmon aquaculture; left), and Cloudy Bay (right).

This submission provides a brief summary of our knowledge on some aspects of the inquiry, and we would welcome the opportunity to provide additional information. Should you like to discuss any aspects of this submission in further detail, or should you feel we could provide any additional information which may be useful to this inquiry, please do not hesitate to contact me directly. MST would be also happy to organise and facilitate a field-based tour of our monitoring equipment, methods and procedures, if this would be beneficial.