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To whom it may concern,

Thank you for the opportunity to provide a submission on the Te Ara Paerangi Future Pathways Green Paper 2021¹.

Aquaculture New Zealand (AQNZ) is the peak industry body for aquaculture in New Zealand². We understand that the Marine Farming Association has also submitted on this matter and AQNZ supports their submission.

Aquaculture is a sector with a very promising future. A future offering the sustainable and efficient use of natural resources, producing premium natural products that are revered at home and in export markets. A future where regional economies will thrive with jobs and investment in infrastructure and innovation. A future where Māori are significant participants and can leverage their legacy for following generations. A future with a light touch on the environment that will aid New Zealand's transition to a low emission economy.

The Aotearoa New Zealand aquaculture industry has a proud history of working alongside research providers to showcase our sustainability, increase productivity, and deliver safe seafood to the world. Through those interactions we have, however, also seen the large amount of wasted researcher effort in chasing MBIE Endeavour funding for three months of every year, a lack of collaboration between research agencies due to fierce competition for contestable funds, and a lack of alignment with industry priorities as researchers chase the topic de jour in the hope of getting into the next trough of research money before their competitors.

We have also seen a great example of how well placed MBIE SSIF money can reduce that competition, foster collaboration, and increase alignment with industry goals. For our industry, the Seafood Safety Research Platform, and the Shellfish Aquaculture Research Platform, provide an excellent template for how targeted funding can be used to grow capability, foster collaboration, and help address industry challenges in priority areas. It is our hope that these can be added to, to address gaps in

¹ MBIE, *Te Ara Paerangi Future Pathways Green Paper*.

² AQNZ: <https://www.aquaculture.org.nz/>

other Aquaculture industry priority areas like Salmon Aquaculture, Ocean Technology (aquaculture, fishing, and ocean energy technology and innovation), High Value Extracts and Nutrition, and Seaweed Aquaculture. Future designs of research platform funding could be such that it encourages Iwi partnership, and pooling of SSIF funding between research providers, development of early career scientists, and inclusion of post-doctorals, to get access to additional funding.

Specific answers to questions in Te Ara Paerangi Future Pathways Green Paper:

Section 3: Research Priorities

11. Priorities design: What principles could be used to determine the scope and focus of research Priorities?

We think the focus should be on enabling Iwi, enabling high value sustainable and resilient industries, building and maintaining capability across the system, encouraging collaboration between research institutions, and continuing investment across the research spectrum (include elements from blue skies through to mission led).

13. Operationalising Priorities: How should the strategy for each national research Priority be set and how do we operationalise them?

AQNZ agrees that at a high level the current system lacks clear priorities that are aligned with industry needs and are reviewed over reasonable timescales. We understand that it is unreasonable to expect research providers to be able to jump from priority to priority at short time scales, but some degree of flexibility should be encouraged. We suggest that the strategy for national research priorities could be set by a National Science Committee (made up of key ministers, Iwi leaders, independent research advisors, and international experts from relevant priority areas). The strategies for each national priority area could then direct the formation of targeted research platforms, that bring research providers together, alongside relevant stakeholders (industry, Iwi, NGOs etc) under the common goal of addressing each priority area.

In our experience, research platforms (e.g., <https://www.cawthron.org.nz/research/our-projects/seafood-safety-research-platform/>), which bring research providers together under priority areas, enables researchers and industry to work together to align effort and expedite implementation of outcomes for the maximum benefit of Aotearoa New Zealand. Research platforms provide for efficient research funding spend as there is less duplication of effort, more cross pollination between research providers and direct engagement with industry and stakeholders around current and future priorities.

Five- or seven-year reviews of these platforms could enable access to additional funding if the platform was proving effective or was seen to be of increasing priority. Funding for these research platforms could include incentives for: partnerships with relevant local and national Iwi organisations (e.g., in Aquaculture - Te Ohu Kaimoana, Iwi Aquaculture Organisations) to ensure true partnership in line with Te Tiriti; the development of post-doctoral opportunities and early career researcher involvement, and industry alignment.

Section 5: Funding

17. Core Functions: How should we decide what constitutes a core function, and how do we fund them?

We see Core functions as those that maintain capability and provide data in areas of national importance/ significance (e.g., climate, fisheries, forestry, ocean resources, horticulture etc.).

18. Establishing a base grant and base grant design: Do you think a base grant funding model will improve stability and resilience for research organisations?

We think a base grant system would provide more stability and resilience for research organisations, large and small. If base funding had the right conditions around it, it could also be used to direct and increase the amount of collaboration between research organisations, so that research was more coordinated and efficient within priority areas (e.g., under research platforms as mentioned above).

19. Establishing a base grant and base grant design: How should we go about designing and implementing such a funding model?

A base grant funding model should be designed around maintaining national capability within Core Areas, and building capability, fostering collaboration, and producing aligned outcomes in Priority Research Areas.

20. Institution design: How do we design collaborative, adaptive and agile research institutions that will serve current and future needs?

In our experience, larger research institutes have tended to be less collaborative, and have used Core funding to move between core functions and compete in other research areas. This often leads to a double up in research effort between research providers. Smaller research institutes have tended to be more collaborative, adaptive, and agile. This is likely because traditionally they have not received Core funding. The invent of SSIF funding for smaller research institutes has seen the formation of, in our experience, highly functional Research Platforms (excellent aquaculture related examples are the Cawthron Seafood Safety and Shellfish Aquaculture Production research platforms), which have been particularly effective at fostering collaboration, linking in with industry, and building capability in priority areas for the aquaculture industry. In line with the NZ Government Aquaculture Strategy, we see potential to build similar Research Platforms in Priority Areas like Salmon Aquaculture, High Value Extracts and Nutrition, Ocean Technology, and Seaweed Aquaculture.

21. Role of institutions in workforce development: How can institutions be designed to better support capability, skill, and workforce development?

In our experience, good alignment of research institutions and their research programmes with industry priorities has enabled greater alignment of capability, skill, and workforce development.

Yours sincerely,



Dave Taylor

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W: www.aquaculture.org.nz