

Response to the Green paper, Te Ara Paerangi Future Pathways

I am a senior scientist at the Cawthron Institute, an independent research organisation (IRO). During my 30-year career I have worked in industry and in multiple research organisations including overseas.

In my opinion, the current research system in New Zealand is underfunded, highly competitive and does not promote collaboration. This has meant that some organisations are unwilling to collaborate and share knowledge when it would have been very advantageous to do so. It also leads to a lack of transparency and accountability. As a result, research is duplicated, or results are not applied to create the benefit they should.

During my time at Cawthron we have built significant capability and extensive infrastructure for finfish research, primarily used for research on the only commercially farmed finfish in New Zealand, Chinook (king) salmon. From 2015 to 2021 we successfully obtained Seafood Innovation and MBIE Endeavour funding to fund salmon research and developed a major chinook salmon research programme that produced significant scientific and industry impact. We do currently have a small amount of MBIE Endeavour funding for salmon health research that finishes in 2023, but this only covers a small amount of research.

Cawthron does not receive any core funding for finfish research, and due to the lack of contestable funding, had to terminate its main salmon R&D programme in 2022. This caused the loss of valuable 2 kg+ pedigree salmon which otherwise would have been used for critical research on climate change resilience; a priority identified in the Government's aquaculture strategy. It also meant that technical staff had to move to other projects and that the extensive facilities Cawthron funded and built are currently not in use despite the urgent need for salmon research in New Zealand.

The lack of baseline funding is very detrimental to salmon research progress, hinders research continuation and Cawthron's ongoing ability to fund highly qualified scientists and technical staff. It also means a significant proportion of a scientist's time (~80% of my time at the moment) is spent seeking contestable funding which may not get funded. This does not leave time for data analysis and publication or developing new research tools and analytical methods etc., to respond to emerging priorities and develop innovative solutions. Our team is flexible and can work across many disciplines and on multiple species, but we see the need for salmon R&D in NZ as a high priority and it is very frustrating that this is not funded.

For me the research review is an important opportunity to remove some of the reliance on contestable funding for IROs and provide baseline funding to support additional key priority research areas. This will bring more security, science continuation and improved impact, will retain capability and enable scientists to focus on their science and deliver results without very stressful and unproductive periods of time with no funding.

It will be very important that the future system provides increased funding and adopts a transparent and fair process for identifying national science priorities without being unduly influenced by competition among organisation and across disciplines. In addition, the management of the funding must not be in the hands of a few that then have too much influence on the funding decision-making process.

Contestable funding will still be an important part of the science funding process in the future, but it is very important that there is a funding mechanism to support the implementation of key research findings after the end of funded programmes to deliver the most impact, ensure continuity and

retain capability. Improved funding to support early career scientists would help with this, so that more of the PhD students that are funded by research programmes, can transition to post-doctoral, or permanent positions, and continue their research career development in New Zealand.

Māori engagement and increased involvement in research is important. Enabling non-Māori researchers to develop a better understanding of mātauranga Māori and its application is essential to this success. It would be good to develop a coordinated national strategy and framework, supported by funding, to enable this rather than relying on individual institutes to adopt and fund such strategies.

Regards,

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