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# The Future Of Commercial Fisheries - Expert Reaction

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## **The Prime Minister's Chief Science Advisor has released a new report into New Zealand's fisheries management system.**

The [recommendations](#) include adopting a whole-ecosystem approach to fisheries management, creating an Oceans Strategic Action Plan for 2040 to achieve 100% sustainably managed oceans, and using a central database for fisheries data to allow for greater transparency and state-of-the-art environmental reporting.

## **The SMC asked experts to comment on the report.**

Dr Maren Wellenreuther, Science Group Leader of Seafood Production at Plant & Food Research, and Associate Professor, University of Auckland, comments:

“Seafood production is a major economic sector for Aotearoa New Zealand and part of its culture – as an island nation with our sea area being more than 15 times that of our land, managing our marine environment is vital. Ensuring access to seafood with changing climate and environmental pressures requires the seafood industry to adapt at pace.

“The Fishing 2040 report outlines some key focus areas for Aotearoa New Zealand to support marine resource management in the future. Gaining insights into the life below the water is an ongoing challenge, but fortunately, innovations and technologies are constantly being developed all around the world to gain better insights into the marine ecosystem. For example, DNA techniques to understand the distribution and abundance of species are an exciting area where significant progress has been made. Genetic technologies can rapidly provide information from single species to whole ecosystems, and how they respond to multiple pressures, such as climate change. These newly added layers of information can fill existing knowledge gaps that we currently have about many of our fisheries stocks. We need to integrate these new technologies to make the best-informed decisions.

“If we can modernise fisheries management then this will support Aotearoa New Zealand to be a recognised world leader in sustainable fishing, which is informed by management approaches that integrate the wider ecosystem. This will allow us to make more informed decisions to protect our ocean for generations to come, while delivering on aspirational economic and environmental goals for all of Aotearoa New Zealand.”

*Conflict of interest statement: “I was a panel member of Fishing 2040, and I also sit on the Marsden EEB panel, and the Advisory Board of the Blue Economy CRC. My research is funded by MBIE, SIL and the Royal Society.”*

Dr Chris Cornelisen, Theme Leader, Sustainable Seas National Science Challenge; and General Manager, Ocean and Coastal Sciences, Cawthron Institute, comments:

“The recommendations from the Prime Minister’s Chief Science Advisor are in line with the Government’s desire for holistic, ecosystem-based management to support a healthier ocean that provides for future sustainable use. Holistic management is needed to ensure that fishing and marine activities that are central to the livelihoods and identity of New Zealanders remain a way of life for future generations. Sustainable Seas evidence shows to achieve a healthier marine ecosystem, effective management of cumulative effects (the way stressors interact and amplify or mitigate each other) is critical.

“The report shows we have all the necessary ingredients to take better care of our coasts and oceans. A lot of data already exists and there is much we can do within the existing regulatory framework. But the panel found that we must do better in the way we work together.

“A key focus of the report is for Government, Māori, industry, researchers and communities to come together to develop a ‘bold oceans strategic action plan’. Unless you have a healthy ecosystem, you don’t have a strong blue economy in the long term. It’s vital to use tools and mechanisms to solve the challenges all marine managers face to maintain and grow Aotearoa’s blue economy. Having that overall strategy is critical to bring current fisheries management practices into alignment.

“That’s why the report advocates for a connected worldview and sharing information and evidence. We need this knowledge and tools to better manage the many competing uses of, and values we hold for, the marine environment.”

*Conflict of interest statement: Dr Cornelisen served as an expert panellist for the PMCSA’s fisheries report.*

Dr Richard O’Driscoll, Chief Scientist – Fisheries, NIWA, comments:

“Fisheries is a challenging space. There are lots of stakeholders and the underlying science and management are complicated. Fisheries scientist Professor John Shepherd is often quoted as saying ‘Counting fish is like counting trees – except they are invisible and they keep moving’. Professor Dame Juliet Gerrard has done a comprehensive and impressive job in pulling information together in her PMCSA report on Fishing in Aotearoa New Zealand. Her recommendations provide an excellent overview of current fisheries management issues and challenges and a basis for addressing them.

“Management goals are set by regulators and should reflect society’s requirements. The current goal, defined by the New Zealand Fisheries Act, is ‘providing for the utilisation of fisheries resources while ensuring sustainability’. The devil, as always, is in the detail – finding the balance between maximizing benefit for all stakeholders, as well as maintaining healthy ecosystems. Do we want to take more fish now, or manage at higher levels of abundance where fish are easier to catch and there is less impact on the environment? Often

these discussions are quite adversarial. The recommendation ‘to develop a bold Oceans Strategic Action Plan’ is a step in the right direction towards an agreed management framework, but will be an enormous challenge for the Oceans and Fisheries Minister to implement.

“The role of science in this process is to inform managers about the current status of fish stocks and the environment, and about the consequences of different management actions.

“We are fortunate in New Zealand to have long time-series of information for most commercially valuable species that allow these to be relatively well monitored and managed. The challenge is with assessing lower value species, where the money generated by the catch doesn’t justify the cost of research. And there is a need for better understanding of interactions between different species and the environment. To expand on the Shepherd quote, as well as moving, fish eat each other and respond to changes in their habitat. And most fisheries don’t operate in isolation but catch a range of species and have other impacts. Do we need or want to stop fishing for snapper to protect tarakihi, or seabirds, or dolphins? How will climate change impact fish distribution and spawning? The goal of moving towards an ecosystem approach to fisheries management is a worthy one, but one that requires more and better information. Some of this is quite basic – in many marine systems we’re still not entirely sure who eats who. Assessing one species is hard enough, assessing many species and their environment simultaneously is much harder!

“Innovative technologies and better integration of data may allow us to move beyond ‘business as usual’ and it is encouraging to see that Theme 7 calls for research and innovation to be maximised. The big question is how this will be paid for? Although outside the scope of the review, as the report notes, ‘clarity on the role of industry levy funding and government funding’ is required.”

*Conflict of interest statement: “NIWA carries out fisheries research work under contract to the New Zealand government (Fisheries New Zealand, Ministry for Business Innovation and Employment, Department of Conservation), local government, and for the fishing industry. I was on the panel that provided review comments on sections of the draft PMCSA report. NIWA’s previous Chief Scientist Fisheries, Dr Rosie Hurst, was on the PMCSA fisheries panel.”*

Dr Viktoria Kahui, Senior Lecturer, Department of Economics, University of Otago, comments:

“The context of the Future of Commercial Fishing report by the PMCSA is – ‘the Quota Management System (QMS) is in place, but we can do better for the environment’. The report carefully points out that any changes it seeks to address will be in the scope of the Fisheries Act 1996. For example, Section 9(c) enables the protection of habitats of particular significance for fisheries management, but has never been used. Among the many challenges, the report highlights that it is the lack of trust and shared vision between stakeholders that impedes good ocean governance.

“In the first theme, ‘strengthened leadership’, the PMCSA recommends the appointment of an Oceans and Fisheries Minister to ensure cohesive oversight of all marine activities. Different departments often pull in different directions, and there is a lack of connection

among these. The Minister might lead the development of an Oceans Strategic Action Plan and facilitate multi-party conversations to build a culture of trust and collaboration.

“The second theme calls for ‘a bold oceans strategic action plan’ and, again, highlights the lack of trust in the regulatory system. Fisheries Plans, which were created to allow for stakeholder collaboration, have not been successful and the PMCSA calls for an integrative framework to coordinate more localised plans. Stakeholders include actors in research, community, government and industry (see Figure 4).

“Theme 3 identifies the many different stressors on the environment, ranging from fishing effort, climate change, land-based activities, invasive species, pollution and cumulative effects, and calling for a holistic approach to acknowledge Te ao Māori, a connected worldview.

“Themes 4, 5, 6 and 7 focus on the set of regulatory tools available, highlighting the need for coordinated and better data management, ecosystem monitoring, and the capability for research and innovation.

“The report highlights the same systemic failures in governance that the Parliamentary Commissioner for the Environment addressed in his report [Managing our Estuaries](#) in 2020. Estuary management faces ever more complex interactions between overlapping jurisdictions, stakeholders and legislation, requiring the need for integrated management.

“The Future of Commercial Fishing report picks up on the same problem: management is complex, there are many different stakeholders with differing objectives, and if no action is taken, then the stressors on the environment will lead to irreversible consequences.

“The recommendations by the Future of Commercial Fishing report for an Oceans Strategic Action Plan, along with the many other recommendations, is in line with many other international calls for integrated management. In my opinion, however, two important points need to be addressed: How will trust be built? And, who has bargaining power?

“Trust is an important currency to make a system work. But trust is built over time, in repeated transactions, in an environment of transparency, and among stakeholders who have real power to affect outcomes.

“How are these stakeholder interactions facilitated? It is costly for stakeholders to engage in regular talks, meetings and negotiations, where trade-offs have to be made. These trade-offs will depend on the allocation of property rights, and therefore bargaining power.

“For example, commercial fishers have the right to fish in accordance to their quota holdings, but what rights do Action groups, NGOs and local iwi have to protect valuable areas from stressors? Fisheries plans may provide a way to address these trade-offs, but the issue of bargaining power has to be addressed.

“The report focuses on integrative frameworks to coordinate more localised plans. I think we need to go further and assign legal environmental personhood to coastal and open ocean ecosystems, which is in accordance with Te ao Māori and has been granted to the Whanganui River. This may provide a step in the direction of a bold oceans governance framework.”

*No conflicts of interest declared.*

Professor Mark John Costello, School of Environment, University of Auckland, comments:

“The report is rich in nice examples of case studies of fisheries in New Zealand, and a significant section on the benefits of Marine Protected Areas (MPA) to the knowledge and sustainability of fisheries. It also discusses the emerging international commitment for 30 per cent of the oceans to be fully protected by 2030. However, there is no mention of MPA in the Recommendations.

“The report was restricted to commercial fisheries and it will disappoint some people that it excluded reviewing of the quota management system (QMS), which is the principle under which these fisheries are managed. It recognises the appointment of an ‘Oceans and Fisheries Minister and Under-Secretary to ensure cohesive oversight of all marine activities within Aotearoa New Zealand’s territorial sea and EEZ.’

“The most remarkable feature in [the Recommendations](#) from the Office of the Prime Ministers Chief Science Advisor regarding ‘towards 100% sustainably managed oceans’ is the soft language. The new Minister only ‘might work collaboratively’, ‘might lead development of an Oceans Strategic Action Plan’, ‘can support partnership with iwi’, and ‘consider’ or ‘refine’ other ‘considerations’. I wonder why the word ‘should’ didn’t replace most of these.

“The Recommendations on data make no mention as to whether the data should promptly be made freely available to the public, so we must assume this is not encouraged or envisaged (even though considerable data is already published online).

“When it comes to ecosystem-based management, the section recommends to ‘secure funding and commitment for the long-term monitoring to be established and maintained’. This suggests that there is no commitment from the government for the provision of collecting the data to provide the evidence base for policy decisions. Considering there is already some funding, one is left wondering if it is sufficient or not.

“While this is an interesting report, the weak recommendations are disappointing. The only strong recommendation is to develop an ‘Oceans Strategic Action Plan’.”

*Conflict of interest statement: “No conflict of interest in terms of receiving salary or funding from NZ government or marine industries.”*

## **Francisco Blaha, Independent Fisheries Advisor, comments:**

“It would be difficult for anyone to give an overall opinion on a report that encompasses everything from high level policy in both te ao Māori and European mind frames, economic impacts, food security, fisher wellbeing, society’s changing expectations around animal welfare, and incorporating all the other stressors other than fishing (climate change, land-based impacts, diseases and invasive species, plastic pollution, etc.).

“If that wasn’t enough, it incorporates the state of play of commercial fisheries in 2020. Its current complex regulatory space, fisheries management tools in use, the various initiatives underway by the regulator, industry and researchers, plus the usual data silos hold and an insight into the status of stocks and ecosystems, to then review a range of technological innovations that can enable more sustainable commercial fishing practices, specifically concerning how, how much, where and when we fish and how we maximise value from a limited catch.

“This is a mammoth of a report. My first reaction is of full respect to the staff of the PMCSA’s office in charge of its compilation, particularly when you read the spectrum of people and institutions consulted. The New Zealand fisheries discourse is generally quite toxic, and the first reaction of many stakeholders is to point their fingers at all others: “everyone else must change, but not me”. So, the authors not only had to deal with the technical issue but had very good mana to not be derailed and take sides. I believe this has been achieved to a large extent.

“Surely, not everyone would be totally happy with all aspects of it. Yet, I believe that this report is the ground stone and benchmark for the work that needs to be forthcoming in this fundamental (and controversial) industry that relates to New Zealand’s economic, cultural and social life.”

*Conflict of interest statement: “I was part of the selected reference panel interviewed by the PMCSA for this report.”*

## **Professor Michael Plank, University of Canterbury and Te Pūnaha Matatini, comments:**

“One of the things the report identifies is the need to move towards managing ecosystems as a whole, rather than separately managing individual fish species. Ecosystems are made up of lots of species and habitats that all interact in ways that we don’t fully understand. This means that catching one species has effects on other species that can be indirect and hard to predict. For example, we tend to think of large species like hoki as predators and smaller species as prey. But in fact, hoki start life as tiny larvae that could easily be eaten by adult fish of a smaller species. This means that if hoki becomes depleted, it could actually remove an important food source for other species with knock-on effects throughout the food chain.

“Managing marine ecosystems is a balance between generating food production and conserving biodiversity. Moving towards an ecosystem approach to fisheries management could provide some win-wins for commercial fisheries and conservationists. For example, there may be ways to improve the ecosystem-wide catch while reducing the overall impact on biodiversity. As the report notes, to make this a reality we need better and more accessible data on our marine ecosystems and more research to improve understanding of how they work.”

*Conflict of interest statement: Professor Plank served as an expert panellist for the PMCSA’s fisheries report.*

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