



TERRA MOANA
natural capital know how

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Dear Dave,

Fisheries Operational Review

Thank you for the opportunity to provide late comments into the review. This follows our recent discussion in Malta, during the Seafood Summit.

Terra Moana Ltd is a new niche sustainability consultancy. We focus on using natural capital and ecosystem service analysis approaches (quantitative and qualitative) to improve primary industries. Through our Partnership, between Tony Craig and Katherine Short, we blend the best of industry and non-government organisation approaches. We are the sustainability advisers to Aotearoa Fisheries Ltd and support them across their interrelated business development agenda including the development of their emerging relationship with WWF. Through co-owning Terra Moana Ltd and working together every day, we practice what we preach – business-NGO collaboration. Our major expertise is sustainable fisheries and seafood both in New Zealand and internationally. A core of our work is to move products derived from precious wild natural resources up the value chain and to highlight how relevant incentives can be deployed to restore the health and well-being of the human communities and ecosystems that underpin their production.

We are heartened by the launch of the fisheries review yet believe it needs to go much further than its current limited operational terms of reference. New Zealand does have very good fisheries management with the Quota Management System (QMS). Indeed, it was once the best in the world. Tony has been deeply involved in fisheries management in New Zealand for more than thirty years including through the creation of the QMS, the fisheries legal framework and the Maori fisheries settlement. However, we are strongly of the view that the framework can be further enhanced by modernising our fisheries management to encompass the health of marine ecosystems rather than the current narrower focus on fish stocks – i.e. shifting to an ecosystem-based management approach. Whilst New Zealand was in the ‘fish down phase’ our framework broadly worked. That’s over now and the pressures on the marine environment, particularly within 12 nautical miles has only intensified. It is critical that the entire fisheries management system be realigned with the current operating

environment and this must include a revision of how we protect, manage and restore the marine environment that underpins seafood production, especially on the coast.

We also have deep insight and concern for the state of coastal fishing communities in New Zealand, with Tony having completed the fleet review for Aotearoa Fisheries Ltd (AFL) in 2012 and Terra Moana Ltd, in 2015, conducting a similar review for Ngai Tahu with similar findings of a severely depressed inshore fin-fish sector. Tony was also the Executive Director of the Federation of Commercial Fishermen, representing small-scale operators nationally during the early 1990's. Indeed Terra Moana's sustainable coastal fisheries views, and our comments here are predicated on the critical interrelationship between managers, rights holders, the people who fish and the state of the marine environment. The health of one depends on the other and solutions must work for all.

The emerging Integrated Electronic Monitoring and Reporting System (IEMRS) MPI is developing is a critical first step to begin to modernise coastal fisheries. Well deployed and integrated with for example the Trident system industry are developing, it should significantly enhance New Zealand's ability to manage fisheries, improving data collection and compliance across the board. This level of information is now essential for supply chain management and integrity given that premium market consumers in this data rich, social media savvy world expect and in some instances demand to be able to know who caught their fish and how. Whilst laudable, introducing this system in New Zealand is at this point playing catch up with other developed world contexts and we believe it needs to be used tactically to open up far deeper fisheries management improvements. IEMRS will underpin the shift that, at least, AFL are making to move key coastal species up the value chain. This includes developing consumer ready packaged terakihi and trevally for higher value markets and which will require clear and precise information on-pack. Sanford's 2015 Annual Report signalled similar intentions. Related to this, we recommend MPI updating New Zealand's seafood product labelling requirements to ensure our seafood can meet the significantly increased product labelling requirements of the Australian, European and American markets which have come in under the illegal, regulated and unreported fishing regulations.

Clearly, technology is never the entire answer. The people using it need support as does the environment where the fish originate. To do our bit, Terra Moana Ltd are investing in scoping a responsible fisheries training programme for especially New Zealand's coastal fishers and ask what level of interest MPI would have in collaborating on this?

We have also supported AFL to conduct the first ever ecosystem service review (ESR) of a commercial fishery, the Marlborough Sounds paua fishery. The ESR, supported by the Department of Conservation, Sustainable Business Council and Landcare Research, described the compounding stresses in the marine environment, most notably sediment which smothers paua kelp habitat. Other needs identified included: strengthening recreational fisheries management, supporting the Paua 7 fishery to manage for stronger sustainability at a finer scale and improving understanding of what's happening under the water. This was subsequently reviewed by MPI, DOC and a range of relevant stakeholders in 2015 and clear expressions of interest were made to work together to resolve what could be addressed. Through AFL an approach to MPI is underway to develop this.

Furthermore, a preliminary valuation conducted by Terra Moana Ltd with MBIE in 2015 estimated the impact of lost kelp habitat on paua quota value at \$25 mio since 2002¹. Initial estimates of two other coastal fisheries considered to be impacted by sediment indicate a further ~ \$50 mio of potential lost quota value from declining catches (rock lobsters and finfish in Hawk Bay and the Wairarapa Coast

¹ Documents available upon request.

following major east coast storm events). New Zealand has one of the highest sedimented continental shelves globally (Prof. Schiel pers. comm Oct 2015). This brings into focus the role of MPI and questions how it is addressing terrestrial runoff from forestry and farming on coastal seafood? We believe there is a clear need to considerably increase the power of coastal seafood producers to 'push back on' poor land-use practices. How can the fisheries review support this? The solutions do exist e.g. riparian restoration and the sustainable forestry practices required by the Forest Stewardship Council (FSC). MPI is developing new National Environmental Standards for Plantation Forestry, are they taking account of these FSC best practices and 'raising the floor'? Will they require mitigation of forestry impacts on coastal seafood production? Clearly New Zealand doesn't yet have the right mix of policy settings to systematically incentivise this better performance such that coastal environments are able to be protected, managed and restored as/where required.

Take the Marlborough Sounds for example, how can we work together to ensure that when the next round of forestry cutting occurs there (in the next 5 years), that forest owners operate under absolute best practices because they want to, because they're aware of the impact on coastal fisheries for example and implement management approaches that take account of such impacts? What can MPI do, by integrating forestry best practices and coastal seafood production management, to address this?

As a nation, we have been fortunate to have had a relatively low population, beautiful natural environment and high natural resources. We are no longer in that position and in many situations heading for a perfect storm if we don't reset the policy and regulatory framework to enable decisions that support the range of values we seek i.e. food and fibre production, healthy natural ecosystems, recreation etc.

This is where the natural capital and ecosystem service toolbox is emerging to be important and we urge MPI to urgently and significantly build its own capacity in this space. We offer expertise to do so. We are aware that MPI is a partner in the Natural Resource Sector Natural Capital programme of work and believe that New Zealand coastal fisheries management could well benefit in being a focus to test these approaches. We can learn from other contexts where they're being used. The UK has undergone a complete Natural Capital Assessment as well as having conducted a Total Economic Valuation of the value of coastal fisheries (<http://www.gifsproject.eu/en/toolkit>). It is also running Project Inshore (<http://www.seafish.org/industry-support/fishing/project-inshore>) to use the Marine Stewardship Council process to improve coastal fisheries management around the coast. Western Australia is doing this too. New Zealand could adopt this nested set of approaches to empower coastal fisheries to take greater responsibility in addressing their local challenges.

With responsibilities for sustainable primary industries across the land/marine interface, MPI has a critical role to play in developing the innovative mix of incentives to ensure both marine and terrestrial sectors share the costs of protecting, managing and restoring the productive capacity of coastal ecosystems. What, for example, does MPI think of the use of payment for ecosystem service approaches from forestry and seafood producers to finance such actions?

Furthermore, Terra Moana Ltd believes the Government, and thus MPI must empower responsibility for healthy coastal fisheries where it matters, at the local level and according to a revised framework of responsibility and accountability. We think the time is here to force people to have to think about providing for other sectors rights and needs and to think about the impact of ones' actions upon the other. We are deeply concerned about the current levels of recreational fishing which we believe are unsustainable. It is deeply unfair on coastal commercial fishers that the only adjustment mechanism government has that works, to manage coastal fisheries, is to cut the TACC. With ever increasing

numbers of recreational fishers, this is effectively shifting catching power and the share of the catch to the recreational sector. We strongly recommend the government require salt water recreational fishing licencing and that a proportional share of the TAC be allocated to the recreational sector.

It is, we feel irresponsible to continue allowing latent recreational effort to exist in any single year that could jeopardise any single fishery through unconstrained recreational effort. The current bag limit approach is flawed and can be easily exposed for not constraining catch. Without understanding and controlling the number of fishers, bag limits are meaningless. Maximum latent recreational effort can be calculated using the number of recreational fishers in any one region multiplied by the number of fishing days available (365) multiplied by bag limits, multiplied by the average weight of a legal sized fish. We agree such a possibility is unrealistic however even small increases in recreational effort using the components outlined above make a significant difference (see figure 1 below) and not knowing this information in real time (at least annually) is an irresponsible approach to the sustainable management of our valuable inshore stocks.

Figure 1 Unit of effort increases in the Pau3 Recreational Paua Fishery

| PAU 3 | Estimated Tonnes Caught by Rec Sector (17,000kg) | | | | | | | | | |
|---|--|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| No Fishers | 4,268 | 4,268 | 4,268 | 4,268 | 4,268 | 4,268 | 4,268 | 4,268 | 4,268 | 4,268 |
| Average weight | 0.375 | 0.375 | 0.375 | 0.375 | 0.375 | 0.375 | 0.375 | 0.375 | 0.375 | 0.375 |
| Number of fish caught (To give total kgs) | | | | | | | | | | |
| Trips | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | 1,600 | 3,201 | 4,801 | 6,401 | 8,002 | 9,602 | 11,202 | 12,803 | 14,403 | 16,003 |
| 2 | 3,201 | 6,401 | 9,602 | 12,803 | 16,003 | 19,204 | 22,404 | 25,605 | 28,806 | 32,006 |
| 3 | 4,801 | 9,602 | 14,403 | 19,204 | 24,005 | 28,806 | 33,607 | 38,408 | 43,208 | 48,009 |
| 4 | 6,401 | 12,803 | 19,204 | 25,605 | 32,006 | 38,408 | 44,809 | 51,210 | 57,611 | 64,013 |
| 5 | 8,002 | 16,003 | 24,005 | 32,006 | 40,008 | 48,009 | 56,011 | 64,013 | 72,014 | 80,016 |
| 6 | 9,602 | 19,204 | 28,806 | 38,408 | 48,009 | 57,611 | 67,213 | 76,815 | 86,417 | 96,019 |
| 7 | 11,202 | 22,404 | 33,607 | 44,809 | 56,011 | 67,213 | 78,415 | 89,618 | 100,820 | 112,022 |
| 8 | 12,803 | 25,605 | 38,408 | 51,210 | 64,013 | 76,815 | 89,618 | 102,420 | 115,223 | 128,025 |
| 9 | 14,403 | 28,806 | 43,208 | 57,611 | 72,014 | 86,417 | 100,820 | 115,223 | 129,625 | 144,028 |
| 10 | 16,003 | 32,006 | 48,009 | 64,013 | 80,016 | 96,019 | 112,022 | 128,025 | 144,028 | 160,031 |
| 11 | 17,603 | 35,207 | 52,810 | 70,414 | 88,017 | 105,621 | 123,224 | 140,828 | 158,431 | 176,034 |
| 12 | 19,204 | 38,408 | 57,611 | 76,815 | 96,019 | 115,223 | 134,426 | 153,630 | 172,834 | 192,038 |
| 13 | 20,804 | 41,608 | 62,412 | 83,216 | 104,020 | 124,824 | 145,628 | 166,433 | 187,237 | 208,041 |
| 14 | 22,404 | 44,809 | 67,213 | 89,618 | 112,022 | 134,426 | 156,831 | 179,235 | 201,639 | 224,044 |
| 15 | 24,005 | 48,009 | 72,014 | 96,019 | 120,023 | 144,028 | 168,033 | 192,038 | 216,042 | 240,047 |

Figure 1 has been constructed using MPI 2011-2012 recreational survey data. This spreadsheet attempts to back solve what would be the number of fish and number of trips needed if 10% (4,267) of the number of recreational fishers for the region (42,675 total) gathered paua. The answer **one trip per person taking their bag limit (just 10%!!)**.

One additional trip per person would double the take of the sector and the impact on the fishery would be substantive. Not knowing exactly what this effort is year on year is, as stated previously, counter to best practice sustainable fisheries management. With technology advancement there is little excuse for not regulating for recreational fishers to report nowadays. We believe this urgently requires strong political will and leadership.

With this in mind, we are alarmed by the Government's current proposals to allocate the Hauraki Gulf and Marlborough Sounds to be recreational only fishing areas. This will severely disadvantage coastal commercial fishing communities reliant on these geographies and without adjustment risk increasing pressure on the next best areas. It is time the current quota based fisheries management framework be adapted to also have an area based component, at least on the coast. We are well aware that this will require much deeper redesign, with for example, the legal responsibilities of the Department of Conservation and Ministry for the Environment. It is thus overdue that New Zealand genuinely work through the reform process that is necessary to modernise our entire marine management. This took the UK a decade and resulted in a new Ministry of Marine. New Zealand has in the order of 25 pieces of legislation related to the marine environment and this urgently needs to be both modernised and inevitably, rationalised.

Whilst imperfect, the current MPA discussion recently launched by MfE is a step in this direction and we will submit on that separately. We urge MPI to be closely involved in this and seize the political reform opportunity. As a nation we have failed in the last fifteen years to have the political stomach for this reform and this is failing especially our coastal ecosystems, fisheries and communities. If we don't reform coastal marine management, we (and Quota Owners) simply won't have the catching capacity to supply sustainable coastal commercial fish species. The current fleet is on its knees and the lack of coastal planning means fisher security is failing and fishing is seen as the least preferred career option. This, when considering the QMS is regarded as a leading fisheries management regime, can only be a significant indicator of failure. There is a significant human cost to this too. We will not make up the shortfall in seafood production from aquaculture. Wild marine fisheries are a taonga that we should be able to be proud of and reap premium rewards from. The current framework is unsustainable economically, ecologically and socially and coastal fishing communities are suffering.

Do let us know if we can elaborate on any of the above and we welcome involvement in subsequent consultations.

Kind regards



Katherine Short
Partner



Tony Craig
Partner