Appendix Five - More Fish in the Water II Strategy

MORE FISH IN THE WATER

Kia maha atu nga ika ki roto i te wai

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31 July 2009

Dear Minister

Fisheries 2030 - an alternative vision and strategy from environmental interests, and non-commercial fishing interests

On June 17, 2009 our organisations sent you a collective response to the Ministry of Fisheries' (MFish) *Fisheries 2030* proposals. Some of these groups also provided an alternative approach to fisheries management entitled *Sustainable Strategies for More Fish in the Water*.

In our letter of 17 June we offered to meet with you so we can discuss our collective vision and strategy for the future sustainable management of our fisheries and marine environment, as we plan for 2030.

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www.option4.co.nz/Fish_Forums/hui_report_april10.htm

Representatives from most of our organisations have recently received and accepted an invitation to attend a meeting with you in Wellington in August.

Whilst we understand the government's intention of improving the benefits from our fisheries resources, this must be neither at the risk of environmentally sustainable fishing nor at the expense of long-term social and cultural benefits. To achieve this we must adhere to the long-term intention of the Fisheries Act 1996, to conserve our fisheries for future generations of New Zealanders and by applying and giving meaningful effect to the statutory obligation on the Minister to have particular regard to kaitiakitanga (guardianship/stewardship) of our fisheries and environment, our taonga.

Our intention in this letter and at our discussion with you is to outline practical, immediate measures to improve harvesting techniques thereby providing food and jobs for New Zealanders while reducing the risks to the health and abundance of our fisheries and the marine environment.

To ensure the best collective outcome from our discussion with you we have developed an outline of specific strategies to achieve successful implementation of both the urgent and long-term actions referred to in our alternative management document. Those action points are included as an Action List in Appendix A.

Also for your assistance, we enclose a summary of our recommendations to achieve the sustainable management of our fisheries.

Current *Fisheries 2030* proposals

We share major concerns about the emphasis on maximising use and economic benefits from our fisheries and the marine environment and therefore do not support the *Fisheries 2030* strategy, vision and process in its current form.

In our view, the general impetus of the *Fisheries 2030* proposals would be to increase the adverse effects on both the health and abundance of our fisheries and the marine environment while being detrimental to New Zealanders' social and cultural and ultimately economic wellbeing.

This is because the *Fisheries 2030* project emphasises economic returns over other benefits by seeking to justify increased economic returns, which will most likely translate into a greater annual catch by commercial fishing interests. The problem is loss of value-added. The project also foreshadows devolution of fisheries management and research to fishing industry interests.

To us this means more dead fish and a bleaker future for our fisheries and the health of our seas. We consider this an environmentally risky approach for short-term economic gain that stretches the credibility of 'sustainable management'.

Alternative management strategies

Listed below are a number of management strategies that we recommend as alternatives to the current *Fisheries 2030* proposals, and the related Action points outlined in Appendix A.

Improving economic returns from well-managed fisheries *(Actions a - j)*

Many of our fisheries are at or below a level that can produce the maximum sustainable yield (MSY), as presently defined in the Fisheries Act. Smaller fish make up a larger proportion of the biomass leading to high juvenile mortality, wastage and lower yield per recruit. For example, over 50 percent of the catch in the Chatham Rise hoki fishery is of juvenile fish. In the Crayfish 3 (CRA3) management area about 50 percent of the weight of crayfish taken from around Gisborne area is below the minimum legal size for recreational fishers.

Failure by MFish to address damaging practices leads to dissatisfaction amongst fisheries users and tension between managers and those with an interest in the health and abundance of our marine environment.

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The good news is that if fisheries stocks were allowed to recover and damaging fishing methods phased out, there would be much less conflict. Another benefit is significant financial returns, as consumers and the world market increasingly demand higher standards as they look for the ethical and environmentally traceable products.

The harvesting of wild fish and marine life requires the careful consideration of a complex web of social and political factors, biological principles and environmental impacts. At times, economic and political demands may be at odds with biological principles that require and dictate sensible harvest management. Maintaining biodiversity, productivity and ensuring the interdependence of stocks must not be sacrificed for short-term economic gains. This is because we need to protect the future of both our fisheries and New Zealand's other industries that depend on our 'green' brand.

We recommend that economic returns be improved by implementing a strategy to increase the yield from each fish, by leaving them in the water to grow older and larger. Maintaining fish populations at higher biomass levels will support catch limits that satisfy both fishing and environmental interest groups. This will also enable us to pass on this same marine abundance and diversity to future generations of New Zealanders.

Environmental precaution and an ecosystem approach *(Actions b - e and h - j)*

Existing fish stock management strategies are made on the basis of numerical models of single species or stocks. These models are vigorously defended and relied on by MFish to provide management advice to the Minister. These single-species models are built on numerous assumptions and insufficient research, adding to significant uncertainty, which makes reliable estimations of sensible catch limits difficult if not impossible. Insufficient margins are allowed for error and overshoot of harvesting.

While these models may rationalise catch limits, they fail to inform managers of the consequences to multi-species fisheries when industrial fishing depletes a species to 20 percent of its original size or less. Similarly, the current practice of simply plugging in a Recreational Harvest Estimate (RHE) adds little towards modeling a species population dynamics in these same, depleted fisheries.

Any ability that might exist for managing fish stocks by biomass estimates is undermined by the belief that greater accuracy in catch estimates will deliver an accurate biomass estimate. The raft of assumptions in the model disguise or swamp anything delivered by a single data point.

Many models also assume that single stocks exist in isolation and ignore the interdependence of stocks and the effects of fishing on the wider marine environment. The failure to incorporate the full effects of harvesting, multi-species interactions, environmental factors, habitat modification, and productivity changes deprive these models of much of their usefulness.

Despite both a clear need for improved research and adding more species to the QMS, MFish is spending less on research (e.g. trawl surveys) than it did in the early 1990s.

Failure to incorporate an ecosystem approach into advice and decision-making has significant adverse impacts on our ability to manage fisheries well. The precautionary approach is advised by the FAO to ensure that fisheries managers act cautiously. Litigation by the commercial sector around s10 of the Fisheries Act demonstrates a need to strengthen the precautionary principle. Doing so would facilitate compliance with the intention and purpose of the Fisheries Act, and ensure a future for our fisheries.

We recommend future stock assessment models that integrate habitat and spatial concerns, genetics, multi-species interactions, environmental factors, the effects of harvesting on the ecosystem, model mis-specification and socio-economic concerns. In developing such models the limitations of current fisheries science must be made explicit and incorporated at the management, policy and advice levels. Where information is lacking or uncertain, precautionary management procedures and decision-making to protect the environment is crucial.

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Moving away from reliance on Maximum Sustainable Yield *(Actions a and b)*

Current management focuses on maximum sustainable yield (MSY); a knife-edge target that assumes accurate measurement is possible before fish stocks decline. In striving to achieve this target natural fish population dynamics are altered to focus on just a few, commercially taken year classes.

It is now widely acknowledged and accepted that information on fish stocks can be remarkably uncertain therefore making fisheries management unreliable and environmentally risky. Reducing the number of age classes in a population is not only risky in terms of its environmental consequences; it can also lead to an uneconomic fishery.

Fewer year classes reduces the resilience of the stock to respond to a number of human and natural stressors – overfishing, pollution, climatic variation and food availability. In combination, important fisheries such as hoki have crashed as overfishing and poor recruitment have resulted in a multitude of problems including small size-class dominance.

We recommend moving away from the current MSY target to the alternative strategy of maintaining a much higher biomass of individual fish stocks, with a broad range of age classes, to ensure productivity and diversity across the marine ecosystem as a whole, and to provide some risk margin.

Reducing wastage *(Actions c, e and h)*

The search for greater value from fisheries begins with identifying the causes of wastage, and then adopting practices to reduce and eventually eliminate fishing practices that cause this wastage.

Some fishing methods and fishing gear have low selectivity – i.e. they are indiscriminate and catch a variety of marine life including non-target resources. Some also target and catch these juveniles and barely-legal size fish.

The QMS incentivises the discard of non-QMS fish and whilst illegal, discarding of small QMS fish is common practice in some fisheries, for example the ling and hoki trawl fisheries. Whilst considered to be of low value by commercial fishers, their removal from the marine environment can be significant and can lead to long-term disturbances of food web assemblages and even biodiversity loss.

As a result of the current fisheries management approach, many undersized fish are caught and unnecessarily killed by commercial bulk-harvesting fishing methods. Losses to the fish population, subsequent productivity and natural biodiversity are not measured accurately or adequately quantified in the stock assessment process. All users inflict mortality as they catch fish and each is capable of, and has a responsibility for, reducing any adverse impacts on the fishery and the environment.

We recommend increasing the biomass and age of fish to reduce wastage. Minimising bycatch levels and utlilising the whole fish caught are other ways to reduce this waste thereby conserving and showing respect for the resource.

Reversing the unintended genetic consequences of past management practices. *(Actions a, d and e)*

The use of Minimum Legal Size (MLS) and Minimum Mesh Size (MMS) both have unintended consequences in that they strongly select for smaller, slower growing and faster maturing fish, which reduces productivity[22]. The best and most urgent solution is to rebuild stocks. Developing high-tech selection in gear is also a possible strategy.

[22] Evolution: Unnatural Selection, Stenseth NC and Dunlop ES, 12 February 2009.
Marine Conservation Biology, Evolutionary Impacts of Fishing on Target Populations, Law R and Stokes K, 2005.

A healthy fish stock is one that comprises many age classes to 'buffer' the stock for several decades, regardless of environmental or human induced disturbances.

We recommend the development of strategies and practices to both enable the active selection of more productive fish and to reverse the unintended genetic selection pressure on fisheries. Solutions can be adapted to suit both local conditions and the community's aspirations for fisheries management.

Leaving large fish in the water (*Actions c, d and i)*

Management targeted at MSY results in the removal of large fish and a greater proportion of the fish population that are close to the current legal size.

Larger specimens of individual fish produce proportionally higher levels of successful recruitment while retaining the genetic memory of bigger individuals. These are a valuable source of productivity and, as such, ought to be protected from mass exploitation. Many of New Zealand's commercial fisheries still target and harvest fish from spawning aggregations (schools) even though this practice has been prohibited in many other countries.

We recommend seasonal and area-based management controls to protect larger, breeding fish thereby ensuring high levels of recruitment and providing insurance for the future health and abundance of New Zealand's fisheries.

Improving yield and potential earning per recruit *(Actions d and e)*

The single biggest action to improve yield and economic return is to improve the health of our marine environment and increase the abundance of marine populations.

We recommend measures that include increasing the minimum legal size (MLS) of fish, where appropriate, to increase the yield from each recruit, and to maximise the earnings from each fish killed.

Increasing minimum sizes

Shifting focus from MSY to optimum economic yield (OEY) would improve productivity and returns from fisheries. For example, increasing the snapper minimum size from 25/27cm to 30cm, and an increase in minimum sizes for Rock Lobster would improve yield, over time, and would increase the ability of fish populations to cope with environmental fluctuations and other stressors.

An agreed, staged size increase with management controls would be required to achieve the benefits from these measures without causing additional mortality of undersized fish or excessive hardship for fishers.

Individual non-commercial fishing entitlements are prescribed in numbers of fish kept. This focus on numbers is a powerful incentive that encourages non-commercial fishers to search for larger fish in an effort to improve returns per fish caught. A positive outcome from having a healthy and abundant fishery is that fewer numbers of fish are killed for a higher yield.

Maximising earnings per fish

Currently the biggest disincentive for commercial fishers to maximise earning per fish is the specification of commercial catch entitlements in tonnes or kilograms rather than numbers. If commercial fishers were limited to a specific number of fish they would be more inclined to seek larger specimens to improve the yield per fish. Most fisheries would have to be more abundant and healthier to achieve that outcome.

We recommend strong incentives to improve the yield from commercial fishing, starting with allowing the biomass of a fish stock to increase resulting in the presence of larger fish as a consequence. Currently, true

mortality is masked by the lack of detail on how many fish are killed in the process of harvesting the retained catch.

Eliminating destructive fishing methods *(Actions c - e and h)*

Destructive fishing methods such as dredging, bottom trawling and Danish seining are responsible for considerable adverse environmental impacts. Such methods succeed only in providing short-term gain to commercial fishers who use these techniques, with the unwanted result of accelerated and irreversible decline in the health and abundance of our fisheries resources and marine biodiversity.

We recommend working towards eliminating destructive fishing practices by providing incentives to switch to alternative, more sustainable fishing technologies that incur higher market value through increased consumer demand for such products.

Responding to the effects of climate change *(Action l)*

Climate changes are increasingly being recognised as major challenges to fisheries management. While some species may benefit from warmer seas (e.g. snapper) others will not. Of major concern is the effect of ocean acidification as this leads to the breakdown of the very foundations of life in our seas. The impact on key prey species and our marine resource is very uncertain.

We recommend a stronger precautionary approach in fisheries management in response to the uncertainty associated with the effects of climate change.

Integrate land management with marine and fisheries management *(Actions c, d, f and i)*

Substantial changes in estuarine and coastal habitats and ecosystems are known to have occurred over the last 100 or more years, and to still be occurring. These impacts have developed as fisheries have developed and have driven population trends downwards in most coastal species. It is very clear that the marine environment should not be managed in isolation from the adverse effects of land-based activities.

Our poor understanding of the inter-connected nature of our environment requires cautious management of our foreshore and inter-tidal zone. Many inshore fish stocks and mammals prey on species such as yellow eyed mullet, which are vulnerable to the bulk removal of beach cast seaweed.

We recommend urgent action to prevent loss of the near-shore marine environment to the cascading adverse effects that begin with vegetation clearance, nutrient run-off and sediment outfalls that cumulatively result in inert or dead zones.

1992 Maori fisheries Deed of Settlement – kaitiakitanga *(Actions b, c and d)*

We recommend that the Minister gives effect to the ongoing obligations on the Crown, pursuant to the 1992 Maori fisheries Deed of Settlement and fisheries legislation, to provide for the input and participation of tangata whenua into fisheries and area management while having particular regard to kaitiakitanga. This will significantly improve the health and abundance of our fisheries and be beneficial for all New Zealanders.

Integrated governance of fisheries *(Actions d, f, g and i)*

We recommend ongoing support for local communities and iwi/hapu who have initiated rehabilitation projects that seek to restore the near-shore environment and the fisheries, so they can continue to serve the wider public's interests.

We recommend non-commercial fishing interest groups continue to explore governance models to improve the long-term prospects of maintaining meaningful input and participation in fisheries management processes. This will benefit all sector groups and fisheries managers.

We thank you for the opportunity for representatives of our organisations to meet with you in August. We look forward to explaining and discussing with you our alternative vision and strategies for the management of our fisheries and marine environment, as together we plan for 2030.

Yours sincerely,

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More Fish in the Water II Strategy - Appendix A

Urgent and long-term actions identified in the documents *Fisheries 2030 and an alternative collective view* and the *Sustainable strategies for more fish in the water*.

[Drafted in June 2009; updated in July 2009.]

We recommend:

Urgent actions:

a. Specify management objectives to achieve a target biomass at a level of no less than half of the unfished biomass or similar proxy for key fish stocks with a clear rebuild timeframe to achieve this as soon as biologically possible.

b. Strengthen s10 of the Fisheries Act to require the Minister to make precautionary decisions, to protect fish stocks and the aquatic environment, in the face of uncertain or inadequate information. This must be uni-directional in that TACs can only be decreased under these circumstances and not increased. The object of precaution must be specified as the fish stocks and associated and dependent species and the environment.

c. Identify and protect areas of important and vulnerable fish habitat or marine biodiversity (e.g. nursery and spawning areas, traditional fishing areas and areas of high biodiversity) using an array of tools. These can include customary management, area based management, no-take zones, plus fishing method, season and catch restrictions as appropriate.

Long-term actions:

d. Develop policy and an effective management framework that ensures that any use of marine resources is done in an equitable and ecologically sustainable way.

e. Reduce marine resource wastage and damage and increase promotion of added value from our fisheries (including targeted catches, gear selectivity, reduced discarding and more efficient processing).

f. Strengthen community-led and regional public management led decision-making, guided by national standards built around measurable objectives, overview and evaluation.

g. Undertake targeted research and information gathering (across all sectors), ensuring open access to data for stakeholder use.

h. Eliminate ecologically destructive fishing techniques (e.g. dredging and bottom trawling) in favour of sustainable technologies.

i. Ensure that the Ministry of Fisheries undertakes fisheries management and commissions fisheries research.

j. Identify and minimise impacts on threatened or protected species.

k. Develop and support strategic plans which include community planning processes for fisheries management, including measurable objectives and strategies aligned with our collective 2030 vision.

l. Incorporate the effects of fishing on climate change and the effects of climate change on fishing into fisheries management.

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