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"Submissions",
Ministry of Fisheries,
PO Box 1020,
Wellington
Tracey.steel@fish.govt.nz

SUBMISSION ON:
the review of management measures for CRA3 (Gisborne), CRA4 (Wellington/Hawke Bay) and CRA7 (Otago) and CRA 8 (Southland) rock lobster fisheries for 1 April 2010

The Environment and Conservation Organisations of NZ (ECO) is the national alliance of 66 groups with a concern for the environment. ECO has been concerned at the state of marine management and the impacts of fishing on threatened species for over 20 years.

Thank you for the opportunity to make submissions on these proposals.

A. SUMMARY

These recommendations are made after reviewing the results of the rock lobster stock assessment.

i. Management Procedure

ECO does not support the proposed management procedure recommended by NRLMG:

- Does not estimate Bmsy or use that parameter;
- Does not use puerulus settlement information in calculations.
- Does not consider the impact of climate change and ocean acidification on rock lobster.

ii. Catch Limits

CRA 3

ECO supports a reduction in the catch to a TAC less than 273 tonnes and a TACC less than 164 tonnes.

CRA 4
ECO does not support an increase in the catch limit for area 4 but supports setting aside recreational, customary and other sources of mortality.

CRA 7
ECO supports a reduction in the catch limit to less than 104.5 tonnes for TAC and less than 84.5 tonnes for the TACC.

iii. General comments.

- ECO does not support the use of shelving of quota.
- Stock assessments should be carried out more frequently with an assessment in each area at least once every 5 years.

Yours sincerely,

Barry Weeber
Co-Chairperson
Environment and Conservation Organisations

1. INTRODUCTION

Thank you for this opportunity to comment on the proposed sustainability measures and management controls for the 2008-09 Fishing Year.

B. GENERAL PRINCIPLES

Our main submissions on the Ministry's IPP are:

1. The proposals do not consider all the obligations on a decision-maker under sections 5, 8 to 10, and 11 to 14 of the Fisheries Act 1996.

2. Some of the considerations are a backward step over last year - there is little consideration of international obligations (section 5) and section 9 obligations, especially marine biodiversity and habitat of particular significance to fisheries management.

3. The Ministry needs to consider how environmental considerations are better integrated with pure single stock assessment considerations. Every year the inclusion of bycatch, adverse effects of fishing, maintenance of biodiversity, etc, tend to be after-thought considerations rather than central issues to setting catch limits. The Ministry could learn from the approaches taken by CCAMLR in this regard.

4. The Ministry needs to consider the obligations on future generations and the need to avoid, remedy or mitigate the effects of fishing on the marine environment.

5. International agreements and measures have further articulated the precautionary approach. Section 5 of the Fisheries Act requires decision makers to act in a manner consistent with "New Zealand's international obligations relating to fishing". Amongst these obligations is the United Nations Food and Agriculture Organisation (FAO) Code of Conduct on Responsible Fisheries (1995) which states that:

   "6.5 States and subregional and regional fisheries management organizations should apply a precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment, taking account of the best scientific evidence available. The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment."

   Article 7.5 of the Code of Conduct further set out what constitutes precautionary management in fisheries.[1]

[1] **7.5 Precautionary approach**

7.5.1 States should apply the precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment. The absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures.

The United Nations Implementing Agreement on High Seas Fisheries and Straddling Stocks[2] includes a requirement on *"coastal States and States fishing on the high seas [to] apply the precautionary approach in accordance with article 6."* Article 6 includes requirements for:

"1. States shall apply the precautionary approach widely to conservation, management and exploitation of straddling fishstocks and highly migratory fishstocks in order to protect the living marine resources and preserve the marine environment.

2. States shall be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures."

Therefore, where information is uncertain or unknown about the state of a stock or biological information, the decision should favour lower catch limits or more environmentally stringent regulations.

6, Six key issues regarding the management of fisheries-related impacts on the aquatic environment were identified through the Strategy on the Management of the Environmental Effects of Fishing consultation process undertaken by ECO and Forest and Bird in 2001. These issues describe problems relating primarily to the institutional, legal and policy frameworks under which fisheries-related impacts on the aquatic environment are managed. The key issues identified were:

- Limited opportunities for public participation in fisheries management;
- Gaps in information, monitoring and research capacity;

7.5.2 In implementing the precautionary approach, States should take into account, inter alia, uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points, levels and distribution of fishing mortality and the impact of fishing activities, including discards, on non-target and associated or dependent species, as well as environmental and socio-economic conditions.

7.5.3 States and subregional or regional fisheries management organizations and arrangements should, on the basis of the best scientific evidence available, inter alia, determine:
stock specific target reference points, and, at the same time, the action to be taken if they are exceeded; and
stock-specific limit reference points, and, at the same time, the action to be taken if they are exceeded; when a limit reference point is approached, measures should be taken to ensure that it will not be exceeded.

7.5.4 In the case of new or exploratory fisheries, States should adopt as soon as possible cautious conservation and management measures, including, inter alia, catch limits and effort limits. Such measures should remain in force until there are sufficient data to allow assessment of the impact of the fisheries on the long-term sustainability of the stocks, whereupon conservation and management measures based on that assessment should be implemented. The latter measures should, if appropriate, allow for the gradual development of the fisheries.

7.5.5 If a natural phenomenon has a significant adverse impact on the status of living aquatic resources, States should adopt conservation and management measures on an emergency basis to ensure that fishing activity does not exacerbate such adverse impact. States should also adopt such measures on an emergency basis where fishing activity presents a serious threat to the sustainability of such resources. Measures taken on an emergency basis should be temporary and should be based on the best scientific evidence available.

[2] The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (in force as from 11 December 2001).

- Lack of precaution and environmental assessment in decision-making;
- Lack of spatial and ecotype approach to policy and planning;
- Dominance of private property rights approach;
- Lack of recognition of non-extractive use values.

7. A recent review of application of the FAO Code of Practice[3] indicates that New Zealand needs to do a lot more to implement the code, particularly in the area of stock management, impacts of fishing, and bycatch and habitat effects.

B.1. Effects of fishing

We support the implementation of the Strategy for the Environmental Effects of Fishing (SMEEF) and are disappointed that there has been little progress in applying it since it was published in 2005.

The Ministry needs to consider the SMEEF including:

- *Emphasises the need to assess the effects of fishing on all parts of the aquatic environment, not just respond to obvious adverse effects.*

Further *Principles relevant to the Strategy as a whole are:*

- *Avoid, remedy, or mitigate any adverse effects of fishing on the aquatic environment.*
- *Give effect to the purpose of the Fisheries Act 1996 (to provide for the utilisation of fisheries resources while ensuring sustainability), and the overall fisheries outcome set out in the Ministry of Fisheries Statement of Intent 2005–2008 (value is maximised).*
- *Meet New Zealand's international obligations.*
- *Clearly define roles, responsibilities, and accountabilities.*
- *Adopt a "learning culture" to support improvement of environmental effects management over time.*
- *Use best available information.*
- *Take into account wider (non-fisheries) New Zealand government priorities.*
- *Monitor and assess effects of fishing on an ongoing basis.*

New Zealand has a range of international obligations that are relevant to marine management. These obligations mean New Zealand:

- has an obligation to protect and preserve the marine environment (UNCLOS Article 192);
- is committed to an eco-system based approach to managing the use of natural resources;
- is committed to the precautionary approach to minimising risk to the environment;
- is committed to the concept of inter-generational equity.

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3 Pitcher T, D. Kalikoski, G. Pramod and K.Short (2009) Not honouring the code *Nature* **457**, 658-659 (5 February 2009) | doi:10.1038/457658a; Published online 4 February 2009
and
Pitcher T, D. Kalikoski, G. Pramod and K.Short (2009) Safe Conduct? Twelve years fishing under the UN Code (WWF) Available at: http://assets.panda.org/downloads/un.code.pdf

B.2. Shelving of quota:

In principle, we do not support the shelving of quota. Shelving goes against the fundamental direction of the quota management system and the setting a catch limits.

This questionable arrangement leaves balance sheets unchanged even though there are in fact no fish to match the "shelved" portion of TACC. This means in effect "ghost" ITQ on the company's balance sheets. Such an arrangement has uncanny similarities with the dead serfs accumulated by the would-be landowner, Chichikov, at the centre of Gogol's 1842 novel Dead Souls (Gogol, 1842).

In 2000 there was a decision by the then Minister of Fisheries' to undertake a review of the shelving of quota. After 10 years the Ministry has still to review shelving of quota.

B.3. Research needs

We are concerned that the Ministry is not undertaking adequate research to manage most of the species under the Quota Management System. Less than 15 percent of the stocks in the quota management system have estimates of current biomass or yield estimates.

ECO notes that the Worm et al (2009)[4] paper only accepted 19 assessments which in total cover 18 quota stocks out of the 629 fish stocks quota management system. This indicates that the Ministry of Fisheries needs to know much more about our fisheries if that is all of our stock assessments the international fisheries science community will accept.

We note that this report also recommends that stocks be maintained above Bmsy: *"In fisheries science, there is a growing consensus that the exploitation rate that achieves maximum sustainable yield (u) should be reinterpreted as an upper limit rather than a management target. This requires overall reductions in exploitation rates, which can be achieved through a range of management tools.*

New Zealand is undertaking less trawl surveys and fisheries research than it was 15 years ago. We would endorse the comments of McKoy (2006)[5] that New Zealand has a fisheries management regime which has:

- "Insufficient research resources, people, equipment and funding;
- Limitation of scientific method and theory to tackle many questions;

[4] Worm B, R Hilborn, J K. Baum, T A Branch, J S Collie, C Costello, M J Fogarty, E A Fulton, J A Hutchings, S Jennings, O P Jensen, H K Lotze, P M Mace, T R McClanahan, C Minto, S R Palumbi, A M Parma, D Ricard, A A Rosenberg, R Watson, D Zeller (2009) Rebuilding Global Fisheries *Science* 31 July 2009: Vol. 325. no. 5940, pp. 578 – 585 DOI: 10.1126/science.1173146

[5] McKoy J (2006) Fisheries resource knowledge, management, and opportunities: Has the Emperor got no clothes? p35-44. In New Zealand's ocean and its future: knowledge, opportunities and management. Proceedings of a conference organised by the Royal Society of New Zealand, 16 November 2006, Miscellaneous Series 70.

- An inadequate understanding of the dynamics of New Zealand marine ecosystems;
- A management system which provides very strong perverse incentive to keep research funding low;
- A management system which treats the QMS as the whole of the system and which has not been able to develop any coherent management objectives on which to base decisions about the effectiveness of management or the allocation of scarce resource such as research resources."

The recent paper by Bentley and Stokes (2009)[6] highlights the poor state of information on fisheries (see fig 2).

The long echoed comment in Antarctic fisheries management (CCAMLR) first echoed by the former UK representative, John Heap, of "no data, no fish", should be taken to heart in the New Zealand fisheries management regime.

Of the eight stocks of rock lobster for which there are stock assessments, four are older than 5 years and one (Chatham Islands) has not been assessed since 1996. Given the value of rock lobster stocks commercially, recreationally and customary and the importance of rock lobster in marine ecosystems, it is essential that there assessments are carried out more frequently with all stocks being assessed at least every 5 years.

B.4. Effects of Climate change

The effects of climate change on fisheries and the emissions of greenhouse gases from the fishing industry needs to be included in the considerations of the Ministry of Fisheries. This includes the consideration of the impacts of acidification of the marine environment on fisheries.

Already the oceans are 30 percent more acidic than they were 250 years ago. On a geological scale that is a rapid change, perhaps 100 times faster than anything Earth has had during the last 200,000 years. If emissions are not reduced acidity could double by the end of the century, making our seas more acidic than they have been in 20 million years.

The effect on our rock lobster needs more research. In Australia they are taking the issue seriously in considering how to respond.[7] Potential impacts identified in Tasmanian rock lobster fisheries include:

- Warmer waters reducing stock size;
- Declines in puerulus settlement;
- Increased catchability in warmer seas;

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6 Bentley N and K Stokes (2009) Contrasting Paradigms for Fisheries Management Decision Making: How Well Do They Serve Data-Poor Fisheries? Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science 1:391–401, 2009

7 Pecl G, Frusher S, Gardner C, Haward M, Hobday A, Jennings S, Nursey-Bray M, Punt A, Revill H, van Putten I (2009). The east coast Tasmanian rock lobster fishery – vulnerability to climate change impacts and adaptation response options. Report to the Department of Climate Change, Australia.

- Greater variability in recruitment;
- Increased likelihood of disease and 'ecosystem surprises'.

2. FISH STOCKS FOR REVIEW

2.1 Management Procedure

ECO does not support the proposed management procedure recommended by NRLMG:

- Does not estimate Bmsy or use that parameter;
- Does not use puerulus settlement information in the procedure.
- Does not consider the impact of climate change and ocean acidification on rock lobster.

2.2 Catch Limits

CRA 3

ECO supports a reduction in the catch to a TAC less than 273 tonnes and a TACC less than 164 tonnes.

ECO notes that the current stock size is estimated to be half the Bmsy stock size.

> "These results suggest a stock that is near *Bmin* and well below *Bmsy*. Under current catches and recent recruitments the model predicted a 75% probability of biomass decrease over four years."

The TACC would need to be reduced to around 100 tonnes to increase the chance of the stock being above Bmsy to around 20%.

There is no commentary in the

We also note that the estimate of Bmsy is unrealistically low and probably suffers from the issues identified in the hoki assessment:

> *"There are several reasons why B_{MSY}, as calculated in this way, is not a suitable target for management of the hoki fishery. First, it assumes a harvest strategy that is unrealistic in that it involves perfect knowledge including perfect catch and biological information and perfect stock assessments (because current biomass must be known exactly in order to calculate the target catch), a constant-exploitation management strategy with annual changes in TACC (which are unlikely to happen in New Zealand and not desirable for most stakeholders), and perfect management implementation of the TACC and catch splits with no under- or overruns. Second, it assumes perfect knowledge of the stock-recruit relationship, which is actually very poorly known (Francis 2009). Thus, the actual target probably needs to be considerably above this theoretical optimum; but the extent to which it needs to be above has not been determined."*

CRA 4

ECO does not support an increase in the catch limit for area 4 but supports setting aside recreational, customary and other sources of mortality.

ECO questions the efficacy of the CRA 4 management procedure and notes our pervious criticisms of management procedures (above).

ECO notes:

- There is no new stock assessment for CRA4.
- The projections in the assessment "rely on an assumption that recruitment would be similar, on average, to that in the 1994–2003 period and with variability as seen in those ten years."
- For Castlepoint only one of the last 10 years has had puerulus settlement indices over one compared to seven of the previous 10 years, including two high years in 1991 and 1992;
- Catch rates are still under 50 percent of what they were in 1999-2001.

CRA 7

ECO supports a reduction in the catch limit to less than 104.5 tonnes for TAC and less than 84.5 tonnes for the TACC.

ECO notes that:

- Apart from 2000 and 2003 year, puerulus settlement has been low based on Moeraki settlement data. Settlement size 2003 has been very low and if this continues the catches are likely to drop further.
- The fishery relies on catching small lobster and the MLS is well below breeding size;
- There is no new stock assessment for CRA7.

2.3 General concluding comments

- As indicated earlier ECO does not support the use of shelving of quota.

- Stock assessments should be carried out more frequently with an assessment in each area at least once every 5 years.