



ENVIRONMENT AND CONSERVATION ORGANISATIONS OF NZ INC.

Level 2, 126 Vivian St, Wellington, New Zealand
PO Box 11-057, Wellington
Email: eco@eco.org.nz Website: www.eco.org.nz

Phone/Fax 64-4-385-7545

Ministry for Primary industries
PO Box 2526
Wellington 6140
New Zealand
Email FMSubmissions@mpi.govt.nz

27 February 2014

Submission on the Review of Deepwater Sustainability Measures for 1 April 2014


The Environment and Conservation Organisations of NZ (ECO) is the national alliance of 55 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 comment on this proposal.

SUMMARY Southern Blue Whiting (SBW6I)

1. ECO supports option 1 (status quo) for the southern blue whiting fishery for Campbell Island.
2. While the current stock status is 58% Bo, Southern Blue Whiting is known to have highly variable recruitment. This is consistent with the goal to maintain stocks at or above Bmsy.
3. The stock status is predicted to decline by around 20% even with the same TACC over the next four years.
4. Stable TACC and catches over several years with the similar vessel numbers is preferred to increase catches and effort.
5. Any increase in catch is likely to result in the increase in by-catch of the threatened sea lions. It will also increase in the deaths of fur seals and sea birds.
6. Sea lion deaths in the fishery and monitoring them and getting more scientific information on the interaction will be affected if there is an increase in effort or vessels.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'B. Weeber'. The signature is fluid and cursive, with the first letter 'B' being large and prominent. The name 'Weeber' is written in a similar cursive style, with the 'W' and 'E' being particularly distinct.

Barry Weeber
Co-Chairperson

1. INTRODUCTION

Thank you for this opportunity to comment on the Review of Deepwater Sustainability Measures for 1 April 2014.

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 by-catch, 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 Stocks² 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 Practice³ 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.2. 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)¹ 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 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 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. ECO considers the comments made by McKoy (2006)² are still relevant and 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;
- 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 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.

¹ 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

² 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.

B.3. 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.

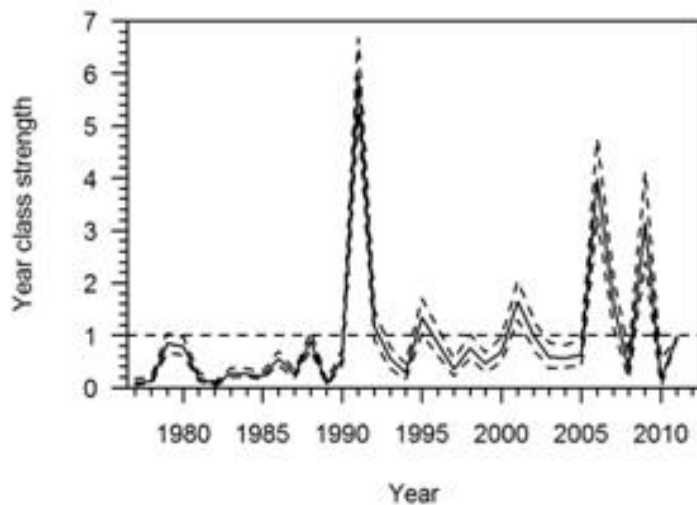
This includes the consideration of the impacts of ocean acidification of the marine environment on fisheries.

2. FISH STOCKS FOR REVIEW

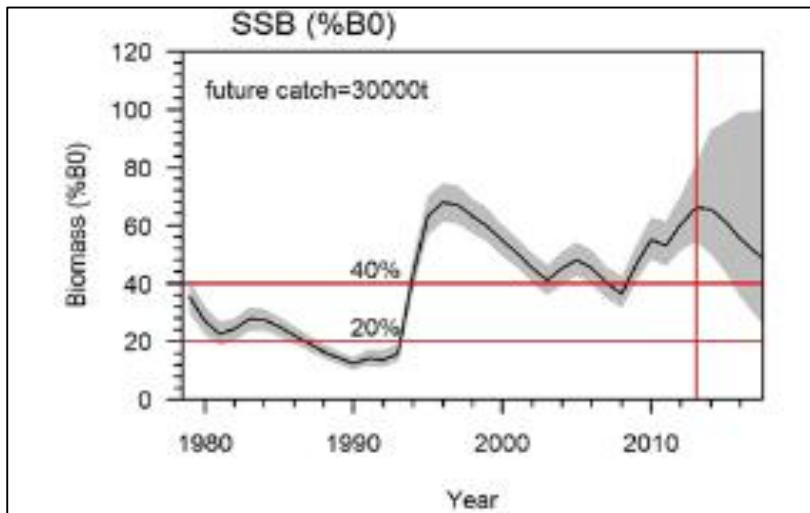
C. Fish Stocks: Southern Blue Whiting (SBW6I)

Southern blue whiting is known to have highly variable year classes. The ecological implications of this variability or the environmental drivers are not well understood.

The current assessment relies on the very strong 2006 and 2009 year class which is slightly less than the record 1991 year class.



These two years classes are well above the average observed year's classes in the last 35 years.



The population is predicted to decline with no change in catches.

This change in population is consistent with the obligations in the Fisheries Act to maintain stocks at or above Bmsy.

The implications of southern blue whiting population in the Campbell Rise ecosystem needs to be considered.

Juvenile southern blue whiting³ is an important part of the diet in several albatross species:

Dietary samples collected at Campbell Island in summer 1997 indicate that southern blue whiting (Micromesistius australis) formed the bulk of the food of black-browed albatrosses (Diomedea melanophrys impavida) during the chick-rearing period. Birds preyed upon a single size class of fish with a mode at 80-90 mm standard length; fish were 4-5 months old and belonged to the 0+ age group. Satellite tracking showed that, when performing trips of short duration, adult albatrosses foraged within the 1000 m depth contour in the sub-antarctic zone north of Campbell Island. The feeding ecology of albatrosses thus suggests that juvenile (0+) southern blue whiting are pelagic and occur in dense schools in the top 5 m of the water column over the Campbell Plateau during the summer months. The high reliance of birds on juvenile southern blue whiting during the chick-rearing period has implications for the management of the southern blue whiting fishery and the conservation of black-browed albatrosses and other marine predators occurring in the New Zealand sub-antarctic area.

They went on to note that:

the high reliance of birds on southern blue whiting during chick rearing has implications for the management of the fish stocks. If the fishery significantly reduces the spawning biomass which in turns reduces the abundance of younger age-classes, birds may be forced to find alternative food sources, eventually resulting in lower breeding success and further declines in populations.

On Campbell Island the populations of black-browed and grey-headed albatrosses have declined dramatically since the 1940s.

Sea lions

Southern blue whiting fishing around Campbell Island is the second most important fishery capturing the threatened New Zealand sea lion.

The sea lions are listed as a vulnerable threatened species under the IUCN Red List and national critically under the Department of Conservation list of New Zealand threatened species. The population assessed on the basis of pup counts has declined by nearly 50 percent

The by-catch levels of sea lions that occurred last year was not unusual as shown by table 5 in the IPP

³ Cherel Y, S Waugh and S Hanchet (1999) Albatross predation of juvenile southern blue whiting (Micromesistius australis) on the Campbell Plateau, New Zealand Journal of Marine and Freshwater Research, 33:3, 437-441, DOI: [10.1080/00288330.1999.9516889](https://doi.org/10.1080/00288330.1999.9516889)

Table 5: Effort, observed and estimated New Zealand sea lion captures in SBW 6I by fishing year ^a

Year	Total Tows	% tows Observed	Observed sea lion captures	Mean estimated sea lion captures
2004	690	34	1	3
2005	726	37	2	5
2006	521	28	3	9
2007	544	32	6	15
2008	557	41	2	5
2009	627	20	0	1
2010	550	43	11	24
2011	815	40	6	14
2012	591	76	0	1

As ECO representatives advised MPI science representatives at last year's AEWG meeting – there was a number of failings in the process of managing the fishery last year which will delay progress in reducing sea lion deaths in future years. This includes:

- The failure to return sea lion carcasses for autopsy or other genetic material so that the origin of the sea lions could be determined;
- The failure to take core temperature of the animals to better determine when they were drowned;
- The failure to take age data from the death animals, if carcasses were not returned;
- The failure to acknowledge that this is an ongoing problem and not a one –off event.
- The failure to take a technical approach to the use of SLEDs in a new fishery which will further affect the usefulness of any future results.

Other bycatch

Increase in fishing effort will increase the bycatch of both fur seals and seabirds.

Seabird captures from direct impacts are low compared to squid but range up to 1.34 birds per hundred tows. The level of cryptic mortality of seabirds in the southern blue whiting fishery is not known but is likely to be much higher the observed level of captures.

The problem is that trawl warp strikes is not include in the estimates for trawl fisheries – birds hitting warps behind the vessel and being injured or killed is order of magnitude greater impact.

“For every large bird that was reported by observers as being captured on the warps, there were an estimated 244 (95% ci: 190-330) large bird strikes. For every small bird reported by the observers as being captured on the warps, there was an estimated 6440 (95% bootstrap ci 3400 to 20000) small bird warp strikes.” (Abraham 2010)⁴.

⁴ Abraham, E R (2010) Warp Strikes in New Zealand trawl fisheries, 2004-05 to 2008-09. New Zealand Aquatic Environment and Biodiversity Report No. 60.

While mitigation (tori lines, bafflers etc) does reduce the potential for warp strikes it doesn't eliminate the problem.

Summary:

1. ECO supports option 1 (status quo) for the southern blue whiting fishery for Campbell Island.
2. While the current stock status is 58%Bo, Southern Blue Whiting is known to have highly variable recruitment. This is consistent with the goal to maintain stocks at or above Bmsy.
3. The stock status is predicted to decline by around 20% even with the same TACC over the next four years.
4. Stable TACC and catches over several years with the similar vessel numbers is preferred to increase catches and effort.
5. Any increase in catch is likely to result in the increase in by-catch of the threatened sea lions. It will also increase in the deaths of fur seals and sea birds.
6. Sea lion deaths in the fishery and monitoring them and getting more scientific information on the interaction will be affected if there is an increase in effort or vessels.