



Australian Government

Australian Fisheries Management Authority

10 November 2012

Mr David Borthwick AO PSM
Commonwealth Fisheries Legislation Review

Department of Agriculture, Fisheries and Forestry
GPO Box 858
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Dear Mr Borthwick

The Australian Fisheries Management Authority (AFMA) has an obligation to its stakeholders and the public to respond to Dr Jonathan Nevill's many claims against the Authority made in his 26 September 2012 submission to the Review of Fisheries Legislation. Dr Nevill's claims call into question AFMA's credibility as a fisheries regulator and the professional integrity of AFMA staff and many scientists from Australia's leading fisheries institutions. Dr Nevill's claims are without foundation.

While Dr Nevill has gone into considerable detail in his submission in an attempt to support his claims, my approach is to present the independent advice about the status of AFMA managed fisheries and AFMA's management of their supporting marine environment. In doing so I focus on Dr Nevill's three main claims:

- that AFMA has been dishonest in its management of fisheries
- that AFMA has a culture of subservience to the commercial fishing industry; and
- AFMA makes short term decisions that favour economic benefits to industry in preference to protecting long-term ecosystem services.

In addition, two other important matters are considered, the checks and balances in place for AFMA and the soundness of small pelagic fishery science.

Fisheries Management honesty

AFMA has been recognised by global, independent organisations as a good fisheries manager: Pauly et al (A Comparative Assessment of Biodiversity, Fisheries and Aquaculture in 53 Countries' EEZs, 2008), FAO (The State of World Fisheries and Aquaculture, 2010) and the Moore Foundation (Charting a Course to Sustainable Fisheries, 2012). Also, a review of the annual Fisheries Status Reports produced by the Australian Bureau of Agriculture Resource Economics and Sciences shows the status of AFMA-managed fisheries is improving each year with fewer overfished species and/or fewer species subject to overfishing. Further, all AFMA's fisheries have passed three types of accreditation under the *Environment Protection and Biodiversity Conservation Act* and have held these for more than a decade. Finally, each year the number of AFMA managed fisheries with third party accreditation, such as Marine Stewardship Council certification, is increasing. The assessment scores from the Marine Stewardship Council have been among the very highest in the world with some key components of the management and scientific systems receiving perfect scores. In every case these are not AFMA's assessments of itself but those of highly regarded independent scientific, academic and environmental organisations.

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AFMA culture toward the fishing industry

During its 20 year history AFMA has closed more of the Australian fishing zone to various forms of commercial fishing than all the existing marine protected areas combined. Also, on behalf of the Australian government AFMA has applied the Commonwealth Fisheries Harvest Strategy Policy that has conservative limit and target reference points compared with those applied in other jurisdictions that underpin the setting of total allowable catches. For bycatch species AFMA is the only fisheries agency that has applied ecological risk assessment that has rated the almost 2000 species taken in its fisheries, and is now focussed on managing the species potentially at high risk of which there are less than 70. It is also important to note that the AFMA Commission, which makes all decisions in relation to total allowable catches and fishery closures, is independent of the fishing industry and appointed by the Minister. Finally, in a recent survey of AFMA stakeholders conducted by Insights many respondents thought AFMA was being too conservative in its fisheries management. In summary, AFMA's decision making is based on the best available science, government policy and is consistent with its legislative objectives.

Favouring short term decisions for economic reasons

AFMA was tasked by government in the early 1990s with implementing quota management (catch restrictions) in its fisheries through statutory management plans using a co-management framework involving management advisory committees. While quota management was strongly resisted by many in the commercial fishing industry this task is now almost complete. During its 20 years AFMA has added substantial fishing closures, bycatch mitigation for threatened, endangered and protected species and its ecological risk assessment process, all designed to protect the marine ecosystem from the effects of fishing. One other result of implementing quota management is the reduction in the number of fishing vessels from over 1000 in the 1990s to just over 300 today, resulting in a smaller eco-footprint of commercial fishing. The Authority's approach is to continually improve both the ecological and economic performance of Commonwealth fisheries for the long-term benefit of the Australian community.

Checks and balances

In reading Dr Nevill's submission there may be a perception gained that AFMA is somehow a law unto itself. The reality is that during the past 20 years AFMA has been subject to review by both houses of parliament, multiple reviews by the Australian National Audit Office and on several occasions review by the Minister for Fisheries and the Department of Agriculture, Fisheries and Forestry (DAFF). Further, in its day to day management of fisheries, the Office of Best Practice Regulation, DAFF, the Department of Sustainability, Environment, Water, Population and Communities, the Ministers for Fisheries and Environment and parliament itself scrutinise many of the decisions and processes of AFMA including management plans, total allowable catches and new fisheries regulations. In addition, many of AFMA's decisions are appealable to the Administrative Appeals Tribunal and/or the Federal Court. So, while AFMA is established as an independent authority there are a large number of checks and balances in place.

Science

I would like to finish on the very important matter of science. AFMA remains of the view that the science is sound and the attachment to this letter details some of the incorrect statements and interpretations in the Nevill submission in relation to science. On the specific issue of the population estimates several scientists have criticised the science that AFMA relied upon to make one of nine total allowable catch decisions (Jack Mackerel East) in the

Small Pelagic Fishery. AFMA also notes that there are other scientists who spoke in support of that same science. AFMA is commissioning an independent review by two world renowned fisheries scientists help it better understand the strengths and weaknesses of evidence presented by the key parties to this debate on the stock size estimates. The outcomes of this review will be made public and considered by AFMA in forming future research directions for the small pelagic fishery.

Yours sincerely

Dr James Findlay
CEO

In relation to science Dr Nevill's submission of 26 September 2012 focuses on the content of the Buxton et al. (2012) report. The submission contains some factual errors and interpretations which are addressed here.

The authors of the Buxton et al. background document on the science of SPF management are scientists with direct expert knowledge of this or similar fisheries. These authors did not comment on or advocate the FV Margiris or any other vessel specifically. Rather they summarised the science underpinning the management of the SPF and mid-water trawling in this fishery, and put that in the context of recent international scientific guidance on managing small pelagic fisheries for ecological sustainability. The need for the summary arose because different parts of the research were done by different people in different institutions or contexts, and there was no existing summary that brought together the separate elements of this research. The authors are expert in this particular fishery and/or small pelagic fisheries in general:

- the TAFI (now IMAS) scientists had conducted the population assessments of the target species and most of the research on by-catch levels and mitigation;
- the SARDI scientists have expertise in the methodology (DEPM) used to assess the target species in this fishery and also with the South Australian Sardine Fishery;
- the CSIRO scientists had conducted the regional ecosystem modelling in the relevant Australian ecosystems and had also been involved with international ecosystem modelling studies on the effects of fishing small pelagic species; and
- one scientist had not been involved in any of the research related to the Australian small pelagic fisheries but had been a member of the Lenfest Task Force that reviewed small pelagic fisheries world-wide and provided advice on how they should be managed in an ecologically sustainable manner.

Additionally, some of these authors were participants in the UN FAO development of the precautionary approach to fisheries management and one chaired the UN FAO process that led to the Ecosystem Approach to Fishery Management. That some of the authors had made that expertise available through AFMA processes, as they have through numerous other review and advisory processes, does not reduce their scientific independence. These authors are all well experienced in providing independent scientific advice in a wide range of fishery and non-fishery contexts.

The Lenfest Report does not describe itself as providing best practice or as a minimum standard, as suggested by Dr Nevill. The Lenfest report describes its mission as "to provide practical, science-based advice for the management of forage fish because of these species' crucial role in marine ecosystems and because of the need for an ecosystem-based approach to fisheries management." The Lenfest Report shows that conventional fishery management approaches are not adequate to maintain both a fishery and ecological function (e.g. species, energy flows) for small pelagic fisheries. The report does directly address the issues of ecosystem function and biodiversity protection, and it does this in terms that are very compatible with the Australian definitions of Ecologically Sustainable Development (ESD).

The Lenfest Report found that the most important requirement was to control and limit fishing mortality to less than half the conventional maximum rate, and that was their strong

recommendation. This is exactly as reported in Buxton et al and this performance is delivered by the harvest strategy currently applied in the SPF. The Lenfest Report does not 'mandate the use of spatial and temporal controls' as claimed by Dr Neville. Rather, it recommends that management should 'consider spatial and temporal management' and that 'it may be appropriate to close fisheries during spawning season or around colonies of seabirds that rely heavily on forage fish'. The Lenfest Report recognised that spatial management was expected to be valuable based on ecological theory, it had been demonstrated to be effective in some cases, and that it was a suitable precautionary measure, but also that in some very well studied forage fish examples the evidence was not conclusive about the effectiveness of spatial management. This is very consistent with the way that the Buxton et al described the requirements – 'fishing should be spread out so as to avoid localised depletions, especially in relation to any local ecological 'hotspots' where there is particularly strong local dependency between predators and prey (e.g. in the vicinity of some seabird rookeries)'. The spatial management in this fishery as described by Buxton et al. remains factually correct and verifiable. 'There is broad spatial zoning of the catch quotas to help spatially spread the catch. All areas inside 3 nautical miles of the coast are closed to the fishery (which includes key 'hotspots' such as the Hippolyte Rocks and a significant part of the foraging range of many marine mammals and birds). There are some state managed fisheries inside 3 nautical miles, and where these occur the catches are deducted from what is available to the SPF.' '...voluntary avoidance measures were identified and implemented. The measures are simple – 'move on' rules that stop fishing and move the vessel to a different location if dolphins are sighted.' Additionally there is a network of Commonwealth Marine Protected Areas in place through the area of the fishery.

The Australian management arrangements for the SPF meet the Lenfest recommendations, and the summary of this in Buxton et al. remains accurate.

The interpretation of the Daily Egg Production Method (DEPM) biomass estimates, including those provided through the blogs of Dr Andrew Wadsley and additional analysis by IMAS, will need to be formally reviewed scientifically. But the situation described in Buxton et al. remains accurate. That is:

- the estimates provided for Jack Mackerel by the two DEPM methods commonly applied world-wide result in estimates of the order of 100,000t;
- these estimates are consistent with the catches that have been taken historically from the fishery;
- these estimates are similar to and consistent with totally independent estimates from ecosystem models of the region; and
- biomass of an order of magnitude less (i.e. of the order of 10,000t) is not enough to meet current predator consumption.

The Nevill submission uses the assumption that in these species the spawning biomass is half the total biomass to criticise the Buxton et al. conclusion that the DEPM estimates and ecosystem model estimates of fish biomass are 'similar'. The CSIRO modelling of these species gives that the spawning biomass is 87-98% of the total biomass. So the Buxton et al. statement that these estimates are 'similar' is correct.

The Nevill submission incorrectly quotes and interprets statements by Ward et al (2012) to give the impression that there *is* concern for the status of the eastern jack mackerel stock, whereas the situation is that there *was* concern in the 1990s but that concern was later dispelled. Dr Nevill

quotes 'According to Ward et al. 2012:vii "Coupled with large declines in historical catches, this *gives* rise to concern for the status of Jack Mackerel in the East" '. The actual wording in Ward et al (2012) is 'Coupled with large declines in historical catches, this *gave* rise to concern for the status of Jack Mackerel in the East. However, since the mid-1990s fishing effort and catches have remained at relatively low levels, with no evidence to suggest that recent catches of Jack Mackerel in either region are not sustainable.'

The quote in Buxton et al. of the Goldsworthy et al. research is claimed by Dr Nevill to be an inaccurate one. However Dr Nevill attempted to match the Buxton et al. quote to the Goldsworthy et al. (2011) whereas Buxton et al. actually quoted a submitted journal paper by Goldsworthy et al. (submitted). The submitted journal paper was based on the more general 2011 report but it was (as usual with journal papers compared to general reports) more concise and focused. The exact words in this Goldsworthy et al. (submitted) paper are "Results indicate that despite the rapid growth of the sardine fishery since 1991, there have likely been negligible fishery impacts on other modelled groups, suggesting that current levels of fishing effort are not impacting negatively on the ecosystem function." This can be compared to the Buxton et al. report which states 'despite the rapid growth of the sardine fishery since 1991, there have likely been negligible fishery impacts suggesting that current levels of fishing effort are not impacting negatively on the ecosystem function.' The only omission was in reference to the 'other modelled groups' (i.e. species groups other than the small pelagic species and including birds, mammals etc), because this detail was already contained in the rest of the sentence of Buxton et al., and that omission was marked with '....' as is the usual practice.

Dr Nevill states that the Buxton et al. report drew conclusions from the Goldsworthy et al. report and submitted paper that were beyond what Goldsworthy et al. themselves regard as reasonable given their analysis and data. Goldsworthy et al. go to great lengths to explain how the study integrated all the available data on the fishery and the ecosystem, that the monitoring of the ecosystem was extensive, that they considered scenarios of climate change and predator population increase in future, that they provide a holistic examination of all the data, and that the modelling framework both can highlight inconsistencies and test potential sensitivities at higher fishing levels. The authors include wildlife ecologists with a particular interest in ensuring that wildlife is protected. Goldsworthy et al. conclude that the analysis provides 'a means to assess the potential impacts of the sardine fishery relative to those from other fisheries and environmental change'. The summary of this work in Buxton et al. is a correct reflection of the Goldsworthy et al. report and submitted paper.

Dr Nevill questions the description of the fish by-catch in the SPF mid-water trawl fishery as being 'exceptionally low' (as described by the AFMA FAQs) and 'minimal' (in the Buxton et al. report). Buxton et al. cite the observer report summarising data between 2001 and 2006 as the source of this conclusion. For example TAFI (2005, Background document to the 2005 meeting of Zone A Small Pelagic Fishery Assessment Group) reported that by-catch 'constitute overall much less than 1% of the catch by weight' and all of the fish by-catch species were either 'rare', 'very rare' or 'trace' in this fishery. The characterisation of exceptionally low or minimal fish by-catch in this fishery is accurate.

References

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