

# Session 5 – general discussion

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**Chaired by Geoffrey Liggins<sup>1</sup>**

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The chairperson presented a list of challenges or obstacles to establishing bycatch targets that resulted from the panel discussion the previous day. These were:

- a clear definition of differences between biological and socio-political objectives;
- inability to generalise approaches/methodologies across fisheries and also problems of doing this within some fisheries given spatial variabilities;
- cross jurisdictional issues;
- poor understanding of baseline benchmarks;
- the option of a numerical target as opposed to a 'trend' approach; and
- lack of understanding in most fisheries with respect to trophic dynamics and physical impacts.

Comments and discussion were invited on: i) additions and amendments to this list (following consideration of the NPF and longline case studies), and ii) strategies for dealing with these challenges.

The chairperson noted that that the first challenge, that of distinguishing between biological and socio-political objectives, had

been a repeated theme throughout the workshop and invited discussion on methodologies or approaches for dealing with selection between and definition of such objectives.

Murray MacDonald (Fisheries Victoria) stressed the need for those who are providing advice to politicians, particularly bureaucrats, to clearly distinguish between these types of objectives and to highlight the implications of adopting one or the other. He suspected that in most cases up until now, the fact that there was a choice and difference between these two types of objectives had not been apparent to policy-makers. A lot of discussion in Case Study 2 had centred around whether the TAP was really intended to identify and achieve specific biological/conservation objectives for albatross or whether in fact the objective for reduction of bycatch was a more general 'social' objective. The latter was perceived as a community requirement in terms of the activity being considered in some way undesirable. A reduction was therefore in the interests of the community in general and the conservation objective might be absolute in terms of numbers of seabirds of a particular kind.

The former was a more specific biological objective and setting that objective would require a quite different set of scientific inputs and would probably be far more expensive to achieve.

John Glaister (NSW Fisheries) agreed that Murray's point was a good one, although the general public might say that even one albatross was too much. If we were only talking about science and biological outcomes then one could argue that a lot of the bycatch, in the NPF for example, may not be significant in terms of the population dynamics (for those species with high fecundity and turnover). He argued that the major issue, particularly in the more populous states such as NSW, is really community pressure. Ill-informed or not, the community just doesn't like seeing bycatch.

The chairperson asked John Glaister whether he thought there was much scope for education of the broader community on such matters.

John Glaister answered that one always needed to very clearly specify what one was doing and why it was being done. If it was going to have no effect whatsoever in a population dynamics sense then that should be stated, rather than just saying that it was a conservation thing we are doing and it was good.

Murray MacDonald thought it important that we get away from the situation that has probably frequently occurred up until now – where the impression is given that there is a specific conservation objective but the tool that is used is a tool that is only appropriate in achieving a more general socially-oriented objective.

Colin Buxton (TAFI) underlined the importance of distinguishing between the information itself (status of stocks provided *via*

research and stock assessment) and what was done with that information (the socio-political management arena). In other words science and management were clearly two separate issues.

Elkana Ngwenya (AMC) wanted to emphasise the economics part of the equation. The fishing business was about making money and all the gear modifications made and all the strategies adopted should be an attempt to maximise economic gains. This was subject of course to biological constraints and other technical constraints in the actual process of producing fishing effort. In other words it was important to recognise that there was always a trade-off of objectives. For instance we may have a political objective traded-off against an economic objective, but because in this case we have an interest in maintaining the viability of the fishery it meant that we were going to be stuck with more of a biological objective being traded-off against a political objective. It may be that the decision will have no relevance whatsoever to stock dynamics. If the decision supports an economic benefit there is going to be more support for that decision.

Ian Poiner thought that an important point had been made in a previous session with respect to the selection between specific biological/ecological and socio-political objectives. The difficulty or complexity of the ecological or biological question was not sufficient reason for adopting a socio-political type objective and/or target.

The chairperson then invited discussion about the possibility of providing general approaches to target setting that may be applicable across fisheries. What aspects of methodology or process could be generalised?

Richard Tilzey highlighted the obvious differences between single species and multi-

species fisheries and that target setting was going to be more complex in multi-species fisheries.

Ian Poiner agreed that setting targets was going to be fishery-specific and fisheries problem-specific but he thought there were aspects of process that one goes through to develop a bycatch action plan that could be generalised across fisheries. It was important to separate process issues from the problem issues specific to fisheries.

Adding to this point, Murray MacDonald suggested that when objectives related to stock conservation it was more likely that they would be fishery-specific. In contrast, general socio-political objectives such as bycatch reduction (as a result of bycatch being seen as undesirable by the community) are more likely to be a generic target set across a number of fisheries.

Julie Robins stressed the need to be aware that setting targets in one fishery may have ramifications for other fisheries. She suggested that some of the targets that had been set with respect to TEDs and BRDs in the NPF fishery were setting a benchmark, against which other fisheries will be judged. Pressure will almost certainly come onto fisheries in which bycatch reduction was not being addressed.

Colin Buxton suggested that the precautionary principle was a useful option when, in the absence of research, we needed to move towards bycatch reduction in any fishery. He asked whether the group had any view as to what precautionary approach might be appropriate. Was there some generic position that could be adopted? He suggested that, in the absence of good science to provide a target, it could be something like: "We will attempt to reduce the levels against what they were last year".

John Glaister countered that while this sounded great in theory, there were particular problems with such an approach. For example, as discussed with respect to the NPF, there may be pronounced inter-annual variation in prawn catches and there would be problems if the bycatch target was expressed in terms of reducing the ratio of bycatch to catch of prawns. A poor year for prawns would result in a high ratio of prawn catch to bycatch. He pointed out that, by definition, some fisheries were going to take bycatch and trawling was one of them. He then asked for a point of clarification. It had been mentioned that trawling was being talked about as a key threatening process. Did this just refer to prawn trawling or was it trawling in general?

Katrina Maguire (AFMA) replied that the nomination was for otter-board trawling for prawns in tropical waters but that the NGOs were gathering momentum to put up proposals for otter-board trawling throughout Australia.

Bruce Wallner responded to Colin Buxton's question concerning a precautionary or generic approach. He thought, particularly for the issue of fish bycatch from some of the prawn trawl fisheries, one could build a fairly compelling argument for doing nothing. He suggested that the *status quo* is the precautionary approach – rather than any attempt at reduction. Some would advance the theory that such systems were sustainable. Where you have three decades of track record demonstrating a reasonably sustainable system, reducing the quantity of dead fish that is going into the water will potentially change the trophic balances. This may destabilise the system.

Malcolm Haddon commented that several statements of the form "...we've had two to three decades of fishing and it appears to be sustainable" had been made. He then pointed

out that there had been 250 years of the northern cod fishery before it collapsed beyond recovery and that there were indications that the NPF is not as healthy as it was five or six years ago. The duration of a fishery was no guarantee of its sustainability. He supported the comment that a precautionary approach was important. Declines in habitat quality through the effects of fishing could be insidious. Any moves towards reducing impacts of fishing were worthwhile.

Dave Brewer agreed and argued in response to Colin's point on precautionary targets that target choice ultimately depended on what was feasible. He referred to successful attempts at bycatch reduction in South Australia (against a background of relatively low diversity) and in New South Wales (70% reduction for some species), and suggested that targets would need to differ for fisheries such as the NPF, a remote fishery with high diversity of bycatch. He did not see the point of aiming at a 50% reduction of bycatch for the NPF when it was not immediately achievable -- it was better to start with what was achievable and improve on that through time. The final target would vary from fishery to fishery.

An unidentified speaker suggested that the target should be the implementation and use of BRDs rather than a target in the reduction of bycatch. Such an objective was achievable, regardless of the outcome on bycatch reduction.

Murray MacDonald distinguished between generic targets (for social reasons) and targets made for specific conservation objectives. He considered that the issue of 'what is achievable' was an important issue in setting targets for the former. In contrast, for targets associated with specific conservation aims for particular bycatch species, the really important

issue was setting a target that was going to be effective in achieving the specific objective. In some cases this might be beyond what is thought to be currently feasible.

Referring to the two previous comments, Malcolm Haddon made the point that implementing TEDs/BRDs in all prawn trawls may be a fine objective, but that without certification of such devices, introduction would not necessarily affect a reduction. A formal process of certification needed to be implemented across all fisheries.

Iлона Stobutzki (CSIRO) agreed. It required effort on behalf of fishers to put TEDs into their trawls and they needed to be provided with good reasons for the use of TEDs.

In an attempt to place the discussion in a broader context, Richard Tilzey noted that the overzealous use of the precautionary principle was like giving the pope a condom.

Elkana Ngwenya (AMC) followed up on the issue of whether the fishers were going to be interested in using BRDs. He believed that they would be supported for at least two reasons. Firstly, introduction of BRDs could lead to new fishing grounds (areas that had perhaps not been fished because of an abundance of sponges in the catch). He noted that effort may be redistributed. Secondly, they would not wish to jeopardise marketing opportunities by failing to install BRDs (the threat of sanctions).

The chairperson then moved discussion on to the issue of baselines and benchmarks.

James Scandol (FRI) stated that it was very important to get an idea of variability of bycatch so that estimates of bycatch reduction could be determined rigorously.

Murray MacDonald referred to the previous discussions of bycatch of seabirds from longlining and said there were two approaches. For a specific conservation target, the same kind of information was required as is required for a stock assessment process (current status of species in question; level of impact of bycatch versus other kinds of impacts on that population, etc.). This was necessary to evaluate the importance of bycatch in determining fluctuations of the population in question and setting specific targets for the biomass for the species. For bycatch reduction objectives that were more generic (for broader social objectives), the baseline will be defined by where we were now in terms of some level of bycatch. Assuming the desirable trend is downwards, the target should be framed with regard to what is considered achievable.

The chairperson commented that, for some fisheries, there may be historical data that could also contribute to setting a baseline for targets associated with the more generic socio-political objectives.

Aubrey Harris (BRS) thought that this area deserved significant attention. Apart from a handful of fisheries, we simply did not know what and how much is caught. Moreover, in many fisheries there are large inter-annual effects that came into play. There is an important need to collect such information for other fisheries.

Following this comment, Patrick Coutin (MAFRI) reminded the group about the very poor understanding of bycatch from recreational fisheries and gillnet fisheries – there was still significant work to be done in these areas.

Bruce Wallner (AFMA) commented that bycatch, in its broadest definition, included

animals that were not caught (other fishing induced mortalities). He did not think it likely that we would ever reach the point where a good baseline could be established for these unseen effects. Bruce was unsure how we should respond to this.

Duncan Leadbitter (Ocean Watch) discussed the issue of appropriate baselines for targets associated with objectives based on social and perception issues (picking up on Murray MacDonald's previous comment). He argued that the baseline became some measure of the existing management structure in the fishery and the issue then was whether action has been taken from there. The baseline need not necessarily be in terms of the amount of bycatch.

The chairperson noted that there had already been some discussion of specific numeric targets compared to more general or 'trend' targets, but invited further comments or questions with respect to advantages and disadvantages of these approaches.

Dave Brewer thought that it could be desirable to employ a combination of the two. Some sort of numerical target if one knew something about the fishery but that there were advantages associated with the flexibility of the trend approach.

The chairperson made the point that the selection between the alternatives partly depended on the consequences of setting a specific numerical target and not reaching the target by the specified time.

Ian Knuckey (MAFRI) commented on the advantages of the numerical or trend approach on the basis of discussions with fishers at a recent workshop with SEF fishers. Introduction of BRDs in the SEF (a multi-species fish trawl fishery) will have some cost in terms of the

actual catch of fishers. Consequently, the important question is: What loss of catch is acceptable in order to achieve some level of bycatch reduction?

The chairperson clarified that this was in particular reference to multispecies fish trawls where one component of the catch would be foregone in order to reduce bycatch of others.

Ian Poiner said that Malcolm Haddon's talk had illustrated the need for establishing performance indicators as an inherent requirement for setting a target. He did not see this as an impediment.

Malcolm Haddon argued for the advantages of the trend approach over specific numerical targets. He noted that uncertainty and variability of fisheries data made the detection of significant differences in bycatch targets difficult to measure with any confidence.

The chairperson then suggested to Malcolm Haddon that logically one could argue that, in the process of stock assessment and fishery management, one would avoid the setting of objectives or specifying targets for stock levels or levels of harvest because of the consequences of uncertainty.

Malcolm Haddon replied that there was a difference between specifying a target for stock level and setting a harvest level. One could set harvest level without firm knowledge of stock size.

Katrina Maguire referred to the recent workshop on bycatch reduction in the SEF and reported that there was a clear message from industry that they wanted to work towards targets. Targets gave them opportunities to play with gear and come up with initiatives in order to achieve an objective.

Dennis Heinemann (CSIRO) discussed the importance of focussing on the contrast between the two approaches for setting objectives in terms of the end-points that might be reached and the benefits of pursuing such objectives. It was important to be mindful of the potential consequences of failing to meet those objectives. He provided two examples. For a numerical target (associated with a conservation objective) it was possible to spend a lot of money but never have any hope of achieving the objective. The case of the albatross was an example – what we did in Australia may have little effect on the population of this species, a species that is distributed on multiple islands and has a home range across the Southern Ocean. In the case of the trend approach, the real danger was that you may achieve your objective (a downward trend) but the underlying conservation objective might not be achieved. It was possible to generate some acceptable and realistic scenarios that would result in this situation for the albatross.

John Glaister agreed with this statement but noted that other issues were also present. John cited Ian Poiner with respect to NPF in which 100s to 1,000s of turtles were being killed as a result of trawling versus 10–20 thousand that are harvested in South-East Asia for food. Despite these numbers, there is still significant pressure to reduce turtle bycatch in the NPF.

Murray MacDonald also contributed to this issue. He argued that if you were serious about trying to set and achieve conservation objectives you had to have explicit targets. With cross-jurisdictional issues (particularly international cross-jurisdictional issues) there are going to be problems getting all parties to agree to the objective. Nevertheless, without specific targets, you are unlikely to achieve the conservation objective. In the case of objectives that are more generic for social reasons – you

can afford to have a less explicit target because you are trying to demonstrate that you are achieving some sort of trend downwards.

The chairperson moved the discussion on to the problem of how the lack of understanding of trophic dynamics and physical impacts of fishing affected the process of setting meaningful targets for bycatch reduction.

Ian Poiner noted that unobserved mortality should be added to this point.

Patrick Coutin thought that underlying the public perception of the problems with bycatch was the general feeling that removing large quantities of fish from the ecosystem was having a detrimental effect on the environment. The lack of data and understanding meant we could not educate the community as to whether or not this is the case.

Following this point, Bruce Wallner noted that conservation groups were increasingly wanting to be participants in the target setting process. However, because they do not understand the specifics of the fisheries issues, there was a role for fisheries agencies to educate these groups so they could play a meaningful role.

Don Hancock referred to an issue raised earlier by Bruce Wallner – that we didn't have the baseline for an understanding of the ecological effects of all fisheries. He questioned whether we had that information for any fishery and argued the need for continually building the knowledge base. We had to identify what work was needed and, specifically, what was holding us back from understanding the key points we keep raising. If we adopt the attitude that a problem is too hard and costs too much, we will never get to the crux of the matter.

The chairperson ended the discussion on this note and thanked everyone for their contributions.