

Monterey Bay Aquarium Seafood Watch®

Seafood Watch® Criteria for Fisheries

Summary of the Seafood Watch Fisheries Technical Advisory Committee (April 13-14 2015)

Preamble

Seafood Watch assesses the environmental sustainability of fisheries and aquaculture by compiling relevant science-based information and evaluating that information against our standards (called 'Criteria' elsewhere on this website). We periodically revise our standards to ensure we account for developments in the scientific understanding of the ecological impacts of fisheries and aquaculture operations, as well as in our understanding of what producers and managers can do to mitigate those impacts. On April 13-14, 2015, we held a meeting with our Fisheries Technical Advisory Committee (TAC) to discuss emerging issues, proposals for changes, and suggestions received during our public comment period held from October 27, 2014 to January 16, 2015. The role of the TAC is to provide scientific expertise and advice; it is not a decision-making body, but advice from the TAC was given serious consideration in developing the second draft of our criteria. The meeting notes below represent a brief synopsis of the discussions held during that two-day meeting.

Theme One: Assessing Stock Status in the Face of Uncertainty

Methods for Unassessed Stocks

Prof. Chris Costello presented two methods of determining risk for unassessed stocks: Global Regression, and a 'Regression and C_{MSY} ' method. It was concluded that these methods are not likely to be appropriate for Seafood Watch assessments as they are not robust for estimating biomass (B/B_{MSY}) for individual stocks. Prof. Costello did not advocate the use of these methods specifically for Seafood Watch assessments at this time.

Use of Inherent Vulnerability and Methods for Data-Limited Stocks

Rod Fujita presented a number of assessments methods that could be used where there are data limitations.

While the public commenters were quite critical about the use of Productivity and Susceptibility Analysis (PSA) to determine the level of concern related to stock status, the TAC was generally supportive and it was proposed that data-limited fisheries are assessed by conducting a PSA and asking for data to perform at least one data-limited assessment. What data is available should determine which assessments are carried out (data quality will need to be assessed when making this decision). It was recommended that if there was no corroboration of the PSA by data-limited methods then a default red score should be awarded.

The TAC recommended that Seafood Watch specifies the acceptable level of uncertainty going into data-limited methods and specify what decisions can be made based on a data-limited assessment. It was also recommended that cryptic mortality be considered when discussing data-limited situations.

A working group was established to further develop guidelines on data-limited approaches, including guidelines on which methods should be used in which situations and how they should be performed.

Evaluating Stock Assessment Quality and Uncertainty

The TAC recommended that Seafood Watch develops a set of guidelines on how to evaluate/score stock assessments (or other data used to determine stock abundance) with respect to uncertainty. These guidelines should address aspects of the assessment process and/or key components of the assessment. Categories to address could include:

- Process - peer review, mathematical review, biological check
- Content – is unfished biomass estimated correctly? Is the assessment based on fishery dependent or independent data?
- Category – does the fishery require a stock assessment? i.e. is there a clear stock recruitment relationship, population growth rate? For many invertebrate stocks, a stock assessment would not be useful.

Other points to consider that were identified included; quality of the peer review process, historical population trajectory, an assessment of difficulty/rigor (which would be different to the quality).

Additional Considerations for Stock Abundance and Fishing Mortality

A number of key issues that required resolution relating to Seafood Watch assessment of stock abundance and fishing mortality were discussed; the group did not reach definitive recommendations on these points.

- Should ecosystem-based thresholds be used for all species, in a similar way to the forage fish approach recommended by the Lenfest Forage Fish Task Force? This was discussed

further on day 2 during the Ecosystem Based Fisheries Management discussion – the group was broadly supportive of including ecosystem considerations for forage fish directly in the abundance and fishing mortality criteria, and leaving a placeholder so that ecosystem considerations could be included once the scientific evidence to support this becomes available.

- Should Seafood Watch allow the use of trend data to score abundance and fishing mortality? Input was mixed but it was considered favorable by most reviewers, while TAC members offered caution because of high variability, the length of data series and the risks associated with short-term trend data. It was noted that any assessment of trends must be considered relative to a baseline. There was a general consensus that if trends were to be included that Seafood Watch needs to be transparent about the use of trend data and needs to lay out a process on how trend data are evaluated and scored.
- Should Seafood Watch combine categories for overfished and endangered (ETP) species? This was generally considered to be acceptable. It was noted that use of IUCN assessments can be problematic, and that species listings are not always to the same scale of a Seafood Watch assessment (species vs stock).
- Should Seafood Watch rate all fisheries on the endangered species list as Avoid? It was noted that there are examples where moderate concern would be appropriate where endangered stocks are rebuilding.

Theme Two: Bycatch and Ghost Fishing

Bycatch

A key point of discussion was whether Seafood Watch should assess Criterion 2 (Impacts on other species) based on the overall extent of the bycatch, rather than the current approach where the score is driven by the worst case scenario. It was noted that the key consideration should be the impact of the fishery on the bycatch species in question and that by using a portfolio approach (number of species) does not necessarily take into account population impacts. It was suggested that improvements in bycatch should also be considered, for example a trawl fishery may have a relatively high level of bycatch, but may have made significant improvements and this should be rewarded. Utilization of bycatch that would otherwise be discarded was also suggested as a possible consideration.

The filter used by Seafood Watch to identify the main species – those which will be evaluated in an assessment – was considered complicated and there is a desire to simplify it. There was no consensus on how to do this. It was noted that one of the current limitations is that the data required to use the filter is not readily available.

There was a discussion around the assessment of marine mammals and whether they should be evaluated in a different way compared to fish, invertebrates, or turtles. It was noted that Potential Biological Removal estimates are highly conservative, but there was no consensus agreement that marine mammals should be assessed with less precaution than at present.

The decision was made to maintain the population level focus, potentially re-weighting the discard rate modifier more heavily and considering whether to address management efforts to reduce impacts of bycatch and discarding.

Strengthening Guidance on Ghost Fishing in Bycatch and Management Criteria

There was a discussion as to whether Seafood Watch should add considerations of impacts related to ghost fishing to the assessments. It was noted that while we could develop scoring guidelines based on gear type and habitat, this would lead to generalized approaches to assessing the impacts of ghost fishing at a time when Seafood Watch assessments are moving towards greater specificity. There was little support from the TAC to incorporate a specific assessment of ghost fishing into the criteria, however there was support for adding guidance as to how known concerns can be considered and scored used the current structure. It was also noted that scoring of habitat impacts and habitat management could include ghost fishing considerations.

Theme 3: Evaluating Management

Most of the issues raised during the public comment period concerned the structure and the TAC did not think that they were best placed to comment on issues of criteria structure. It was noted that compliance and enforcement are not the same thing (they are assessed together in the current set of criteria) and that measuring compliance may be more important than enforcement; high levels of enforcement may be an indicator that the regulation or management is wrong/doing something wrong.

As previously mentioned, there was interest (first raised during the public comment period) in adding a habitat management scoring factor. Impacts on habitat are currently considered in Criterion 4, but it was noted that this does not consider management approach in relation to habitat resilience (in the context of climate change). There was no consensus on this point.

There was a discussion about how Illegal, Unregulated, and Unreported fishing was considered in the assessment. Of particular importance was how the assessment of IUU fits into the scope of a report with respect of fishery, flag country, or the resource being fished.

The TAC agreed that Proposal 1 for the management structure would be appropriate for assessing the effectiveness of management systems. According to this proposed structure, the management criterion would comprise five factors: 1) Management strategy and implementation; 2) Bycatch management; 3) Research and monitoring; 4) Enforcement and compliance; and 5) Stakeholder inclusion.

Theme 4: Evaluating Ecosystem-based Management

The majority of the TAC agreed that there are species that fulfill exceptional roles in ecosystems and there is a need to manage these species more conservatively, however there is currently only clear guidance on how to incorporate thresholds for managing forage fish, the guidance for other exceptional

species is not yet clear with high level of uncertainty. Taking a precautionary approach with the current state of knowledge could be costly for many fisheries. There was some support for including thresholds for ecosystem engineers but no consensus was reached.

The group agreed that the recommendations from the Lenfest Forage Fish Task Force should be added to the guidance for appropriate biomass and fishing mortality reference points for forage species in particular, in Criteria 1 and 2, and that the criteria should be revised such that the ecological role of the species was considered when defining reference points.

There was a discussion of the 'hockey stick control rule' (once stock biomass drops below the target level, the level of fishing is set as a function of biomass, decreasing catch as biomass decreases to a cutoff level/limit, below which there would be no fishing). It was noted that this control rule may be appropriate for forage fish, but not necessarily appropriate for other exceptional species that have non-linear responses to fishing, such as sharks.

It was noted that how 'exceptional species' are defined will be important, as would the context, for example a grazing species may not be considered exceptional when part of a guild, however if most species become overfished leaving only 1 or 2 dominant species, then those species would become exceptionally important. A species may also be exceptional in some ecosystems and not others.