

## Open session

### Processes for the peer review of science products that support fisheries management advice

Conveners: Stephen Brown (NOAA), Manoj Shivlani (Center for Independent Experts Lead Coordinator NTVI Communications, Miami), Eskild Kirkegaard (ICES ACOM Chair)

Dr. Brown opened the session with an introduction to the session schedule and objectives, followed by a presentation on the main findings from the 2017 American Fisheries Society (AFS) conference symposium on national, international, multilateral, and private fisheries peer review systems. The presentation briefly described the eleven symposium talks. The presentation also discussed the main findings from the AFS conference symposium, which determined that peer review systems are generally advisory in nature, conflict of interest criteria are generally well enforced, transparency is generally high across systems, and costs vary considerably across programs, with internal reviews being least costly. Challenges identified across peer review systems include limited resources, in terms of funding and pools of available reviewers, and inherent tensions in review timeliness and throughput and between achieving external, independent input versus obtaining expertise with local knowledge.

Mr. Kirkegaard presented on peer review within the ICES system, describing the processes for accommodating and conducting requests for different types of fisheries stock assessments. Under ICES guidelines, review groups undertaking technical reviews are to ensure the quality of analyses and assessments and determine whether the products are based on the best scientific practice, based on their technical competence, scope and depth, and whether these products address the request. Some of the issues facing ICES are common across other peer review systems, including whether reviews should result in guidance or decisions, concerns over data quality, and difficulties in ensuring that data quality issues are addressed in the peer review and in attracting suitable reviewers.

Dr. Shivlani moderated the fisheries peer review panel, presenting the members with questions related to the value of having external expertise over using local knowledge, the appropriate role of peer review in the decision making process, the frequency and timing of peer reviews in the assessment process, the importance of transparency in peer review, the types of thresholds on conflicts of interest, and means to control or share costs to accommodate peer review, especially in less well-funded systems. Panel members felt that most answers to the questions presented had to be considered in terms of context, and that different situations would necessitate individualized approaches.

Thus, in considering the role of external versus local expertise, panel members agreed that both levels of expertise should be accommodated to the extent possible, with local expertise serving the role to bridge the knowledge gap and to pass on findings to stakeholders. Panel members also agreed that while peer review should play primarily an advisory role, decision making recommendations can be provided to the extent that they adhere to the terms of the review.

In considering the frequency and timing of peer reviews, certain panel members felt that how often and where in the process reviews are conducted is a matter of funding, such that

increased budgets can allow for reviews over an entire process. Others believed that peer review is most useful when it applied flexibility and at critical decision points in a process, such that the advice provided can serve as a quality check. Finally, there were those who argued that it is counterproductive to establish points in a process where peer review should be mandated, and that peer review is best served based on stock conditions and the impacts of management advice.

There was general agreement among panel members that transparency should play a major role in peer reviews, in that processes should avoid opacity to the extent possible. However, certain panel members felt that it is often difficult to operationalize transparency, and that it is important for programs to make information available to avoid misperceptions. The consensus among panel members was that conflicts of interest should be prevented and thus appropriate criteria should be applied broadly, although a minority felt that the threshold on participation should depend on the type and level of review, such that conflicts may be judged on a sliding scale. Others pointed out that apart from the more obvious financial or advocacy-based conflicts, those points of view that do not allow reviewers to accept more than one (the reviewer's preferred) way to do the work at hand should also be considered as conflicts.

Finally, the panel members addressed costs in the peer review process, and all agreed that more frequent and embedded reviews lead to higher costs, but there was less agreement on how to lower such costs. Certain panel members argued in favor of having internal peer reviewers to use 'in-house' expertise (at the expense of independence), whereas others suggested using remote (desktop) reviews that do not require travel as cost saving measures. Other panel members countered that approaches that reduce independence may lead to contested outcomes, and that remote reviews do not serve the enterprise of building better reviews and science.

Mr. Kirkegaard ended the session by providing his views on the fisheries peer review panel's discussion, stating that the panel's views showed a high degree of consensus on all issues, and that there is an agreement that peer review needs to be integrated as part of fisheries management programs. He also called on the development of a set of best management practices, or guidebook, that could be used to inform and educate the next generation of peer reviewers who would participate in the process.