

Swinging back? Science ethos and stakeholders' engagement in ICES advisory processes.

(Fishing industry as authors of ICES expert group reports)

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ICES has started publishing its expert group reports (ICES Scientific Reports) with chairs and participants listed as editors and authors. Stakeholder participation in groups such as benchmark workshops is now openly highlighted, and questions have been raised by some across the marine fisheries community about the “optics” of such unequivocal highlighting of their participation.

The discussion is no longer framed in terms of *whether* stakeholders should be engaged in the advisory process, but *how* this participation might hamper ICES credibility and legitimacy. The arguments are part of ongoing debates on science. For instance, the claim of legitimate expertise and cognitive authority of the scientist vs. industry stakeholders (see Jasanoff, 2003) or the potential threats to scientific integrity (see e.g. Ioannides, 2018). Concerns are raised also about the opportunistic use of the system, such as early access to information that could become a commercial advantage.

Doug Wilson (2009) emphasized that creative tensions were a key property of ICES, caused by its “polycentric” nature and operating at the science-policy boundary. ICES learns not just by doing, but learns about how it learns (double loop learning) which enables it to keep evolving and leads to continuous reflection about its approaches and impacts. The purpose of this article is to reflect where ICES is in terms of engagement with stakeholders, look at the challenges and suggest solutions.

Engaging with stakeholders

ICES is an organization that produces evidence for societal decision making and it has a duty to remain relevant, credible and legitimate.

Following OECD best practice principles, ICES must interact and listen to stakeholders. Stakeholder engagement provides new insights, innovations, and solutions. It helps ensure that outputs remain relevant to the needs of society and it can strengthen trust through an inclusive approach (OECD, 2016). It also increases the likelihood of delivering beneficial outcomes to context, design, scale, and political power dynamics of evidence for environmental management (Reed *et al.*, 2018). Engaging with stakeholders doesn't devalue science, it re-evaluates other ways of knowing (Durose *et al.*, 2018). The days of the unidirectional approach to the delivery of applied science for policy and management are

diminishing (if not over, Cvitanovic *et al.*, 2015), and ICES must wrestle with maintaining its credibility and legitimacy when demands for, and benefits of, engagement and iterative production of the evidence are becoming apparent (Luc Hoffman Institute 2018). ICES now runs scoping workshops, and builds stakeholder engagement into advice processes (e.g. WKIRISH process, the EU special requests on impact of fishing on the seafloor).

Some scientists engage in ICES network to increase the impact and take up of their science by society. To most of us in the community, the societal benefits of evidence-informed policy are clear. Without evidence decision-makers rely on individual experience and/or secondary sources (Cvitanovic *et al.*, 2015). To increase the impact of research, stakeholders should be systematically represented in the research developing long-term trust and dialogue (Reed *et al.*, 2014). Co-production approaches that systematically represent stakeholders are more likely to achieve beneficial outcomes (Reed *et al.*, 2018). Many barriers to creating knowledge for evidence-informed decision-making can be reduced by systematic and managed engagement with stakeholders (Cvitanovic *et al.*, 2016). ICES workshop on science to advice highlighted that regular engagement with those beyond the specific research team would improve the update of science into ICES advice (ICES, 2018).

Working with stakeholders can occur on many levels (Figure 1). This article will focus on the region between engagement and co-production.



Figure 1. Simplified description of levels of working with stakeholders, adapted from Cvitanovic *et al.*, 2019.

Change within ICES

Large changes have taken place since Doug Wilson published his book. Degnbol *et al.* (2006) challenged that disciplinary boundaries narrow perspectives, creating tunnel vision and standardized technical fixes. ICES took this challenge to heart and adapted to integrate across disciplines. The EU fisheries advisory councils (ACs) have moved from offering opportunities for engagement (Linke *et al.*, 2011, Mackinson *et al.*, 2011) to becoming relevant actors who engage regularly with ICES (Ramírez-Monsalve *et al.*, 2016).

ICES is reticent to, and warns when it does, provide advice in areas beyond the remit of science, (e.g. regularly highlighting that appropriate risk is a societal decision, see critique by Hauge *et al.*, 2007). As a provider of evidence for ecosystem-based management (EBM), ICES recognizes that it must account for multiple sources and types of knowledge (Ramírez-Monsalve *et al.*, 2016). Much of the evidence for EBM needs consideration of risk and uncertainty, normative values and trade-offs between management objectives, which should not be explored solely by researchers (Ballesteros *et al.*, 2017; Luc Hoffman Institute 2018). Recent advice on evaluating fisheries management plans offered managers matrices of

potential future catches in relation to threat to biomass reference points, while considering inter-annual catch stability rather than “the number”. Much of ICES advice on the EU Marine Strategy Framework Directive (MSFD) has to provide evidence to assess environmental status in relation to the normative value of “good”.

It appears that some of the debate about stakeholder engagement in ICES science and advice is grounded in the concept of facts (truth) and values (opinions, Wilson, 2009; Ramírez-Monsalve *et al.*, 2016). Others hold to the concept of disinterested science. However, the policy interface has moved toward dealing with uncertainties, and scientists have moved from being the providers of truth to providing transparency about trade-off choices. There is also a confusion between compromise and consensus on facts (Wilson, 2009), where the search for consensus on the science is mistaken for a political compromise.

ICES Scientific Reports now list participants as authors. This is at the discretion of each respective expert group Chair. Since the creation of ACOM and SCICOM (2009–2010), all workshops have been open to interested people (at the discretion of the Chairs), and SCICOM working groups have followed the same approach. ACOM expert groups (recently moved into the Fisheries Resources Steering Group) can only be populated by nationally appointed experts. This is described in the [Guidelines for ICES groups](#) document. The requesters of an advice product can observe all stages of the delivery of that advice and individuals/organizations with ICES Observer status can observe at advice drafting groups and ACOM WebExs. All ICES expert groups must consider, declare, and discuss any actual or perceived conflicts of interest at the start of each group, the procedure is documented in [the code of conduct](#). There is also description of expected [meeting etiquette](#), to ensure equitable conduct and providing a reporting process for unacceptable behaviour and a procedure for minority, or dissenting, views in the advice process. The [observer policy](#) is available online, as is the [list of all observers](#). Guidelines for participation in and observing [advice drafting groups](#) are also available. There is also a voluntary code of conduct for fishing industry observers, which the majority of observers have agreed to follow. The concern with fisheries participation appears to relate to them being highlighted as authors of benchmark reports (which are workshops, and they have been encouraged to attend since inception in 2009) and their role in advice drafting groups. These concerns do not reflect a recent change in ICES procedures as these procedures have been running for many years, but a change in how ICES procedures are perceived due to a change in reporting.

We feel that the procedures, protections, and codes of conduct ensure that ICES credibility and legitimacy are secure. The benefits of engagement and co-production are well documented and clear (Cvitanovic *et al.*, 2019). ICES must continually evaluate and adapt these procedures to the changing arena in which it operates. The participation of fishing industry representatives is a key part of many benchmark workshops. This is seen as engagement, and be considered a form of co-production. The fishing industry have no access to the working groups that carry out the stock assessments and projections. Nationally nominated scientists funded by the fishing industry do participate in some of these working groups, and all have agreed to voluntary codes of conduct. In addition, ICES guidelines state “...that experts are primarily judged by their expertise, behaviours, and contributions, not

their affiliations” and these scientists must also adhere to ICES code of conduct. Listing participants as authors on the front of the report was requested by the expert community and reflects the need to accredit individuals for their contributions to ICES.

Based on scientific evidence and ICES on the ground experience, current stakeholders’ engagement in the advisory process:

- Mobilizes, exchanges and deploys knowledge
- Improves uptake through input and output legitimacy and foster credibility of knowledge production
- Reinforces transparency linked to accountability

There are other intangibles that should not be underestimated. For instance, the contribution towards reducing the long-standing mutual animosity between science and industry (as seen with the recent controversy about the status of the North East Atlantic mackerel stock, or the use of certain data sets in stock assessments), the capacity building or the building of trust through iterative interactions, and the predictability of recurrent processes.

Challenges with stakeholder engagement

There are challenges and threats caused by greater engagement and co-production of science and parts of the advice process. OECD (2016) highlight that there is a risk of activities being captured by organized interest and pressure groups, some groups that need to be engaged are difficult to reach, poor practice results in lower future engagement rates, engaging too often or not reflecting stakeholders concerns in the outcomes may engender stakeholder fatigue. It is important to recognize that science–policy relationships are shaped by power and interests. Actors with the capacity and political influence can contest scope, boundaries and the meaning of key terms to enhance their own legitimacy (Kerkhoff and Lebel, 2015). Greater engagement can be seen to compromise scientific integrity. Cvitanovic *et al.* (2019) state:

“Every participant engaging in participatory research approaches has a set of beliefs about what constitutes knowledge, how it is produced and how it should be applied (i.e. their epistemological perspective). Participatory research depends on these multiple perspectives – including the unique perspective of the researchers - to increase the external validity of research (i.e. its applicability to solving real-world problems).

Thus, the inclusion of a diversity of knowledge systems, without careful and ethical research practices, presents a real or ‘perceived’ risk that biased or un-interrogated beliefs could undermine the perceived rigour of research outputs. This, in turn, could reduce the extent to which decision-makers trust the research outcomes and/or outputs, making it less likely that they incorporate them into their decision-making processes.”

These factors may reduce the perception of applied scientists and associated institutions being seen as honest brokers. The boundary between scientist and stakeholder needs to be delineated. Natural scientists have generally not been trained to notice and work with groups with power imbalances. Other researchers may perceive applied or co-produced research as less rigorous or less scientific, and this might impact the reputation of applied scientists. It is

likely that divergent perspectives will occur, leading to a risk that participants not bound by organizational limitations may publically oppose the consensus position with added insight from the engagement. This could lead to an undermining of the credibility of the entire process.

Stakeholders' accountability

ICES leads knowledge driven processes in which stakeholders' engagement derives benefits to the organization, our advice and the stakeholders themselves. While ICES accountability in the production and use of knowledge is well-grounded, that of the stakeholders remains diffuse. ICES current framework states the rights and obligations for those engaging in the advisory process, but some areas may benefit from further attention.

Stakeholder engagement comprises all the practices that ICES undertakes to involve stakeholders in its science and advisory processes. The typology ranges from scoping exercises and thematic workshops to some expert groups and advice drafting groups. What ICES potentially gets from the stakeholders' engagement has been already described. What stakeholders gain from their involvement includes information and deeper understanding of the issues, facilitated and structured dialogue and deliberation, arenas for interaction and networking, etc. It should be noted that information is a resource that needs to be shared equitably to avoid opportunistic behaviours. By participating in the ICES process stakeholders also gain significance, which needs to be linked to responsibility.

Several principles of engagement are well-covered by the ICES framework:

- Access to the process is formally equitable¹ and inclusive.
- Honest feedback is ensured through explicit rules (e.g. observers should not insist on alterations/edits) and control mechanisms (e.g. exclusion resulting from not conforming with ICES rules).
- Procedural rules (e.g. industry experts invited by Chair) and voluntary mechanisms (e.g. industry scientist code of conduct) create redundancies that strengthen the system.
- Transparency is guaranteed by ICES through the publicly available description of the participatory processes, roles, and who is currently involved in them.
- ICES will regularly evaluate the roles and procedures around stakeholder engagement and consider reforms to the system in light of developing international best practice

The traceability of knowledge acquisition and information sharing is, however, a shared task between ICES and the participants. ICES makes available the output (reports) and the stakeholder's account of what happened to the groups that they represent. On the one hand, ICES rules set sharing information criteria according to the specific process (e.g. expert group or advisory drafting group). Stakeholders' accountability entails being held responsible and giving account of what happened to others not engaged. The overlapping of interaction arenas (e.g. through Advisory Councils) may multiply dissemination for those that did not take part in the process. To what extent stakeholders share the information about both process and

¹ The debate over resources and entrance barriers is further beyond the scope of this paper.

outputs is in fact beyond ICES remit, but stakeholders are expected not to use insights gained for personal or commercial benefit. But whether the current ICES framework may be perceived as contributing or hampering it is beyond ICES remit.

The recent recognition of industry representatives as authors of the reports is a step forward in terms of transparency and accountability:

- The substantive transparency of the system (through the evaluation of the scientific evidence that supports the advice) is strengthened by adding procedural transparency (through public statement of who has been involved in the process).
- The authorship holds those industry representatives responsible for the report to their constituencies and to the decision-makers; and, to some extent, it constrains the opportunistic behaviours that might arise later on in the decision-making process.

The way forward

We will assume that ICES will not reduce its level of engagement with stakeholders, as Ramírez-Monsalve *et al.* (2016) state, the tangible benefits of engagement have been many fold and greatly appreciated by managers and stakeholders. During its engagements, ICES must be prepared to accept that those engaged in a process have gaps in knowledge, differing perceptions of truth, have different concepts about uncertainty, may have a degree of scepticism, and may react emotionally (Gardner *et al.*, 2009). The OECD guidelines highlight that a policy for engagement with clear objectives is crucial to success. In ICES, many of the components are in place but ACOM does not have an overall policy/set of guidelines for stakeholder engagement. ACOM also needs to monitor, evaluate and refine ongoing engagement (Reed *et al.*, 2014). As part of the drive for a quality assured process, ACOM will have to report where engagement/co-production occurs in the system (Durose *et al.*, 2018). OECD and Cvitanovic *et al.*, 2019 (Figure 2) offer similar approaches to prepare for the challenges introduced by greater engagement with stakeholders. Some of these approaches are outside the remit/control of ICES.

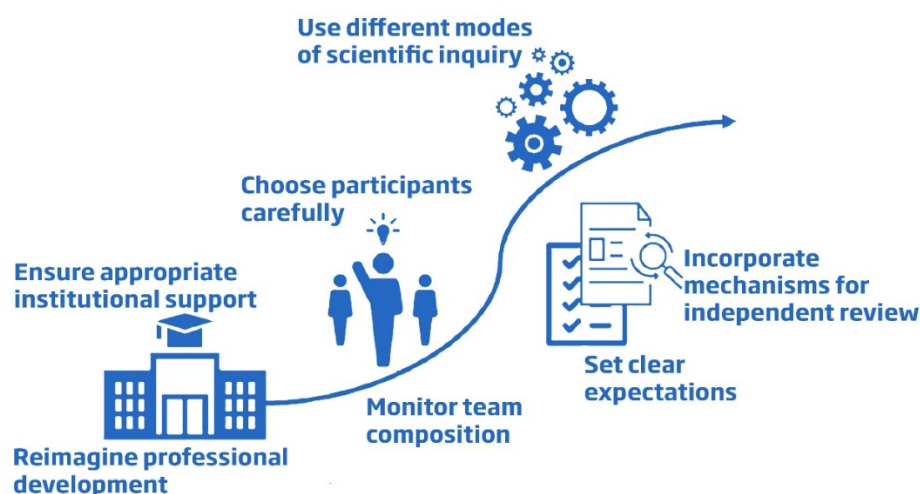


Figure 2. Approaches that can be used to manage the challenges and risks of engagement and co-produced research. Adapted from Cvitanovic *et al.*, 2019.

Wilson (2009) noted that a key factor in ensuring the legitimacy and credibility of ICES advice was the peer-review system. He suggested that this operated well. Review and evaluation are highlighted as important across a range of studies. The issue of different modes of scientific inquiry is a likely challenge to our system. ACOM must always strive to ensure appropriate institutional support.

Conclusion

ICES regularly reforms its framework and procedures to ensure that the best available knowledge is used for the provision of its advice. The nature of stakeholder engagement has been one component of these reforms. Scientific evidence probes that which stakeholders bring to the knowledge production process.

The critics of stakeholders as authors to ICES science reports recognize the efficiency of that participation, but appear reluctant to accept the transparency that showing authorship for ICES reports implies. Transparency and accountability are critical components to ensure the legitimacy of the participatory processes. Without them, the attributes of transparent and unbiased advice stated by ICES cannot be met.

Recognizing industry representatives as authors does not only acknowledge their contribution and make public and open what is already happening, it also holds those representatives responsible for the report to their constituencies (supra-regional, regional and national stakeholder platforms). This said, the concerns of requesters of advice also highlight a weakness in the robustness of maintaining the credibility and legitimacy of ICES advice, when engaging with stakeholders or co-production of methods for advice. Any potential or perceived threat to ICES integrity must be addressed.

The change in showing authorship for ICES reports has challenged the credibility and legitimacy of ICES processes with some requesters of our advice. We propose that ACOM needs to develop an engagement strategy that is operationally pragmatic but thorough enough to underpin the advice. This would include objectives for engagement, mechanisms for monitoring and evaluation, and how to address shortcomings in training. Scientist and stakeholders' participatory skills are easily taken for granted, while capacity building is likely to improve the overall performance.

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