

ICES CM 2016/B:357

Choice under risk, choice under uncertainty: Science advice meets behavioral science. Demonstrations and reflections for the ICES community

Dorothy J. Dankel

Abstract

What insights can behavioural science give fisheries advice and management? This is a question that the Workshop on Behavioral Economics in Fisheries tackled last October with support from the ICES Science Fund. Communication of ICES advice has been recently evolving according to feedback and needs from ICES clients. The state-of-the-art of ICES advice on catch quotas (i.e. Total Allowable Catch, TAC) is a catch options table. But are the current standards for the catch tables optimally designed in light of behavioural science?

Theory from behavioral economics suggests that there is likely to be overconfidence in fisheries where the catch is very variable. Some demersal fisheries in Europe where even the sum of the TACs utilized by the vessel can be volatile from year to year, exhibit classical overconfidence in the actions of fishers. Some of these represent situations of high uncertainty, and yet fishers make investment decisions that do not reflect the actual uncertainty in economic return.

What could new types of catch option tables look like? Under high uncertainties and climate change, should future scenarios of advice-giving be nudged towards the precautionary approach? Where are the ethical and social boundaries of nudging?

Keywords: climate modelling, climate change, catch tables, uncertainty, science-policy interface, decision-making under uncertainty, post-normal science, uncertainty communication, behavioural science, nudging, precautionary approach, sustainable development, fisheries quotas, TACs

Contact author: Dorothy J. Dankel, PhD, Department of Biology, University of Bergen; dorothy.dankel@uib.no