

The Herald Tribute

A wake-up call for fisheries scientists to get serious about putting uncertainty at the center of the table.

Inspired by Dankel et al. (2012) "Advice under uncertainty in the marine system" ICES JMS.

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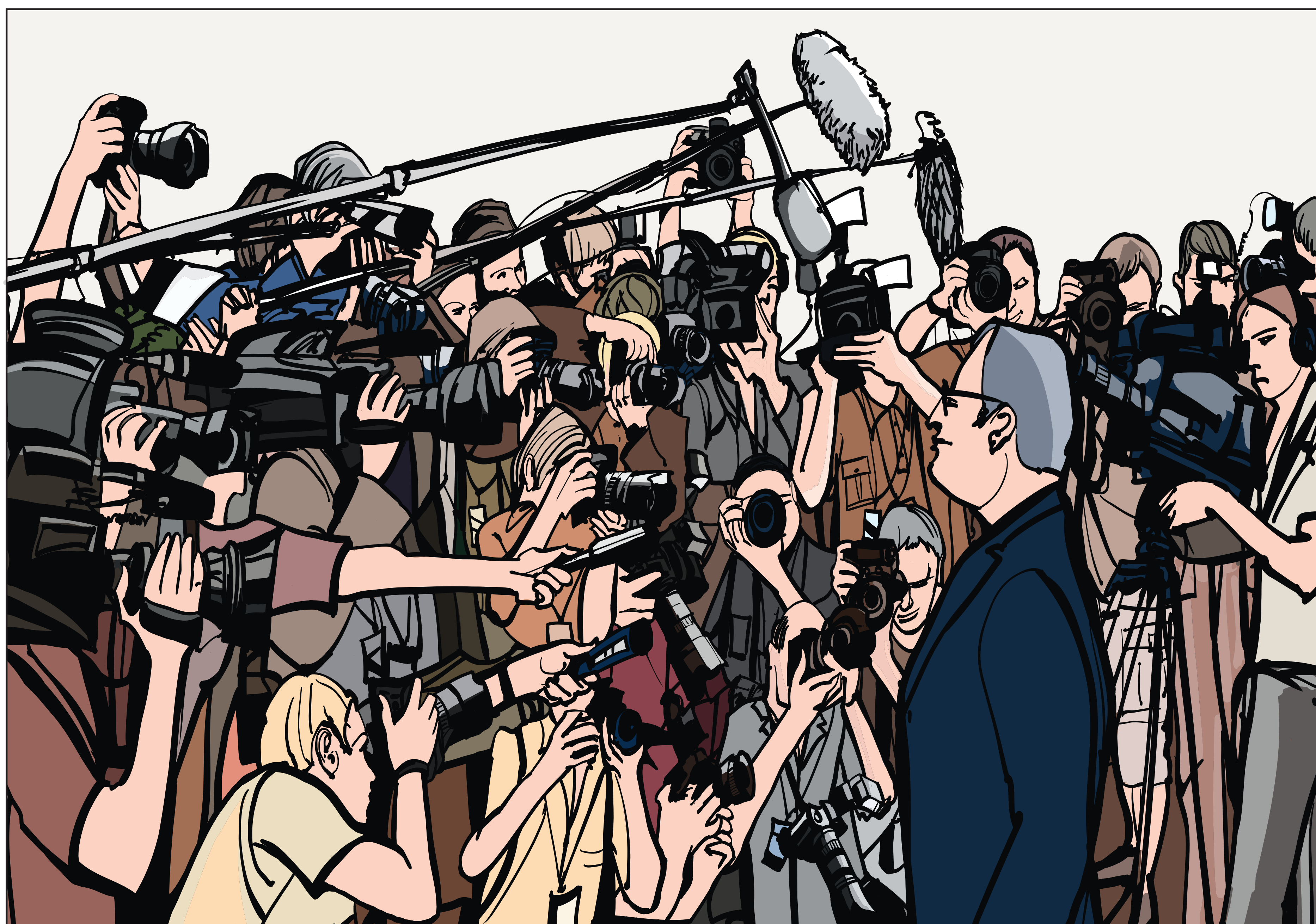
Fishermen sue scientist for 'misleading' advice causing mackerel collapse

By: Peter Shook, Copenhagen

In an unprecedented chain of events, a fisheries scientist is being sued for €31 million by the European Pelagic Fishermen's Union, Ltd. (EFU) for giving faulty "uncertain" advice related to the total allowable catch of the Atlantic mackerel. The scientist, Michael A. Peterson, Ph.D. (52) is a Danish-American citizen working at the Danish National Institute for Fisheries Advice located in Copenhagen. Dr. Peterson is also the head scientist in the Pelagic Advice Division in the International Council of the Exploitation of the Seas (ICES) also located in Copenhagen.

The premise for the litigation is the recent dramatic collapse of the Atlantic mackerel which has cost the pelagic fishing industry tens of millions of Euros. Scientists are still unsure what triggered the major collapse which has currently put 124 fishermen out of work indefinitely and claim no warning signals of an imminent collapse were visible during the last three scientific meetings on Atlantic mackerel. Dr. Peterson has been targeted by the lawyers for the major litigation since he leads the team of scientists that provides the annual catch advice for Atlantic mackerel through ICES. "Our clients, the good men and women of the European Pelagic Fish-

ermen's Union have routinely been misled by Dr. Peterson and his colleagues by the annual catch advice. Our clients have followed the recommended scientific catch advice religiously for the last 7 years and never expected that a collapse like this could happen when they follow what the scientists recommend." It was after the Fishermen's Union order an audit of the catch advice from 2007-2014 that they claim to have discovered that the scientific certainty in stock assessment (the "counting of the fish" that underlies the catch advice given out every February) was much weaker than the advice wording made it out to be. "These scientists never communicated how much they actually know, or didn't know, about the size of Atlantic mackerel. Their advice was time and time again given on such shaky grounds, my clients the fishermen never knew how inexact the science actually was." Mr. Peterson was not immediately available for comment, but sent an e-mail with this response right before deadline: "I have no comment to the last 7 years of catch advice we at ICES have given for the Atlantic mackerel, only that I can assure that the normal procedures have always been followed."



Michael A. Peterson confronts the press in Copenhagen for clarifications regarding the upcoming trial "European Pelagic Fishermen's Union, Ltd. vs. Dr. Peterson", also known as "FishGate" where the European fishermen accuse Dr. Peterson of misguiding them with uncertain estimates of the Atlantic mackerel stock over seven years leading to the present stock collapse.

Angry fishermen protests confront fisheries scientists at airport

By: Lauren Schlemmermann, Amsterdam

Airport authorities at Schipol International Airport outside Amsterdam confirm that 5 fishermen, reportedly from the European Fishermen's Union, Ltd (EFU), have been arrested after verbally assaulting three prominent fisheries scientists in Terminal 2. The fisheries scientists were attempt-

ing to board a flight to Copenhagen, where they will be questioned in the litigation trial of "EFU vs. Dr. Michael A. Peterson" which will commence on Monday. The fishermen are being held by the Schipol Airport Police while they undergo questioning. There were many eye witnesses of the account. "They were obviously fishermen and were carrying this bucket of fish,

shoving it into their (the scientists') faces saying "Count THIS, count THIS!", says Marie van der Sleggen who witnessed the account in Terminal 2. "The fishermen told all of us standing there that these men (the scientists) lied to them and caused the mackerel to crash. I think that's terrible, that the scientists can't communicate what they know; everyone knows

there's limits to science. These poor fishermen can't work now, and who knows when we can eat mackerel again." Another eye witness remarked on the reaction of the scientists: "They seemed to actually agree with the fishermen, feel sympathy for them. It was like they knew this was coming or something."

History repeats itself, this time the ocean is at stake

By: Berta W. Mader, Copenhagen

The Climategate scandal in 2009 should have been a warning: scientists need to open up about uncertainty and how it relates to scientific advice for policy. Now it seems, according to the allegations by the European Fishermen's Union, Ltd. (EFU), that a new scandal has occurred, this time in fisheries science. Professor of Philosophy and Mathematics, Dr. S.A. Grovsnor foreshadows a major "clean-up" in fisheries science as a result of the "Fishgate" litigation looming Monday in Copenhagen: "After Climategate, scientists and their institutions really put in an effort on how they deal and communicate with uncertainties. In the Netherlands, the Dutch Environmental Agency overhauled their quantitative advice framework within the vein of "post-normal science" with methodol-

ogies like "NUSAP" that specifically address different uncertainties in a transparent way." Dr. Grovsnor help lead a group of environmental scientists in the Faroe Islands through a workshop that discussed how to bring the NUSAP methodology into the pollution advice for the Faroes. The "Fishgate" case alleges that fisheries biologist Dr. Michael A. Peterson and colleagues from the marine science institution ICES have mislead policy-makers in the certainty of their quota setting advice the last seven years by not formally addressing the uncertainty behind their advice. The Atlantic mackerel stock collapsed this past spring, allegedly due to over-optimistic quota advice. Dr. Grovsnor said, "The fact is that there are tried and tested methods on the table for scientists and institutions to put into place.

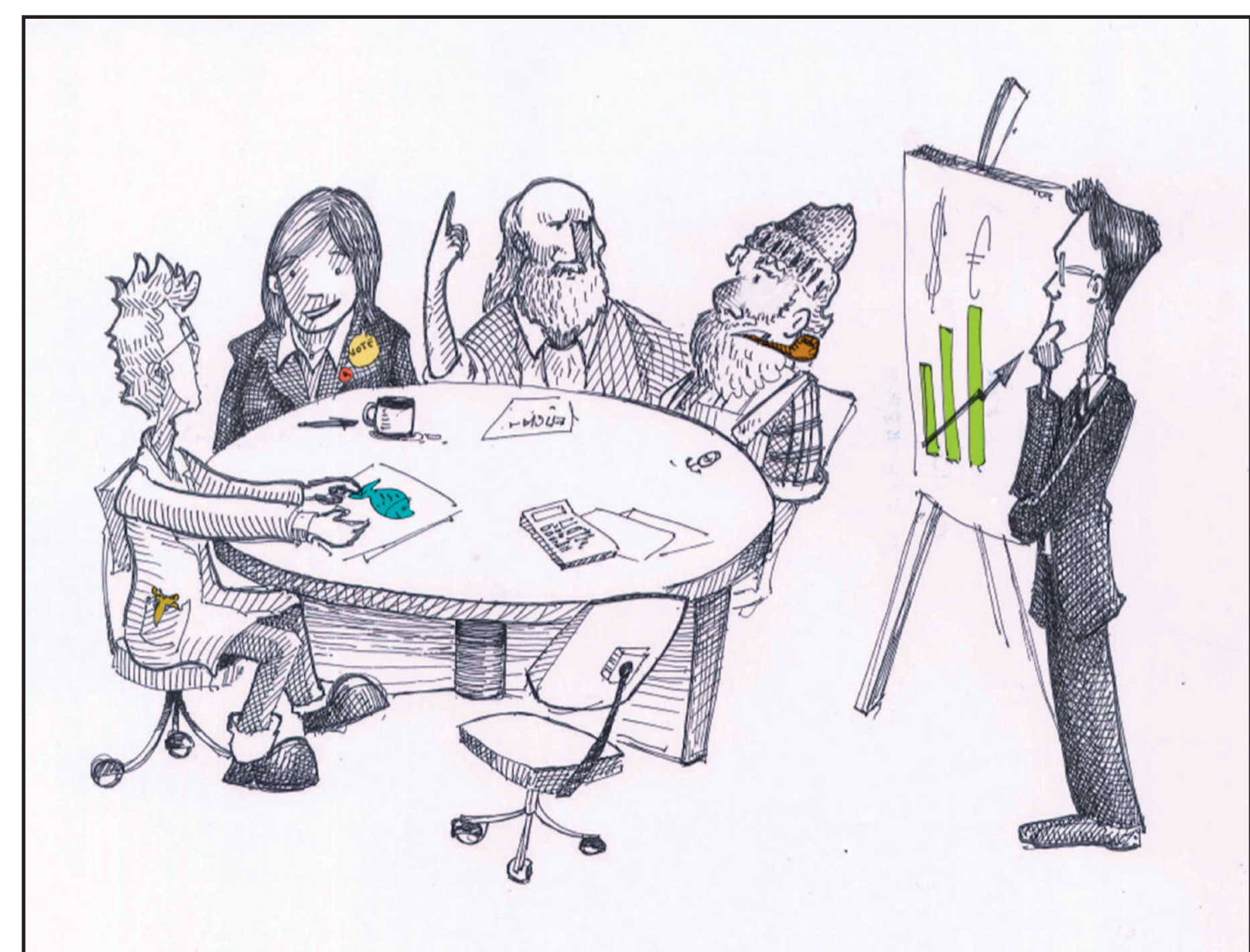
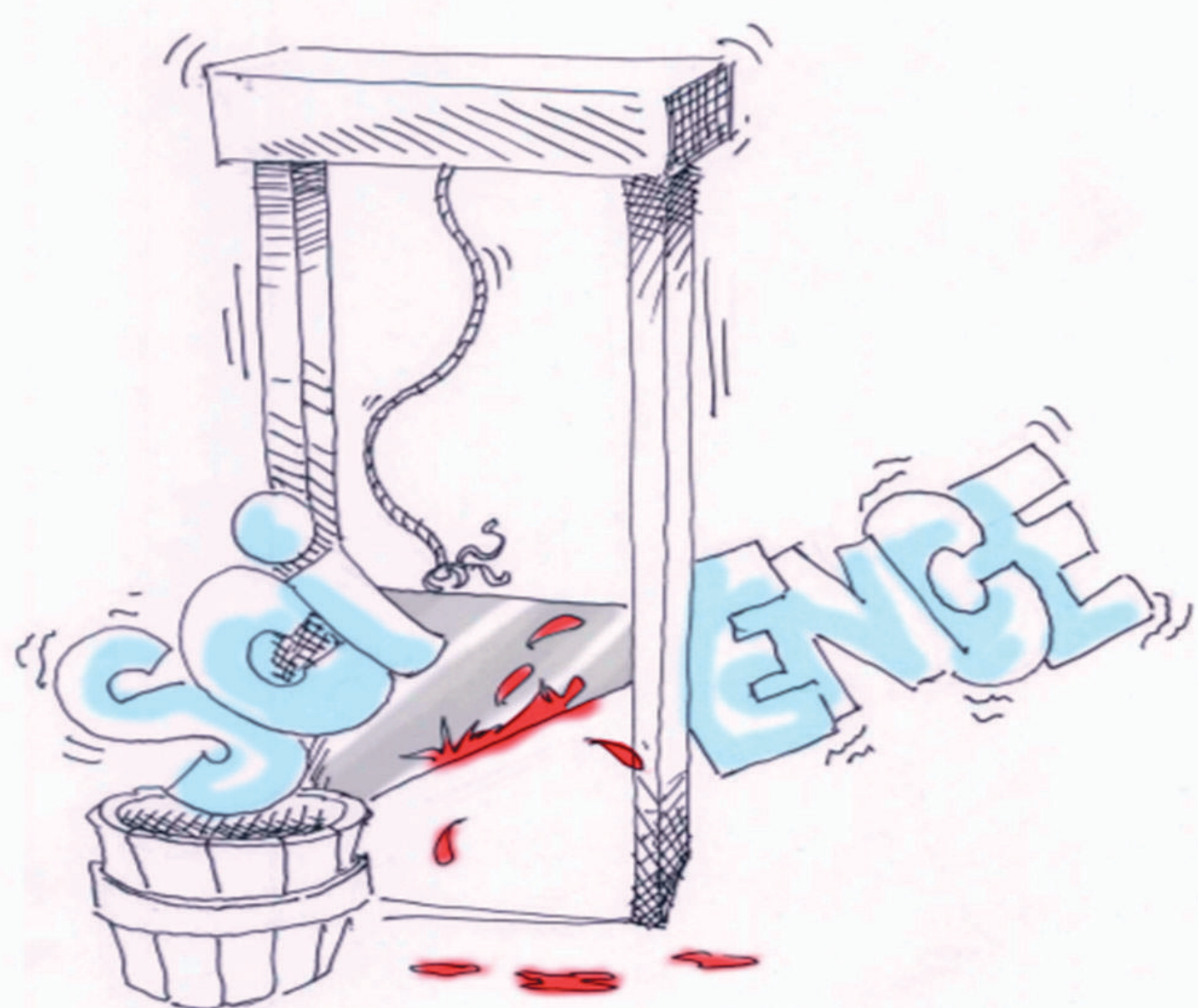


Illustration of the "Extended peer community" as a methodology in the Post-normal science paradigm explained by Dr. S.A. Grovsnor. Illustration by Jorge Mariano Collantes.

There's no excuse anymore not to be quantifying and expressing uncertainty in any type of science advice. When I hear about fish quota advice with five significant digits, well, it's no wonder the fishermen are mad. Their livelihood (the collapsed mackerel stock) is gone

even though they followed the advice. The best science in the world could never produce those types of certain numbers, so I don't know why scientists are trying to hide behind them."



In the recent "FishGate" scandal, science is taking a credibility and legitimacy beating after being accused of misleading society in areas of highly uncertain stock estimates passed on to quota advice. Illustration by Jorge Mariano Collantes.

* This poster was creatively imagined written and co-designed by Dr. Dorothy J. Dankel, Institute of Marine Research and Centre for the Study of the Sciences & the Humanities at the University of Bergen, Norway. Co-design and technical support and administration by Tracey Robideau. Scientific inspiration for the fictional article above comes from Dankel et al. (2012) "Advice under uncertainty in the marine system" ICES Journal of Marine Science (2012), 69(1), 3-7. doi:10.1093/icesjms/fsr179. Dr. Dankel can be contacted at dorothy@imr.no or on Twitter @dolly4fish. Dr. Dankel assumes all responsibility for the fictional content of this poster. Copyright 2014

