ESSAY: PROFESSIONAL ISSUES

Faith-based Fisheries

The scientific community gave a collective sigh of relief just before Christmas 2005 when Judge John E. Jones III ruled that intelligent design is not a scientific theory and cannot be taught alongside evolution as an alternative scientific hypothesis. There is no better way to unite any group of fractious scientists than to bring up creationism and intelligent design as alternative scientific hypotheses—scientists know that these faith-based ideas are not scientific and have no place in a scientific course. The court's ruling is a triumph for the scientific method of hypotheses being confronted by data and a setback for those with a political agenda masquerading as science.

However, before we congratulate ourselves too much for the triumph of the scientific method over belief, I suggest the fisheries community needs to look at itself and question whether there is not a within our own field a strong movement of faith-based acceptance of ideas, and a search for data that support these ideas, rather than critical and skeptical analysis of the evidence.

This faith-based fisheries movement has emerged in the last decade, and it threatens the very heart of the scientific process—peer review and publication in the top journals. Two journals with the highest profile, Science and Nature, clearly publish articles on fisheries not for their scientific merit, but for their publicity value. Beginning in at least 1993 with an article I co-authored (Ludwig et al. 1993), Science and Nature have published a long string of papers on the decline and collapse of fisheries that have attracted considerable public attention, and occasionally gaining coverage in the New York Times and the Washington Post. I assert that the peer review process has now totally failed and many of these papers are being published only because the editors and selected reviewers believe in the message, or because of their potential newsworthiness.

As examples, let me choose papers by well-established professionals who have long records of significant work beyond the papers discussed below and I emphasize the problem is with the peer review and editor.

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the Roberts paper is a concern. The Conover and Munch paper demonstrated that growth is a heritable trait, but failed to demonstrate anything about how commercial fisheries operate. It did pose a testable hypothesis, but the paper did not include the real fisheries data to see if there was support for the hypothesis.

A community of belief has arisen whose credo has become “fisheries management has failed, we need to abandon the old approaches and use marine protected areas and ecosystem-based management.” I fear that this belief has shaded the peer review process so badly that almost any paper showing a significant decline in fish abundance or benefits of marine protected areas has a high probability of getting favorable reviews in some journals regardless of the quality of the analysis. Critical peer review has been replaced by faith-based support for ideas and too many scientists have become advocates. An advocate knows the answer and looks for evidence to support it; a scientist asks nature how much support there is for competing hypotheses.

Much of the problem lies in the kind of journals Science and Nature have become: commercial enterprises covering a broad range of scientific issues. In a spoof of a Science article published on the New York Times web site, one of the fictitious authors is quoted as saying “journal editors favor bold claims, because these attract press attention and help recruit further bold papers, which in turn is a tonic for circulation and advertising” (www.nytimes.com/2006/01/17/science/17fa. html?ex=1295154000&en=9ca2921bc88fe0e3&ei=5090&partner=rssuserland&me=rss). Given the high prestige of Science and Nature and the impact publication in these journals has on promotion and grants, one cannot blame authors for making bold claims. Perhaps those of us in fisheries should simply not give articles in these journals the prestige they now enjoy. Because of their general coverage, Science and Nature must have problems identifying appropriate reviewers for an individual paper. While there is no easy solution to this, a good step would be for journals to publish the names of reviewers who recommend publication. That would at least make it clear if these journals are relying on a small group of like-minded reviewers who have little expertise relevant to technical papers. Finally, the fact that discredited papers continue to be widely cited is aggravated by the fact the rebuttals frequently are not published by the original journal and may appear in gray literature or technical journals. The high-profile journals need to be especially sensitive to critiques of articles they have published and to formally withdraw discredited papers.

Although the scientific community was unanimous in its condemnation of faith-based teachings in evolution, we need to also reject agenda-driven, faith-based publication in fisheries and revive the peer review and publication process within our own community. Let’s go back to testable hypotheses and evidence, and make sure that the peer reviewers know the data and the problem, and are not chosen because of their faith.

LITERATURE CITED


Current fishing practices in Fiji are not only occasionally destructive, but also unsustainable. Some people have moved away from the philosophy that fisheries are boundless in Fiji, except in really rural areas, thinks Cakacaka. Those closer to the markets have seen a dramatic drop in their resources, he says, and they may understand that natural resources are limited. But even if locals are recognizing the problems, Cakacaka poses a loaded question: “Do pastors know about conservation?”