



FISHERIES

Behind the Eco-Label, a Debate Over Antarctic Toothfish

The controversial case of the Antarctic toothfish has raised questions about the gold standard for environmentally friendly fishing

In grocery stores around the world, discerning consumers can select fish that come with a distinctive blue label and a check mark. It's the most common eco-label for seafood, offering guilt-free eating in exchange for a premium price. This stamp of approval from the Marine Stewardship Council (MSC), a rapidly growing nonprofit based in London, means that the fishing operation doesn't catch so many fish that it jeopardizes the stock. Moreover, the fishing techniques should minimize collateral damage to the ecosystem, such as accidentally catching sea birds or turtles.

But how well the sticker delivers on its promise is up for debate. Critics, both academic scientists and those with environmental groups, say MSC dispenses its labels too liberally, when there are not enough data for a definitive evaluation. They also say the process of certification can be too subjective. The result, they say, is that fisheries are certified when they aren't clearly sustainable. "It's the organization that can't say no," says Gerald Leape of the Pew Environment Group in Washington, D.C.

These concerns have been reignited by a battle over the Antarctic toothfish, which

lives in one of the most pristine marine ecosystems. Three fishing companies want to market it as sustainable and were on track to get the label. But environmental organizations have objected, arguing that the label isn't warranted, given the paucity of data about the life history of the toothfish and the ecological impacts of fishing in the Ross Sea. An independent examiner is now reviewing the evidence. Whatever the outcome, the saga of the Antarctic toothfish shows that making a watertight case for sustainability can be devilishly difficult. In the 2 September issue of *Nature*, several scientists called for "radical reform" of MSC.

Supporters of MSC say the process is to some degree inherently subjective; various scientists will come to different conclusions when data are scarce. They say certifiers do the best possible job, considering they have to work with imperfect data. Moreover, they account for uncertainties by imposing conditions that fisheries must meet to retain their certification—thus nudging fisheries toward even better operations. "You can eat this seafood with the assurance that it's coming from fisheries that are well-managed and the most

Consumer appeal. Fish certified as sustainable, such as these relatives of the Antarctic toothfish, can fetch higher prices.

environmentally friendly in the world," says fisheries scientist Ray Hilborn of the University of Washington, Seattle.

Making the grade

MSC was conceived in 1997 by the World Wildlife Fund and Unilever, one of the largest manufacturers of frozen fish products. Both organizations were concerned about the state of fish stocks around the world and thought that independent certification could help promote sustainable practices. After extensive consultations with scientists, MSC created a set of general standards for sustainability. A technical advisory board helps keep the assessment methods up to date.

Despite a slow start, the number of certifications has risen dramatically in recent years. Demand from grocery retailers has also increased; in 2006, Wal-Mart announced that it would sell only MSC-certified fish. Fishers prize the label, which can provide access to lucrative wholesale contracts or higher retail prices. The 94 certified fisheries produce more than 5 million metric tons a year, totaling 5% of wild-caught fish consumed worldwide.

But there were controversies from the beginning. Environmental groups challenged major decisions, such as the South Georgia Patagonian toothfish, variously pointing to the poor state of the stocks, risk of overfishing, or uncertainties about ecological impacts. None of 11 appeals to date have succeeded, although some have resulted in additional conditions being placed on fisheries.

A similar conflict is now playing out in the world's southernmost fishery. Like its Patagonian relative, the Antarctic toothfish (*Dissostichus mawsoni*) is commonly known as Chilean sea bass. Popular for their mild, fatty flesh, the slow-maturing toothfish are inherently vulnerable to overfishing. Up to 16 ships are allowed to fish for Antarctic toothfish by the Convention on the Conservation of Antarctic Marine Living Resources. Catch levels are kept low while more is learned about the species. "It's a very well-managed fishery," says Eric Barratt, managing director of Sanford Ltd., one of the three companies applying for MSC certification.

MSC sets the overarching policies and technical guidance but doesn't certify fisheries itself. That's done by a handful of research and analysis companies. Staff scientists and consultants review the scientific literature

and assess whether a fishery's performance measures up to MSC's many standards in each of three broad areas: the status of the stock, the impact on the broader ecosystem, and how well the fishery is managed. It's a complicated grading system, and succeeding is a bit like triple majoring in college: Each major requires a minimum grade point average; and although you can't flunk any classes, if you get enough A's, then having some C's on your transcript won't hold you back. This entire report card is then peer reviewed by two scientists.

Fishing companies can select any approved certifier. Sanford and the other companies contracted with Moody Marine Ltd. in 2007 to evaluate the fishery. Because fisheries differ so much—in the life history of the species and the gear used to catch them, for example—Moody and other companies tailor the grading system case by case. They create so-called scoring guideposts, which determine what's required to get a passing score (60 points out of 100). The companies have a good deal of flexibility in how they define these guideposts, which has led to charges that certifiers tend to be too lax.

Good enough?

In November 2009, Moody decided that Antarctic toothfish caught by the three companies should be certified as sustainable. A month later, the decision was appealed by the Antarctic and Southern Ocean Coalition (ASOC), an advocacy group based in Washington, D.C. After paying MSC a \$23,000 fee to appeal, ASOC—backed by a group of 39 scientists—argued that the certification wasn't justified because of a dearth of key data, such as whether or how the size of the stock has changed over the past several years or the ecosystem effects of fishing there. Weddell seals are known to prey on toothfish, for example, but it's not clear how important the fish is to the seals' diet.

Moody, recognizing some of the deficiencies, had placed conditions requiring further research on its certification of the Antarctic toothfish. (Like all certifications, the fishery would be audited annually to make sure it's up to snuff.) ASOC argues that these data gaps should be filled before the fish is sold as sustainably harvested, not after.

MSC appointed Michael Lodge, a lawyer with experience in fisheries management, to check whether proper procedures were followed. In a preliminary report released in May, Lodge agreed with some of the complaints about the contested scores in the Moody assessment. Based on how little is known about the species' life history, such



Unknown impact. Catching toothfish might deprive predators, such as Weddell seals.

as reproductive behavior and larval movements, six scores that Moody had awarded the fishery were unjustified, Lodge found. He directed Moody to reconsider, but the company declined to change any of the scores.

ASOC had also complained that Moody had ignored suggestions from stakeholders and two peer reviewers. Lodge noted that where the peer reviewers had recommended lower scores, Moody kept them unchanged. Lodge described “a defensive attitude on the part of the assessment team, coupled with an unwillingness to change scores that had already been decided.” Andrew Hough, a marine ecologist with Moody who led the assessment, says his company takes all comments seriously, but often peer reviewers misunderstand the report. “If we need to change the scores in light of the comments, then we do,” he says.

Another issue apparent from Lodge's investigation is that various aspects of cer-

tification can be quite squishy. In setting up the scoring guideposts—that is, what's required to get a passing grade—Moody relied in many places on vague terms such as an “adequate” or a “reasonable” amount of knowledge, Lodge found. Lodge emphasized that objectively defined guideposts are crucial: “If the 60 guidepost is set too leniently, then it undermines the whole purpose of assessment.” But he noted it wasn't within his charge to rule on the adequacy of the scoring guidelines, so he let stand the scores contested on these grounds.

Subjectivity in scoring may be common, according to an analysis published in *Fish and Fisheries* in 2008. Fisheries scientist Trevor Ward, a consultant based in Perth, Australia, analyzed 22 MSC-certified fisheries and found that one major certifier systematically awarded higher scores for minimal ecosystem impact than did another.

MSC says it fixed the problem in 2008 by revising its standards for certifiers, so that there is a consistent assessment system for every fishery. For example, assessments must explicitly consider stock status in an appropriate manner. “There's a feeling among the NGO community that [the new standards] are an improvement,” says Michael Hirschfield, chief scientist for the advocacy group Oceana in Washington, D.C. But Ward and others say certifiers continue to have excessive flexibility in deciding what information is adequate. What's needed, says Pew's Gerald Leape, are more absolute requirements; not just any qualitative measure of stock status, for example, but a rigorous stock assessment.

MSC and the certifiers say they only approve fisheries when the existing data support that decision. What's more, they say, the conditions required for recertification every 5 years mean that fishers big and small adopt even more sustainable fishing practices. “It's led to some very significant changes in how fisheries are managed,” says David Agnew, who chairs MSC's technical advisory board.

As for the toothfish, Lodge is expected to rule on the appeal by the end of the month. Meanwhile, some 130 other fisheries are being evaluated for certification, so the toothfish most likely won't be the last controversy over the adequacy of the science. For consumers or grocery suppliers who are mulling whether to buy fish with the MSC label, the decision may boil down to whether they want to support a fishery that is incontrovertibly sustainable or just heading in that direction.

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