

Perspectives

Overfishing Menhaden Fish

PHOTO: JOHN SURRICK-CHESAPEAKE BAY FOUNDATION / MARINE PHOTOBANK

“All of the world’s fishing stocks will collapse before mid-century, devastating food supplies, if overfishing and other human impacts continue at their current pace, according to a global study.”

-Marla Cone, *Los Angeles Times*, November 2, 2006

“The world’s oceans are degenerating far faster than predicted and marine life is facing extinction due to a range of human impacts—from overfishing to climate change—a report compiled by international scientists warned.”

-Anna Tomforde, *San Francisco Chronicle*, June 22, 2011

California Sustainable Seafood Initiative

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Introduction

Humans have been consuming seafood throughout history. Remnants of shells and fish bones along California’s coastline are reminders that Native Americans formerly feasted on the bounty of the shoreline. Although the look of California’s coastline and its seafood industry has changed, Californians continue to love and consume seafood. There is one problem, though: the ability to harvest fish long ago outpaced the ability of most species to reproduce. Today’s fishermen are essentially the last hunter-gatherers, but they are hardly primitive. The modern fisherman is equipped with sonar fish finders, large boats with powerful engines, miles of long lines with thousands of baited hooks, bottom trawls, traps, and more.

Until recently, the policy of the United States was to encourage greater capacity and more fishing by domestic fleets. For a long time, the oceans were believed to be inexhaustible sources of food. During the last several decades, it has become common knowledge that this is

not true, but changing course has proved to be difficult and slow.

Legislative Progress toward Sustainability

In 1998, the California State Legislature passed, and Governor Davis signed, the Marine Life Management Act (MLMA) introduced by California State Assemblyman Keeley. The MLMA mandated the comprehensive management of marine resources so that individual species are addressed in the context of ecosystems and fisheries are managed with master plans. The MLMA was followed by the Marine Life Protection Act (MLPA) of 1999, introduced by California State Assemblyman Shelley, which established a mandate to set aside portions of California’s coastal waters as Marine Reserves, where little or no fishing would be allowed.

The Ocean Protection Council (OPC) was created in 2004 by legislation authored by Senator John Burton, and signed

into law by Governor Schwarzenegger. Although the OPC has a general mandate to reform policy regarding the ocean, fisheries have been a priority on the OPC's agenda almost from the beginning. The OPC has accomplished the following:

- Worked in Moro Bay with the Nature Conservancy to establish a community-based fishing institution that incentivizes lower-volume, higher-value fisheries, which can help the long-term ecological and economic sustainability of the Central Coast.
- Provided approximately \$20 million to support the implementation of the MLPA.
- Provided \$2 million in seed money to the Environmental Defense Fund to create the California Fisheries Fund—a revolving loan fund to spur fishery reform (e.g., provide loans for new gear or gear modifications, make vessel purchases or improvements, acquire fishing permits or quota purchase, and upgrade capital equipment for dockside infrastructure).
- Created a collaborative fishery research organization to get scientists and fishermen working together on management issues.
- Authorized funding for one of the first Community Fishing Associations (CFAs), which promotes collaboration and sustainability, along the West Coast—the San Francisco CFA.

In 2009 the California Legislature passed, and the governor signed, AB 1217 (introduced by California Assemblyman Monning), which required the OPC to create a “voluntary sustainable seafood promotion program” for California, which must include “a protocol to guide entities on how to be independently certified to internationally-accepted standards for sustainable seafood.” In other words, the OPC was mandated to create an ecolabel program for California fish.

A Sustainable Seafood Label for California

The traditional methods of managing fisheries have been about what fisherman cannot do:

- *Do not fish out of season.*
- *Do not catch females.*
- *Do not keep fish over or under the designated size restrictions.*
- *Stop fishing when a set amount of fish has been caught, and so on.*

Figure 1. Popular Farmers Market



As the quotations at the beginning of this article suggest, traditional methods have left something to be desired. They also have the disadvantage of seeming punitive to fishermen. Thus, there is growing interest in market-based approaches to fishery management, which seek to align the interests of fishermen directly with conserving the stocks of fish they catch.

Ecolabeling is a type of market-based incentive, one based on consumer demand. The theory is that consumers will prefer, and may even pay a premium for, fish that are labeled as sustainable, similar to the organic label on vegetables, meat, and milk, for example. An ecolabel for California fish also offers the opportunity to tap into the growing interest in locally sourced food (Figure 1).

Unfortunately, there are a bewildering number of different ecolabels for fish alone; as many as 17 are in use or in development all over the world (Accenture and World Wildlife Fund 2009). An advisory panel of 25 people, including fishermen, fish processors and retailers, restaurateurs, nongovernmental organizations, scientists, and state and federal government officials helped the OPC establish a recommendation (OPC 2010). The advisory panel met for a total of seven days on four separate occasions in various locations around the state. Meetings were open to the public and included public comment. Based on these discussions, the language of AB 1217, and public comment, the OPC drafted an initial proposal in May 2011.

Understanding California's Ecolabel: Marine Stewardship Council Basics

The foundation of the California sustainable seafood program must, according to AB 1217, be consistent with the United Nations Food and Agricultural Organization (FAO) Guidelines for Ecolabeling Fisheries (Section 35617 of the Public Resources Code as directed by AB 1217). Currently, the Marine Stewardship Council (MSC) certification program for sustainable seafood is the most consistent with these guidelines, as well as the only internationally accepted standard. Should another certification program become available that also meets the FAO Guidelines for

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Ecolabeling, OPC staff will explore the program as another option to potentially use for certifying California fisheries. The MSC is a nonprofit, nongovernmental, international organization, established in 1996 by a partnership between the World Wildlife Fund and Unilever, promoting sustainable fishing practices and seafood markets.

The MSC operates a certification and ecolabel program based on a scientifically robust standard for assessing whether wild-capture fisheries are ecologically sustainable and well managed. Fish products from fisheries that meet the MSC's standard are eligible to use the MSC's blue ecolabel or otherwise make a claim that they are MSC-certified. The MSC's Chain of Custody standard for seafood traceability ensures that the MSC ecolabel is displayed only on seafood from an MSC-certified sustainable fishery. Each company in the supply chain must get a certificate from an independent, third-party certifier if the product will ultimately display the MSC ecolabel (Figure 2).

AB 1217 states that certified fisheries must conform to the following principles, which are also the three principles at the core of the MSC certification process:

Principle 1: A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery. (The intent of this principle is to ensure that the productive capacities of a fishery are maintained at high levels and not sacrificed in favor of short-term interests.)

Principle 2: Fishing operations should allow for maintaining the structure, productivity, function, and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

Principle 3: The fishery is subject to an effective management system that respects local, national, and

international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

To be eligible for and receive MSC certification, the fishery must meet or exceed these three core principles for sustainable fishing. Based on these standards, the MSC assessment process includes 31 specific questions about the fishery's performance and management to determine a fishery's sustainability. These performance indicators are grouped under each of the MSC's three main principles described above.

The MSC is a third-party standard: the MSC sets the standards, but other certifiers actually examine the fishery and apply the standards. Certifiers are paid by the client (e.g., the fishery), and the MSC is paid a royalty for the use of its logo, but otherwise is not paid during the certification process. Certification decisions can be appealed to the MSC, which is constantly updating its standards and methods through a public process (Figure 3).

Understanding California's Ecolabel: Customizing the MSC Standards

To benefit from the advantages of the MSC and to address some criticisms of the MSC from some members of the OPC's advisory panel, the OPC proposal recommended that in addition to meeting the MSC criteria, California fisheries will also be required to meet a higher standard for two performance indicators: the stock status and the bycatch of endangered, threatened, and protected species. California fisheries will have to obtain a score of at least 80 out of 100 for these two performance indicators to receive the California sustainable seafood certification.

Although the MSC process involves scientists, the OPC proposal also recommended the Ocean Science Trust (OST) be involved in developing recommendations about the scientific peer review process for this ecolabel program and recommended the most appropriate role for the OPC's



Science Advisory Team in the certification process. For example, there may be opportunity for scientific peer review throughout various steps of the certification process. This second layer of review (including the MSC's peer review) will add credibility, transparency, and independence.

The process of certifying a fishery through the MSC is lengthy and can be expensive. Therefore, before initiating the certification process, the OPC will work with specific fisheries to evaluate whether they meet the following minimum criteria:

- Degree to which they can meet the standards promulgated by the MSC;
- Support from the state or federal management agency, U.S. Department of Fish and Game, and/or the Pacific Fishery Management Council;
- Establishment of a CFA or similar entity that can serve as a co-client with the OPC to the MSC;
- Fish are landed in California by California-licensed fishermen (Figure 4); and
- Target fish species are not listed on a federal or state endangered or threatened species list.

Once a certifier has been appointed, the assessment process can proceed. Fisheries wishing to gain certification against the MSC fisheries standard are encouraged by the MSC to undergo a pre-assessment in which third-party certifiers evaluate, at a provisional level, and provide a report regarding a fishery's performance against the MSC fisheries standard. This allows any potential issues in a fishery's performance to be identified, and enables potential fishery clients to prepare accordingly for a full assessment.

Subject to the availability of funds, the OPC may fund a pre-assessment for fisheries that are interested in going through all the steps to become certified. The pre-assessment

may identify strategies for improving management and might examine the use of existing and new risk-based methodologies for assessing fisheries where information on biological stocks and the fisheries may be insufficient for established scientific assessment techniques.

If a fishery is ready, then the next step is full assessment—the detailed, public, rigorous process that a third-party certifier will follow to see whether the fishery meets the MSC standard. The process starts when the fishery client (the OPC and fishery serve as co-clients) signs a contract with the certifier, and the certifier notifies the MSC that the fishery is entering full assessment. This is a seven-step process, led by the appointed certifier and its expert assessment team, to determine whether the fishery meets the MSC standard. Each fishery has its panel of experts, separately assembled. The process involves consulting with stakeholders, reviewing performance indicators, scoring the fishery, identifying ways that the fishery can strengthen its performance (if needed), conducting peer review, and making a final determination about whether the fishery meets the MSC standard. The process will likely take six months to a year per fishery (if not longer, should there be objections at any stage of the process). After a fishery is assessed, and if it is found to be certifiable, it must also arrange for annual audits thereafter (Marine Stewardship Council 2009).

The California Sustainable Seafood Certified ecolabel will include the MSC label, another logo to indicate its California origin, and the name of the port where the seafood was landed. Certified fisheries can use the MSC label, the California label only, or both. In addition, the OPC plans to include a wealth of additional information about the fish and the fishermen available on a website and accessible via a bar code on each California ecolabeled product or package.

Finally, the OPC also proposed that fish using the California ecolabel must be sold using their scientific name, as well as whatever name is in use colloquially. A recent *New York Times* article (Rosenthal 2011) highlights studies by DNA scientists who have consistently found that 20-25 % of seafood products (e.g., red snapper, wild salmon, and Atlantic cod) are mislabeled and disguised as species that are less desirable, cheaper, or more readily available. Despite growing concern about where food comes from, consumers are frequently served the wrong fish—a completely different species from the one they paid for in the market or restaurant (Figure 5). A little Latin will go a long way toward truth in marketing!

Addressing Health Concerns

The OPC is well aware that nearly all fish and shellfish contain traces of mercury, which comes largely from coal-fired, electricity-generating plants. Generally speaking, the higher up on the food chain and the longer lived, the more mercury a species has. Swordfish, for example, have high



Figure 4. Squid Shipment from Monterey, CA

PHOTO: GERICK BERGSMA 2010 / MARINE PHOTOBANK

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Figure 5. Fish Taco with Pollock (Common Name: One of Many for This Species)

PHOTO: JIM GILLMORE / AT-SEA PROCESSORS ASSOCIATION / MARINE PHOTOBANK



mercury levels; shellfish quite low. Other toxins, such as lead, chlorine, bromine, PCBs, dioxins, and biotoxins, are also frequently found in fish. The Office of Environmental Health Hazard Assessment (OEHHA 2007) monitors freshwater, recreationally caught fish for toxins. However, there is currently no coordinated or routine statewide monitoring system to test for most of the toxins found in seafood that could cause health concerns to humans. Although a fisheries toxicity monitoring and testing program would be good to have, it goes beyond the intent and goal of AB 1217 to address sustainable fishing practices and to showcase California fishermen and seafood.

Despite the roadblocks, the OPC is currently working with several state and federal agencies on developing a monitoring program to test marine fisheries—specifically with the California ecolabel in mind. Any toxicity monitoring program must be developed with the agencies that have the regulatory authority and expertise in implementing and addressing these issues. The goal is to have a program in place that routinely tests and monitors seafood that is labeled with the California ecolabel.

Current Status of the California Ecolabel

The OPC officially adopted the above-described protocol at its December 2011 meeting (OPC 2011). Once some fisheries are certified, the OPC can begin implementing the marketing program portion of AB 1217 and will promote the ecolabel and certified fisheries.

Conclusion

There is a growing desire on the part of the public in California to have a connection to food producers and to know that food is healthy. This is evident at the weekly farmers markets, in the ever-expanding aisles of organic foods in the supermarkets, and in restaurant menus that go into (sometimes excruciating) detail about the provenance of the food served. It is exciting to be at the beginning of what is hopefully California's journey to fully sustainable fisheries and seafood. Seafood is the last frontier for local food (Figure 6); many California consumers would be surprised to learn that sometimes even fish caught

Figure 6. Local Marketplace in Seattle, WA

PHOTO: SARAH WOODARD



locally are then processed out of state, or even halfway around the world. If California is successful, it will be a giant step toward a more sustainable local seafood supply. Perhaps other seafood-consuming states (and nations) will follow the example, and perhaps people will start seeing headlines about seafood that are more positive and optimistic.

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