



# Searching for market-based sustainability pathways: Challenges and opportunities for seafood certification programs in Japan

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## ABSTRACT

Over the past two decades, there has been a proliferation of consumer-facing, market-based initiatives for marine conservation—most notably in seafood eco-labels and sustainability certifications. Yet, despite the growing recognition of these initiatives by consumers and retailers in North America and Europe and the (subsequent) acceptance of their role in seafood distribution by fisheries and fish marketing industries around the world, seafood certification programs have thus far made little progress in Japan. Here, the evolution of the three seafood eco-label and certification programs in Japan is examined and insights into the ongoing challenges they face in terms of the domestic supply chain network, consumer preference and their social-cultural attitude toward sustainability are provided. Despite an initial lack of success, seafood certification programs in Japan can be useful in enhancing consumer awareness for fisheries resource conservation and identifying Japanese domestic small-scale fisheries that are already engaged in sustainable fishing practices. A possible pathway for developing an eco-certification program suitable for the Japanese seafood market is provided through integration of environmental and cultural sustainability under the existing certification framework.

## 1. Introduction

Eco-certifications are consumer facing, privately designated seals of approval given to products that are deemed to have met a certain set of conditions for environmental sustainability [1]. They serve as means of differentiating products based on one or more attributes that are otherwise invisible to consumers; most often, the environmental footprint associated with the use or consumption of a product. Thus, these labels enable producers to reach consumers whose purchasing decisions are reliant on this factor.

Since their introduction in the late 1990s, fishery sustainability certification and eco-label programs have become a global, ubiquitous feature in the realm of marine conservation strategies. While some programs were industry-driven, many of these programs emerged largely from increased concerns within civil society that current stock management measures have been inadequate in ensuring the sustainability of fisheries [2].

In theory, the key function of these programs is to differentiate fisheries engaged in sustainable fishing practices by establishing a voluntary set of standards, beyond the minimum requirements of government or international regulatory bodies that assess stock status,

management practices, and ecosystem impacts (i.e., bycatch and habitat destruction). Products from fisheries that are deemed to have met such standards bear the program's label, which suggests they are more ecologically sustainable options than other similar products. Furthermore, sustainability certification also generates financial incentives for fisheries, through preferential market access or price premiums, and encourages others to invest and follow suit in order to keep pace with their competitors [2–4].

Given its scale of seafood consumption, Japan has been viewed as a key country that is currently missing from global sustainability certification programs following their success in capturing the markets of North America and Europe [5–7]. Globally, Japan accounts for 5% of total seafood consumption, with per-capita fish consumption also ranking amongst the highest of the developed countries [8]. Historically, Japan was the largest fishing nation in the world with fleets operating across many of the world's productive fishing grounds [9]. Following the decline of its distant water fisheries and the collapse of some key domestic stocks (e.g., Pacific pilchards [10]) Japanese seafood market has since become increasingly reliant on imports; as of 2013, it was the primary destination for seafood caught around the world [8].

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Coupled with rising global coastal populations [11], surging per capita seafood consumption rates [12], the overfished or at-capacity status of many of the world's assessed stocks [8,13] and the threat of climate change [14,15], there is an emerging scientific consensus that calls into question the future productivity of many of the world's fisheries. As such, market competition in the global seafood sector is already intensifying. Therefore, ensuring the sustainable exploitation of domestic fisheries resources and creating seafood supply chains that can shield consumers from potential shocks in the availability of foreign product supply is of paramount importance for any country hoping to maintain national seafood sovereignty and security. While all countries will feel the pressures imposed by this set of circumstances in the years to come, the national importance of seafood consumption at a social level in Japan, as well as the country's current reliance on imports, suggests the issue of the sustainability of domestic fisheries resources will become even more critical if Japan is to maintain seafood sovereignty and security.

In this paper, therefore, we will discuss how voluntary certification programs can become an effective tool for attaining sustainability in Japanese domestic fisheries in the context of both long-term ecological stability for the marine environment, and economic stability for the multitude of coastal fisheries around the country. The current landscape for the three nationwide seafood certification and eco-label programs available in Japan will be examined, and the suitability of these programs in a socio-cultural context through an examination of fisheries, the distribution and retail sectors, and consumer attitude will be described. In the final section we will propose an alternate approach featuring sustainability recommendation guidelines and highlighting the positive practices of local fisheries that incur minimal impacts on the marine environment.

## 2. Seafood certification programs in Japan

Currently, Japan's seafood certification landscape consists of three programs, all of which were launched in the last decade: the Marine Stewardship Council (MSC), Marine Eco-label Japan (MEL-J), and Pride Fish. Strictly speaking, Pride Fish is not an eco-label, as it does not explicitly apply environmental or ecological standards (see Section 2.3); however, we included it in our assessment of seafood certification programs to capture the broader context of sustainability, both environmental and socioeconomic. While these three certification programs share some overlapping objectives, background, market positions, and industry partners, each represents a distinct system in terms of scale and scope, application of objectives, and in their acceptance by both fisheries and consumers (Table 1).

Specifically, MSC characterizes an internationally established third-party program with well-defined certification standards that balances both environmental and management considerations; MEL-J represents an industry-driven scheme that uses management implementation as the key driver behind in its certification; Pride Fish embodies an amalgamation of community-based initiatives and, therefore, has garnered strong participation from coastal fisheries. These programs are not, however, sufficient to elevate the seafood sustainability of Japan because of their limited capacity to expand across the country, and ambiguous terms of certificate criteria. We will review the historical details of those programs in the following section.

### 2.1. Marine Stewardship Council in Japan

A decade after its original establishment, this UK-based program entered the Japanese seafood market in 2006 through the introduction of MSC-certified Alaskan salmon and sablefish. Shortly after, three of Japan's major national food retailers (Aeon, Seiyu, and Japan Consumer's Coops) began carrying MSC-certified products. Since 2010, Aeon, the largest retail chain in Japan representing 30% of the total market [16], has been integrating MSC into its house label and

seafood procurement policy and they have committed to sourcing 10% of their seafood from MSC and ASC (the aquaculture equivalent) certified operations by 2020 [17]. To date, however, the growth in the market share of MSC products in Japan has been limited. Despite nearly a decade of promotion, MSC and ASC products currently account for just 3% of seafood stocked by Aeon [17]. When contrasted with similar commitments made by the retailers in North America and Europe (e.g. Wal-Mart's commitment to source 100% of its seafood from MSC and other third-party certification programs), this failure to infiltrate the market is even more evident.

As for fisheries participation, the number of domestic applications for MSC certification has been limited to six, and only two fisheries have been MSC-certified as of 2015: Kyoto's seine fishery for flathead flounder (in 2008; the first fishery from Asia to be MSC-certified), and the hanging fishery for Japanese scallops in Hokkaido (in 2013 [18]). This lack of progress, it can be argued, is due to the fact that the financial benefits of certification have not been assured. For example, although certification enabled Kyoto's seine fishery to access new markets—most notably Aeon—the cost and maintenance of certification has been a substantial burden on this small fishery (i.e., 220 mt landed in 2009 [19]). Eco-labels can incur price premiums for certified products [20] if a market that recognize the label and value sustainability sufficiently develop; yet a lack of buyers for certified fish beyond Aeon and the local branch of Japan Consumer's Co-Operative means this is not the case for Kyoto's seine fishery. Moreover, the royalty payment associated with the use of the MSC logo have prevented the fishery from using it for sales through other channels and further diminishes the fishery's opportunities to gain a price premium for its catch [21]. The costs associated with certification and annual audits are also proving to be barriers for participation.

### 2.2. Marine Eco-Label Japan

In response to the introduction of MSC into the domestic market, in 2007 the Japanese government partnered with the Japan Fisheries Association—an industry group with over 400 fishing company members—to form an independent national seafood eco-label, Marine Eco-label Japan. Clearly designed as a national alternative to MSC, the stated rationale for MEL-J's formation was to establish a certification program that was “most suitable to the situation of the Japanese fisheries” [22].

Currently 23 fisheries have been certified by MEL-J. These operations range from a mixed fishery set net operations owned by private fishing firms (e.g. Nagasaki sardine purse seine), to various Fisheries Cooperative fleets (e.g. Kochi fisheries cooperatives for horse mackerel; Table 1), to distant water skipjack pole-and-line fisheries. Additionally, 52 firms and cooperatives have attained MEL-J chain-of-custody certification. While local interest appears substantial, the program lacks the support of major retail partners that MSC has obtained. As of 2012, retail availability of MEL-J certified seafood was limited to 400 retail outlets, many of which were speciality and local gift shops [22]. This certification body places a high emphasis on fisheries management measures, making active use of co-management of the fishery between fishermen, scientists and broader national management bodies. The MEL-J certification cost is considerably less than that for MSC, “around JPY 500,000 to 3,000,000” (USD 4,000–25,000 [22]).

Despite the emphasis on good management, MEL-J recommendations do not consider key ecological and biological aspects of the fishery, including stock status (i.e., abundance, current biomass) and fishing pressure on the exploited species. In fact, given its current standards, most coastal fisheries operating within the government's regulatory framework would qualify for certification. As Oosterveer [23] noted, the program is effectively a “verification scheme to assure that management systems are in place.” Furthermore, MEL-J's assertion that its fishery appraisals are conducted by an independent third-party should be called into question given that the sole appraisal body

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